Part Three

Meaning and Necessary Truth
Chapter Six

ANALYTIC PROPOSITIONS

6.A. Introduction

6.A.1. The main stream in Part Three will be a continuation of the attempt to describe the various factors which can determine or help to determine the truth-value of a proposition. This will provide illustrations for my explanation of the meanings of "analytic", "necessary", "possible", and related words, which will proceed at the same time. It will be shown that there are several different ways in which a proposition may be necessarily true, corresponding to a number of different ways in which its truth-value may be discovered. In particular, it will be argued that, in the sense of "analytic" which is to be defined in this chapter, not all necessary truths are analytic. This is because there are some properties which are necessarily connected, although they can be completely identified independently of each other. Hence their necessary connection is not an identifying relation or a logical consequence of an identifying relation. (What this means will be explained presently.)

6.A.2. The first problem must be to get clear about the meaning of "analytic". There are at least two ways in which people can be unclear about the analytic-synthetic distinction. The first is to be unclear as to what the things are which it distinguishes. Thus, philosophers are often confused about the sorts of things "propositions"
or "statements" are, the entities to which they apply
the distinction. Even when they try to say explicitly
what it is that they are talking about, their usage often
conflicts with their explanations.

Sometimes it looks as if they are talking about
sentences, but a sentence considered simply as a
sequence of signs, or marks on paper, or sounds, cannot,
as such, either be analytic or fail to be analytic, any
more than it can be true or false. (Cf. 2.A.2, 2.D.3
(note), 5.A.8-9.) Before a sentence can be described
as true or false, or analytic or synthetic, it must be
thought of as a sequence of signs with a meaning or
linguistic function, and the meaning must be fairly
definitely specified. If a sentence is taken simply
to have its meaning in English, for example, then there
may be no answer to the question whether it is analytic
or not, owing to the ambiguities of the English language.
(An obvious example is provided by the sentence "All
mothers bore their children". More subtle examples were
discussed in section 2.C.) Neither can the distinction
usefully be applied to formulae of a formal system,
since, as argued in the previous chapter (section 5.A)
and appendix II, a language is quite a different sort
of thing from a formal system. All this may seem
obvious, but, as will appear in a moment, it appears
not to have been noticed by some philosophers who try
to define "analytic". (Such as Carnap.)

We must apply the distinction to sentences only if
they are taken to have meanings, and we must know which
meanings they are taken to have. This involves knowing
what counts as "the same meaning". I have tried to show
how the properties referred to by descriptive words, and
the logical techniques corresponding to logical constants
can be used to provide criteria for identity of meanings. (Section 2.C, and chapters three and five.)

6.A.3. The second kind of unclarity about the analytic-synthetic distinction involves the way in which it is applied. The word "analytic" is fairly common in philosophical writings, and most philosophers have a rough idea of what it means, but their usage is nevertheless bedevilled with confusions, obscurities, ambiguities and errors. As pointed out by Mario Bunge, in Mind, April 1961 (p.239), the word is used with an unrecognized, or at least unacknowledged multiplicity of meanings.

For many philosophers (see for example p.21 of Strawson's "Introduction to Logical Theory") the word is apparently synonymous with "necessarily true", which is, of course, a question-begging usage when the possibility of synthetic necessary truths is being discussed. Others offer "pragmatic" definitions, so that analyticity admits of degrees. Quine's definition of "analytic" as meaning "definitionally derivable from a logical truth", was accepted with modification by Waismann in his famous series of articles on the subject (in Analysis, Dec. 1949, etc.: this will be dealt with in detail below). Some (following Frege?) turn the Quine-Waismann definition around, and instead of talking about derivability from logical truth by substitution from definitions, they talk about logical derivability from definitions or "meaning-postulates". (It is not usually noticed that these two definitions are not equivalent.)

Sometimes followers of Carnap define the word "analytic" in terms of "state-descriptions" and the rules
of a so-called "language", L, which is admittedly precise, but also quite useless, since it applies only to formulae in a formal system, and not to statements in a language. Such people are inclined to regard the analytic-synthetic distinction as system-relative, so that whether a proposition is analytic or not depends on the "system" in which it occurs. (See, for example, Mario Bunge, op.cit, p.239,ff.) I have never been quite sure what these "systems" are supposed to be. My guess is that philosophers who talk in this way are making the mistake (see section 5.A and Appendix II) of confusing formal systems and languages. Neither can I understand why they regard propositions occurring in different "systems" as the same proposition. Why not say that they are different propositions, for then there will be no need to regard the distinction as system-relative? There appears to be some confusion as to whether they are talking merely about sentences, which, admittedly, may have different meanings in different languages, or about propositions. (See 6.A.2.) Other philosophers talk as if a proposition either is or is not analytic, no relation to a system being regarded as relevant.

Often the word "analytic" is defined rather vaguely, as "true in virtue of meanings", or "proposition which cannot be denied without contradiction", or "proposition which cannot intelligibly be denied". Sometimes it is suggested or implied that we can decide to make a proposition analytic, whereas others will allow only that we can decide to let a sentence express a proposition which already happens to be analytic, independently of our choice. (Cf. 6.F.1, below.)

I shall not describe in detail, nor criticize most of these accounts of the distinction. For detailed
exposition and criticism the reader is referred to "Semantics and Necessary Truth", by Arthur Pap. A few critical remarks will be made by the way in some of the discussion.

6.A.4. Behind all this chaos and confusion there seems to lie a fairly simple concept, familiar even in non-philosophical contexts, for people often speak of something or other as being "true by definition", or use the expression "by definition" to preface a remark in order to indicate the sort of justification which they would be prepared to offer for accepting it as true. All my attempts to define the word "analytic" aim at trying to clarify and make precise something like this ordinary notion of a proposition which is true by definition. The word does not correspond only to a technical distinction invented for philosophical purposes.

6.A.5. A small point to be cleared up is that I shall use all three expressions "analytic", "analytically true" and "analytically false" to describe statements or propositions. The latter two expressions are unambiguous, whereas the former is ambiguous. It may mean either "analytically true", or "analytically true or analytically false". This ambiguity is customary, and should cause no confusion, as exactly what is meant will be clear always from the context.

6.A.6. It should be noted that the distinction between analytic and synthetic propositions is not the same as the distinction between propositions which are verbal (or merely conventional), and those which are non-verbal
(or non-conventional, or independent of conventions of any particular language). The verbal/non-verbal distinction works at a different level from the analytic/synthetic distinction, as is shown by the fact that philosophers seem to be trying to say something significant when they say that all analytic propositions are merely verbal, but the distinction is obscure. It is very difficult to see what could be meant by saying this sort of thing. I think that only Wittgenstein has come close to being clear about it, but there will not be space to discuss his view (in R.F.M.), as it can be made intelligible only in the context of an account of his general theory of meaning. Even if I manage to demonstrate that some necessary truths are synthetic, this will not settle the question whether all necessary truths are verbal, or conventional. (See R.F.M. III.42).

6.A.7. I shall now turn to a more detailed discussion of some unsatisfactory accounts of the analytic-synthetic distinction, in order to lead up to my own account.

6.B. Some unsatisfactory accounts of the distinction

6.B.1. In this section I shall describe a number of attempts to explain what the analytic-synthetic distinction is, picking on some of their weak points in order to contrast them with my own definition later on. Its purpose is purely introductory, and it should not be taken too seriously, as it may be somewhat unfair to some of the philosophers mentioned.
6.B.2. Kant's explanations of the distinction are not very clear, though it is fairly easy to understand, at least in a vague way, the sort of thing he is getting at. For example, in A.6, B.11 ("Critique of Pure Reason") he says:

"Either the predicate B belongs to the subject A, as something which is (covertly) contained in this concept A; or B lies outside the concept A, although it does indeed stand in connection with it. In the one case I entitle the judgement analytic, in the other synthetic."

This is not very helpful, and seems to be too narrow a definition for his purposes, especially as it applies only to propositions in subject-predicate form (or apparent subject-predicate form, such as "All A's are B's"). (This, incidentally, illustrates the sort of lack of clarity which can follow on too much concentration on "canonical forms" of propositions. Cf. Appendix II. 11,ff.)

Kant's explanation is not made much clearer when we are told, in A.716, B.744, that analytic knowledge is obtained merely by meditating on concepts, or that synthetic knowledge involves going beyond concepts in an appeal to intuition (see A.721, B.749). (The notion of an "appeal to intuition" will be clarified below. Cf. G.C.11, and sections 7.C and 7.D.) I think that what Kant was getting at in these passages will be illustrated by my discussion of "identifying relations" between meanings, below.

Most modern attempts to explain the distinction are probably related to Kant's assertion that a judgement is analytic if "its truth can always be adequately known in accordance with the principle of contradiction" (A.151, B.191).
6.B.3. Finding Kant's attempt to characterize the distinction unsatisfactory, some philosophers have tried to define the class of analytic propositions to be those whose truth follows from the meanings of the words occurring in them. This, however, is also difficult to understand, as Waismann pointed out in Analysis, Dec., 1949. He asks (p.27): "What can be meant by saying that a statement follows from the very meaning of its terms?"

The attempt to elucidate this by saying that what is meant is a statement which follows from the definitions of its terms, provokes another of Waismann's questions: "If an analytic statement is characterized as one that follows from mere definitions, why is it not itself a definition? ... Why is it that what follows from a definition is not, as one would expect, a definition, but an analytic judgment?" (p.29.)

Quine also found it incomprehensible that definitions should be available for founding truths. (See "Truth by Convention" in Feigl & Sellars, p.259). However, he allowed that they might be used to transform truths, and this is echoed by Waismann: "Definitions are substitution licences of a particular sort, ... and every substitution licence can be re-written as an equivalence." (op.cit. p.39).

6.B.4. Having noticed that definitions could be thought of as rules or licences permitting substitutions of synonymous expressions without change of truth-value, Quine, and later Waismann, decided to define "analytic proposition" to mean "logical truth definitionally abbreviated" ("Truth by Convention", p.251), thereby removing the difficulty of explaining how a definition
could make true a proposition which was not itself a definition. This presupposes the notion of a "logical truth", which seems to be the notion of a proposition which is true in virtue of its logical form, or, in my terminology (see 5.A.9 and section 5.6), a "formal truth". Waismann's version of the definition of "analytic" was as follows: "A statement is analytic if it can, by means of mere definitions, be transformed into a truth of logic." (op.cit. p.31.)

For example, on this view, "All bachelors are unmarried men" is analytic, since, by definitional substitutions, it can be transformed into "All unmarried men are unmarried men", which is a formal truth. Any proposition which cannot in this way be transformed into a formal truth would, according to this definition, be synthetic, not analytic. Pap, on p.5 of "Semantics and Necessary Truth", seems to indicate his acceptance of this definition, when he writes: "One may be inclined to characterize as synthetic, necessary statements whose descriptive terms occur essentially yet cannot be eliminated through analysis." (I.e. analysis of meanings, on the basis of which one can replace defined symbols with their definientia.)

6.B.5. Now, there does seem to be a close connection between propositions which are analytic and propositions which are true in virtue of their logical form, as will appear later on when it is shown that formal truths are just a particular kind of analytic truth. But the connection cannot be that the class of analytic propositions is defined as suggested above in terms of derivability from formal truths, for this definition does not seem to be wide enough. This is because there are propositions
which are true in virtue of partial definitions, of the sorts discussed above (in section 4.0), and these propositions cannot be derived from formal truths by means of synonymy substitutions.

The examples discussed there were all concerned with incompatibility relations between colour words (such as "red" and "orange"), but similar remarks might be made about relations between certain sound-concepts. Consider, for example, the expressions which refer to the kind of feature of a sound which we call its "timbre", such as "flute-timbre" or "the sound of a bassoon". It seems that the meanings of these expressions might be taught ostensively, in such a way as to leave them indeterminate in some respects so that the question: "Can a sound have two timbres at the same time?" and the question: "Can a sound be the sound of a flute and the sound of a bassoon at the same time?" would not have definite answers. (For sources of indeterminateness see chapter four, section A.)

Consider the sound produced by the loudspeaker when a (monophonic) recording of a duet for flute and bassoon is being played on a gramophone: here it is possible clearly to "hear" both instruments in the one sound coming out of the loudspeaker. But is it really one sound, or is it two sounds? If it is one sound, does it have two different timbres at the same time? That is, does it have the flute-timbre and the bassoon-timbre or does it have no timbre at all? Or does it have a third timbre different from that of the sound produced by either a solo flute or a solo bassoon? I believe that as far as the English language is concerned, there is no definite answer one way or the other to these questions. At any rate, if this sort of case is not produced during
the process of teaching someone to use the word "timbre", then there may be nothing in what the pupil understands by the word to settle these questions: the meaning which he associates with the word does not determine "in advance" what he should say about this sort of phenomenon. (See 2.D.2, 3.C.4, etc.)

In that case, each of the questions could be settled one way or another by the adoption of a linguistic convention for the use of the words describing sounds, which might have the consequence that certain statements were "true by definition" though not definitionally derivable from formal truths.

6.B.5.a. We might, for example, adopt the convention that the sound in question was to be described as "one sound with two timbres". Or we might adopt a rule to the effect that "flute-timbre" and "bassoon-timbre" were to be incompatible descriptions, which would rule out the possibility of describing the sound of the duet as a sound with both timbres. (It would not, however, tell us whether the sound was to be described as having either of the two timbres alone, or as having no timbre at all, etc. The rule leaves each of the individual concepts as indefinite as it was without the rule: see 4.C.3-4.)

Such an incompatibility convention is an arbitrarily chosen linguistic rule which helps to remove certain kinds of indeterminateness of meaning (4.C.4). It serves as a partial definition of the word "timbre", say. It does not define any expression as being synonymous with any other, it sets up no synonymy relations, but it does have the consequence that sentences like "No sound has a
flute-timbre and a bassoon-timbre at the same time" express true propositions, owing to the incompatibility between the two descriptive expressions.

We have therefore found a statement which is true in virtue of the fact that certain words have certain meanings or are governed by certain linguistic rules, but which is not derivable from a formal truth by substitution of synonyms. (Notice, incidentally, that this partial definition does not rule out any kind of experience as impossible: it does not make the experience of hearing the duet impossible, but merely rules out the possibility of describing it in a certain way. This should be borne in mind when the incompatibility of colours is under discussion. Compare 3.B.4.d.)

6.B.5.b. Another sort of proposition which is, in an obvious sense, true by definition though not derivable from formal truths by substitution of synonyms is provided by an ostensively-defined relational expression with an added verbal rule. The ostensive teaching of an expression like "to the left of" might show that expressions of the form: "X is to the left of Y" are applicable to a whole range of cases, including pairs of objects at various distances apart, without specifying the use in connection with just one object. The indefiniteness might then be removed by the adoption of an arbitrary convention, giving one or other answer to questions like "Can an object be to the left of itself?" or "In the expression 'X is to the left of Y', can 'X' and 'Y' refer to the same thing?" For example, it might be decided that the expression was to be irreflexive, in which case "X is to the left of X" would express a false
proposition no matter what referring expression took the place of "X", and the statement "Nothing is to the left of itself" would be true by definition.

Once more, we have an example of an analytic proposition which is not definitionally derivable from a formal truth, since the linguistic convention in virtue of which it is true does not generate any synonymy-relations: it is, as before, a partial definition.

6.3.6. In these examples of propositions which are true by definition without being definitionally abbreviated logical truths, descriptive terms, such as ("flute-timbre", "to the left of", etc.) occur essentially yet cannot be eliminated through analysis (see end of 6.3.4). Since they are obvious candidates for the title of "analytic" propositions, the Quine-Waismann definition of "analytic" in terms of derivability from formal truth cannot be wide enough.

These examples show that Quine was wrong when he wrote (in "Truth by Convention", p. 258) that "... definitions are available only for transforming truths, not for founding them." We seem to have discovered propositions whose truth is founded in linguistic conventions. At any rate, they are not merely derived from some other truths by some kind of transformation.

6.3.7. However, even if we were wrong about these examples, the question would arise: What is it for a statement to be true in virtue of its logical form? Surely only that the statement is true in virtue of the meanings or functions of the logical words and constructions employed in it. But to say that formally true statements are true in virtue of the meanings of logical constants surely cannot mean
that they are true in virtue of being derivable from formal truths by substitution of synonyms: this would be circular, or lead to a vicious infinite regress. So there must be some other sense in which a proposition's truth may follow from the fact that its words are governed by certain rules, than the one suggested by Quine and Waismann. If there is this other way in which a proposition may be true in virtue of meanings or linguistic conventions, why should it be restricted to formal truths, why should it not also explain the sense in which other analytic propositions are true by definition? We must try, therefore, to find a wider definition of "analytic" than the Quine-Waismann definition, which avoids this last objection, but before doing so let us see what Frege had to say.

6.8.3. Frege, as we shall see, did not limit the role of definitions to that of "substitution licences". According to him, the question whether a judgement is analytic or not, is a question not about the content of the judgement, but about "the justification for making the judgement". ("Grundlagen", p.3.) The judgement that some proposition is analytic is not concerned with its being true, or with what it means, but is "a judgement about the ultimate ground upon which rests the justification for holding it to be true."

Now notice how Frege goes on. In order to discover whether a proposition is analytic or not, we have to find the proof of the proposition and then follow it right back to the primitive truths on which it is based. "If, in carrying out this process, we come only on general logical laws and on definitions, then the truth is an
analytic one, bearing in mind that we must take account also of all propositions upon which the admissibility of any of the definitions depends." ("Grundl." p.4.)

(We need not worry about the fact that different persons may justify a proposition in different ways: what Frege clearly means is that a proposition is analytic if there is some justification resting ultimately only on general logical laws and definitions. As will be shown later on, an analytic proposition may be justified empirically too. So Frege ought not really to talk about "the ultimate justification" or "the ultimate ground", as if there could be only one.)

6.B.8.a. This may seem clear at first, but it becomes mysterious as soon as we try to find out what Frege means by a "definition" or how he thinks a proof can rest on definitions.

From what is said in "Grundlagen", and in his essays "On the Foundations of Geometry" (Phil.Rev. 1960), it is clear that he thinks (or did at least once think) of a definition as some kind of proposition, which first of all "lays down the meaning of a symbol" and then "transforms itself into a judgement ... (which) ... no longer introduces the object, (but) is exactly on a level with other assertions made about it." ("Grundl." p.78.)

Admittedly, he says (Phil.Rev. p.4.): "Although definitions which have been made into (sic) statements formally play the part of basic propositions, they are not really such", but it is apparent from the context that he does not mean to deny that they are propositions on a level with other propositions in the proof, but only that they are basic propositions, i.e. statements of general logical laws or axioms, and that they "extend our knowledge"
(Phil.Rev. p.5.)

He also regards a definition as a means of "determining a reference of a word or symbol" (Phil.Rev. p.4) or as something which "lays down the meaning of a symbol" ("Grundl", p.78.). How can a definition both lay down meanings and serve as a proposition "on a level with other propositions"?

6.B.3.b. In order to understand what lies behind all this, we must remember that Frege required a rigorous proof to satisfy certain conditions. "All propositions used without proof should be expressly mentioned as such, so that we can see distinctly what the whole construction rests upon" and "all the methods of inference used must be specified in advance. Otherwise it is impossible to ensure satisfying the first demand." (See "Translations", p.137.) But the principles of inference specified "in advance" by Frege permit inferences to be drawn only in cases where the premises and conclusion stand in a certain kind of formal or logical relationship (having nothing to do with their content), which requires that the premises should be propositions "exactly on a level with" the conclusions.

So if a definition is to serve as a premise in such an inference, then it must have the same general form as the other kinds of propositions which may serve as premises. Now we can see why Frege requires his definitions to lead a double life: first they must somehow or other specify that certain words or symbols have certain meanings, and secondly, in order to serve as premises for inferences, they must be propositions "exactly on a level with other assertions" ("Grundl", p.73). Thus we find Frege talking about definitions as propositions which first do one thing,
and then "transform themselves" into something else. (Mario Bunge, in Mind, 1961, p.140–141, manifests the same confusion in talking about "linguistic conventions taking the form of propositions, not of proposals").

6.B.3.c. But how can definitions lead this kind of double life? How can anything which works like an ordinary proposition do what a definition is supposed to do, namely lay down the meaning of a symbol? How can a definition first assign a meaning to a symbol and thereupon "transform itself" into a proposition?

Frege seems not to have realized that in order to define a word one must mention it, or somehow indicate that one is making a statement about words and their meanings, and that such a statement is not "on a level with" other statements which use those words.

One might try to defend him by saying that a proposition using a proper name can say what its reference is, as in "The number five is the number of fingers on a normal human hand". This certainly tells us which number is the one referred to by "the number five", but it does not tell us the sense of the expression, since it leaves open the question whether it is a matter of definition or a matter of fact that the number of fingers on the normal human hand is what is referred to by "the number five". Similarly, a proposition using a descriptive word can tell us something about the extension of that word, but it does not tell us the meaning of the word. Thus "A square is a rectangle in which the adjacent sides are equal" tells us something about the extension of "square" if we happen to know the meanings of the other words, it tells us which objects happen to be described by the word, but it does not say why it describes
them. (Cf. 2.C.8.) The statement does not say what the meaning of "square" is, it merely describes a property which can be found in squares, leaving open the possibility that this is an accident. Frege, however, regards this statement as a definition (see p.145 of "Translations").

6.B.3.d. Of course, if I say "That vase on the top shelf is turquoise in colour", the person I am talking to may guess that I mean to tell him what the word "turquoise" means, and he may guess the meaning correctly. But I have not told him the meaning, for what I say leaves open the possibility that "turquoise in colour" means the same as "on the top shelf"! "Tomatoes are red in colour" could be used to teach the meaning of "red": does that make it a definition? An explicit definition must not merely be something which enables a meaning to be guessed: it must say what the meaning is. It is not enough to state a fact which happens (though this is not asserted) to be true by definition. So in order to state a definition of "glen" I must say something like "The word 'glen' means the same as 'glossy and green'" or "By definition of 'glen', a thing is glen if and only if it is glossy and green", and not merely "All glen things are glossy and green and all glossy and green things are glen".

Thus Frege's device (in "Grundgesetze") of adding a vertical stroke to a formula to indicate that it is a definition is not enough, for it leaves unsettled exactly which symbol is being defined and exactly what is being said about it: its only effect is to assert that a formula expresses a statement which is true in virtue of some definition, but it does not say which word is defined
by it nor what the definition is.

6.8.9. I have been trying to force Frege into a dilemma of the following sort. When he talks of definitions as propositions which may occur in a completely explicit proof without themselves being proved, then either he means to refer to definitions proper, that is statements which are explicitly about words and their meanings, or he wishes to refer to statements (in the "material mode") which do not mention words or meanings but are nevertheless true in virtue of the fact that certain words have certain meanings.

In the former case, some kind of explanation is required of how the definitions can be used as premisses for logical inferences to propositions which use the words defined.

In the latter case, Frege is already making use of the notion of an analytic proposition when he talks about "definitions", and so he has not begun to explain how to tell that a proposition is analytic in the first place: he has, at most, shown us how we can tell that a proposition is analytic if we already know that other propositions are analytic, namely by seeing if it can be derived from them using purely logical (formal) truths and formally valid inferences.

In either case he has left unanswered Waismann's question: "Why is it that what follows from a definition is not, as one would expect, a definition, but an analytic judgement?" (See 6.8.3.) He has not shown us how to get from explicit definitions to statements which are true in virtue of those definitions.

6.8.10. To sum up: there is a gap to be bridged between
statements which are about meanings of words and statements which are true in virtue of meanings. Frege eliminated the gap by failing to distinguish two different kinds of statement properly, and talking instead about one thing which could do two kinds of jobs. Waismann and Quine, on the other hand, tried to eliminate the gap by giving up the idea of inferring true propositions from definitions. Instead they regarded definitions as substitution licences, which permit analytic statements to be derived from formal truths. But we have seen that this is not sufficiently general, for it does not take account of statements true in virtue of partial definitions. (6.B.5,ff.)

It is clear that what is needed here is a new explanation of the notion of a definition or linguistic convention, and a new description of principles according to which from definitions or statements about meanings one can infer that certain sentences express true propositions. In short: the notion of a "definition" must be clarified, and the notion of a logically valid inference must be generalized.

6.B.11. It is at this stage that we must turn back to what was said in chapter five, especially sections C, D and E (5.E.1 – 5.E.4). We have seen that although the value of a regator for an argument-set will usually depend on how things happen to be in the world, which may affect the outcome of applying the technique for discovering values, nevertheless, there are some "freak" cases where the value is determined independently of the facts and may be discovered by examining the argument-set and general technique, without applying the technique. This showed us how it is possible to discover that some
sentences express true propositions merely by examining the non-logical words occurring in them (taking their meanings into account, of course) and the logical techniques for discovering the truth-values of the propositions expressed by those sentences.

Thus, by examining the argument-set ("red", "rot") and the logical technique corresponding to the logical form "All P things are Q", we could see that the proposition expressed by "All red things are rot" must be true, without actually applying the technique and examining all red things. (See 5.D.1. The word "rot" was defined to refer to the same property as "red").

So we have already seen that it is possible to infer from facts about the meanings of words and the functions of logical constants that a sentence expresses a true proposition. When that happens, we know that we have the right to assert that proposition, since in general we know that we can utter a sentence when the logical regator corresponding to its logical form yields the value "true" (see 5.B.13). Thus we have an answer to Waismann's questions quoted in 6.B.3: "What can be meant by saying that a statement follows from the very meaning of its terms?" and "Why is it that what follows from a definition is not, as one would expect, a definition, but an analytic judgement?" The answer is simply that there are ways of drawing conclusions from the fact that certain descriptive words and logical constants have certain meanings or functions, such as the conclusion that a sentence including them expresses a true proposition.

6.B.12. This shows that Waismann's conception of a logically valid inference was too narrow, for he failed
to see that the inference from a truth about meanings of words to a proposition using those words can, in a sense, be logically valid even though it is not formally valid, like the inference from "All roses attract bees" to "All red roses attract bees", which is valid in virtue of its logical form. It should not surprise us that an inference from a statement about words to a statement using those words should be logically valid. After all, the inference from (1) "The sentence 'Plato was precocious' expresses a true proposition" to (2) "Plato was precocious", is surely logically valid?

I describe such inferences as logically valid since they do not depend on special facts about the subject-matter referred to by the words and sentences mentioned. They depend on very general facts about the logical techniques for determining truth-values and the conditions in which it is appropriate to utter a statement. All the essential features of the examples of propositions whose truth-values could be determined independently of the facts (in 5.C and 5.D), were topic-neutral features. This is why I call an inference from the fact that a proposition possesses those features to the fact that the proposition is a true logical inference.

6.B.12.a. We might say that we have discovered logical theorems which could be formulated in some such manner as the following:

If a word "P" refers to the same property as the word "R", "P" "Q" and "R" being descriptive words, and if the relevant logical constants are used as described in 5.B.11, then the sentence "All P Q's are R" expresses a true proposition.

This statement is certainly not a formal truth, like "If all red things are rot, then all red boxes are rot",
for it is not true in virtue of its logical form in the same way. (Content is relevant as well as structure in deciding that the theorem is true: metalinguistic words and expressions occur essentially. Its truth has to be established by considering the things it is about, and in particular by investigating the logical techniques corresponding to the logical constants mentioned.)

Such logical theorems may be described as "non-formal truths of logic". They state the facts which justify the (non-formal) inferences which we make in deciding that analytic propositions are true. It should be noted that although such truths and inferences are not formally valid, this in no way implies that they are lacking in rigour, though we must remember that, as pointed out at the end of chapter five, they may presuppose that certain conditions are satisfied. There will be a more general discussion of non-formal proof in chapter seven. (Though these non-formal truths of logic are often appealed to implicitly, and sometimes stated explicitly, logicians appear not to have taken them into account when explaining what they mean by talking about "logical truths" or "logically true propositions". Almost always they seem to think they are talking only about propositions which are true in virtue of their logical form, the formal truths described in 5.C.)

6.B.13. So much for the (non-formal) logical theorems and logical inferences which are implicitly employed when we discover that some sentence is true in virtue of what it means. However, we are not yet quite ready to offer a definition of "analytic", for we must first turn our attention to facts about meanings, in order to clarify
the notion of a "definition". We shall then be able to follow Frege in defining analytic propositions to be those whose truth-values can be discovered merely by examining facts about the meanings of words used to express them, and making inferences justified on general logical grounds (of a topic-neutral kind). For this we require the concept of an "identifying fact about meanings".

6.6. Identifying relations between meanings

6.6.1. The discussion of chapter five brought out three factors which, in general, determine the truth-value corresponding to a sentence (at any time), namely (a) the meanings of the non-logical words, (b) the logical techniques corresponding to the logical form and (c) the way things happen to be in the world. (See 5.F.1.) In some "freak" cases, we found that the third factor dropped out as ineffective (though one might fail to notice this and take the facts into account in the usual way in finding out the truth-value). In these freak cases, the truth-value of the proposition expressed by a sentence could be discovered by examining (i) the logical techniques corresponding to its logical form, (ii) the "structure" of the argument-set (set of descriptive words) to which the logical form was applied and (iii) relations between the arguments, or, more specifically, relations between the non-logical words. Thus, from facts about the meanings of the words we were able to infer that combining words in certain ways produced sentences expressing true propositions.

We must now show how it is possible to pick out a
class of facts about the meanings of words which correspond to definitions in virtue of which analytic propositions may be true. Let us describe them as "identifying" facts about meanings. We may also talk about identifying relations between meanings, or analytic relations between meanings. Statements about meanings which do not state identifying facts about meanings state non-identifying facts, or describe synthetic relations between meanings. A definition is then a statement of an identifying fact about the meanings of words. What does all this mean?

6.0.2. It was argued in 6.0.3.c-d that a statement can be a definition only if it mentions words. But not every statement which mentions words is a definition, even if from the fact that it is true we can infer that some sentence using those words expresses a truth. For example, it may be the case that

(1) the class of objects with the property referred to by the word "red" and the class of objects with the property referred to by the word "mat" are mutually exclusive,

in which case we can infer (logically, but not formally) that

(2) the sentence: "No red things are mat" expresses a true proposition.

From the relation between the words in the argument-set ("red", "mat") described in (1), we can infer, by considering the appropriate logical techniques for determining truth-values, that applying the logical form "No F things are G" to that argument-set yields a true proposition (as described in 5.D). But the relation in question may hold simply because of the contingent fact that nothing which is red happens to have a surface with a mat texture. The statement (1) is not a definition, for one could fully
understand the words it mentions without knowing that they stand in the relation it describes. In order to know that they stand in that relation one must not only know the meanings of the words, but also have carried out some empirical observation of the class of red things or the class of objects with mat surfaces. So (2), though inferred from a statement about words, is not inferred from a definition, or from the statement of an identifying fact about meanings.

6.6.3. When is a statement about words a definition? How do we discover whether a statement states an identifying fact about meanings? What must a person ask himself when he asks whether a statement defines the meanings which he associates with the words which it mentions?

The answer seems to be suggested by the example just mentioned. The fact (if it is a fact) that the words "red" and "mat" have mutually exclusive extensions is not an identifying fact about their meanings because it is possible fully to specify what they mean, by indicating the properties to which they refer, without mentioning the fact or anything which logically implies it. One could successfully draw a person's attention to either property in an object without mentioning or getting him to think about or attend to the other property in any way. The relation of incompatibility is not an identifying relation because to assert that the relation holds is not essential to a full specification of the meanings of the words. Their having the meanings which they do have is not even partly constituted by their being incompatible descriptions, as it would be if there
were an n-rule to the effect that they could not both describe the same object at the same time.

In short, to discover whether a statement identifies meanings one must ask "Is it possible to know exactly what I mean by these words without knowing the fact stated by this statement or any other logically equivalent to it?" (This last clause is included because there is no need for us to say that words have different meanings when their definitions are logically equivalent; our criteria for identity of meaning need not be quite as sharp as that - see sections 2.A, 2.C - though for some purposes it might be necessary to discriminate between different forms of definitions.)

6.3.4. An identifying statement about the meanings with which words are used states something which must be known if one is to know what those meanings are, in the sense of knowing how to use the words with those meanings. One need not, however, know that the statement is true. For the statement may employ metalinguistic concepts without which it cannot be understood, though one can perfectly well use the words it mentions without having them. I can use a word to refer to a property, and yet not understand the expression "refer to a property". I may know that a word, such as "glean" refers to a combination of two properties, without knowing that the words "glossy" and "green" refer to those two properties separately. Nevertheless, the statement that "glean" refers to the same property as "glossy and green" states an identifying fact about the meaning of "glean", since it correctly describes the way "glean" is used by anyone who uses it correctly, who knows what it means. In such cases I say that the identifying fact about the meanings
is one which must be known at least *implicitly* by anyone who knows the meanings of the words in question. (For more detailed remarks on "implicit" knowledge, see Appendix III.)

What is required for the implicit knowledge to become explicit may be the acquisition of new meta-linguistic concepts, or the acquisition of a new vocabulary, or any of the other sorts of things described in Appendix III (see III.5). In these cases one is not learning the meanings of the words, but merely learning to say what, in a way, one already knows about the meanings of the words, since one knows how to use them. One does not have to carry out observations of the objects described by those words, nor examine the properties referred to by the words in order to discover new aspects (Cf. 7.D.) That is to say, for making implicit knowledge of meanings explicit, neither *experience* nor *insight* is required. If, in addition to knowing the meanings of words, one must have some experience or insight, in order to see that a statement is true, then it does not state an identifying fact about meanings. (Cf. 6.C.10, below.)

6.C.5. If a statement states an identifying fact about the meanings of certain words, then this means that unless that fact is (at least implicitly) known, the full meanings of the words will not be known. But this leaves open the possibility that part of their meanings may be known. For example, in section 4.C it was shown that a partial definition might be adopted according to which the two hue-words "red" and "orange" were to be incompatible descriptions. A person who had been taught
their meanings ostensibly, without being told about this incompatibility convention, would know something about their meanings, for he would be able to decide correctly in most cases whether objects were describable by these words, but he would not fully understand the words as used by persons who followed the incompatibility rule. He would not know that certain descriptions of borderline cases were excluded, such as "both red and orange".

So in some cases one may know part of what a person means by a word without knowing all the identifying facts about the meaning: but then the partial meaning is likely to be less determinate than the full meaning.

6.5.6. Some identifying facts about meanings are "purely verbal" and some are not. For example, suppose the word "V" to be semantically correlated with the property P and the word "W" with the combination of properties P and Q (cf. 3.B.3). Then either of these correlations may be set up without the other. For example, a person may use the word "V" to refer to P, while another person uses the word "W" to refer to the combination of P and Q, though neither of them has a word synonymous with that used by the other. Nevertheless, the statement that the word "W" refers to a combination of the property referred to by "V" with another property states an identifying fact about the meanings of the words: the relation it describes is an identifying relation between their meanings. On the other hand, if two words, such as "red" and "orange", are related by an incompatibility rule of the sort described in 4.0.2, then it is impossible to say exactly what either of the words
means without mentioning the other word, unlike the previous case, where one can fully explain the meaning of either "w" or "v" without mentioning the other. In the one case we have a purely verbal identifying relation, which holds merely in virtue of a rule relating two words, whereas in the other case we have an identifying relation which is not purely verbal because it holds primarily on account of rules correlating words and properties.¹

6.0.7. If an identifying relation holds between entities, then at least one of them is not capable of existing on its own. Certainly the hue redness (i.e. the observable property) may exist on its own (since one may be fully acquainted with it without being acquainted with the hue orangeness). But if the words "red" and "orange" are related by a defining incompatibility rule,

1. Here we see one of the things which may be meant by the distinction between "real" definitions and "nominal" definitions. The rule relating "red" and "orange" is purely nominal, whereas the definition of "w" in terms of "v" and some other word would be "real" since it would be a correct definition in virtue of the prior correlation of these words with properties. There is a sense in which one of the definitions is quite arbitrary, since there is nothing to justify the statement that the words are related by an incompatibility rule, except the fact that unless they were so related they would not be the same words (or at any rate they would have different meanings), whereas the other is non-arbitrary, since the statement of the relation between words is justified by the fact that those words are correlated with certain properties, though, of course, this correlation is itself as arbitrary as any linguistic convention. But this is a digression.
then the properties to which they refer are "improper" properties (cf. 2.D.6, 3.B.5), not objects of experience, and neither could exist alone. If the property referred to by the word "glen" is the combination of the properties referred to by "glossy" and "green", then the former ("improper") property cannot exist unless the latter two do, though either of the latter two may, of course, exist independently of the other.

In general, when several entities stand in some identifying relation, at least one of them is a thing which could not exist unless the others did: for otherwise it would not stand in the relation in question, and so it would not be what it is. This brings out the fact that an identifying fact about meanings may be essential only to the full specification of the meaning of only one of the words mentioned. But if a statement states an identifying fact about meanings then there must be at least one word whose meaning could not be fully specified without it.

6.C.5. As we have seen, the statement (1) of 6.C.2. does not state an identifying fact about the meanings of the words "red" and "mat". There are some kinds of statements which can only state identifying facts about meanings, if they are true. Examples are statements of the form:

(1) The word "U" refers to the same property as "V".
(2) The word "U" refers to the combination of the properties referred to by "V" and "W".
(3) "U" means the same as "V".

On the other hand, the following may either be logical consequences of identifying facts, or they may describe synthetic (i.e. non-identifying) relations between the
meanings of words.

(4) The words "U" and "V" have the same extension.
(5) The extension of the word "U" is the intersection of the extensions of "V" and "W".
(6) The property referred to by "U" is possessed by all objects which have the property referred to by "V".

In general, if the meaning of a word is logically synthesized out of properties (see section 3.3), then the relation which holds between the meaning of this word and words referring to the properties from which its meaning is synthesized must be an identifying relation, since one cannot know its meaning without knowing (at least implicitly) that this relation holds. On the other hand, a statement about the classes of objects correctly describable by certain words may fail to state an identifying relation between the meanings of those words. (Cf. 6.0.2.)

6.0.9. In addition, it should be noted that it is possible for words whose meanings are non-logically synthesized to stand in identifying relations. For example, if the word "red" is governed by a p-rule of the sort described in 3.0.2, and if the words "red-inf" and "red-ult" refer to the two specific shades taken as boundaries, then the statement "The word 'red' refers to shades of colours lying between the shades referred to by 'red-inf' and 'red-ult'" states an identifying fact about the meaning of "red", and the relation it describes between the three words mentioned is an identifying relation between their meanings, if they are used in the way specified.

Similarly, the statement "The word 'tetralateral'
refers to the property of being bounded by four plane surfaces" states an identifying fact about the meaning of the word "tetralateral", introduced in 2.C.3.

However, the difference between these statements of identifying facts, or identifying relations between meanings, and those discussed previously is, as pointed out in 3.D.10, that the relations between words which hold in virtue of non-logical syntheses are not logical relations, that is to say, they are not relations which are describable in quite general topic-neutral terms, but are relations which can hold only between meanings of words referring to special kinds of properties. Similarly, we may say that these identifying facts are not facts which can be described in purely logical, or topic-neutral terms. This will be important when we come to discuss ways in which one can infer that sentences express true propositions from the fact that certain words occurring in them are identifyingly related.

6.C.10. We can now use the concept of an "identifying relation between meanings" to complete the definition of "analytic" which was begun at the end of section 6.B.

We define "analytic" so that a statement $S$, obtained by applying a logical form $F$ to an argument-set $A$ (i.e. an ordered set of non-logical descriptive words) is analytic if it is possible to determine the truth-value of that statement merely by examining some or all of the following: (i) the logical technique corresponding to $F$, (ii) the "structure" of the argument-set $A$ and (iii) identifying relations between the meanings of the words in $A$, provided that only purely logical (i.e. topic-neutral) considerations are relevant in the inference.
Thus, if a statement $S$ is analytic, then any other statement with the same logical form will also be analytic, if its non-logical words stand in the same sort of identifying relation as the non-logical words of $S$, no matter what the topic with which they are concerned (e.g. no matter which properties they refer to: this is the force of the underlined part of the definition).

For example, the statement "All green things are glossy and green" can be seen to be true by considering the general logical technique corresponding to the logical form "All $P$ things are $Q$ and $R$", and by taking note of the fact that the words in the argument-set ("glen", "glossy", "green") stand in the following identifying relation: the property referred to by the first is the combination of the properties referred to by the other two. Since all one needs to know is that the words stand in this relation, without knowing what sorts of properties they refer to, or what sort of topic they are concerned with (i.e. only purely logical topic-neutral considerations are relevant), one can conclude that any other statement of the same logical form whose non-logical words stand in the same identifying relation is true, and therefore analytically true, no matter what those non-logical words mean. (See also the example in 5.D.1.)

The proviso that only general logical considerations and identifying relations between meanings can be relevant rules out the cases where the truth-value of a statement has to be discovered either by applying the technique corresponding to its logical form and carrying out empirical enquiries concerning the things referred to by the non-logical words, or by examining any such
things as the properties referred to by these words: the latter would not be a topic-neutral enquiry since it would presuppose an acquaintance with these properties. (Cf. 6.4.4.)

6.3.11. This account of the analytic-synthetic distinction will become clearer later on, when analytic propositions are contrasted with synthetic propositions which are necessarily true. Meanwhile it may be noted that much of what I have said could be construed as an attempt to clarify some of Kant's remarks about the distinction.

For example, when he considers the possibility that "... the predicate B belongs to the subject A as something which is (covertly) contained in this concept A" (see 6.3.2.), it seems that he is considering just one of the kinds of facts which I should describe as an identifying fact about the meanings of words. This is in the same spirit as his remarks that analytic knowledge is obtained merely by meditating on concepts.

When he says that synthetic judgement involves going beyond concepts in an appeal to intuition, he seems to have in mind the same sort of thing as I have when I rule that some statements about meanings do not state identifying facts since in order to know that they are true it is not sufficient merely to know the meanings of the words mentioned: in addition one must examine the things referred to, either by carrying out empirical investigations, or by examining properties to discover that they are synthetically related (see chapter seven). Appeals to "intuition" are also ruled out by the condition that knowledge of the truth of analytic propositions must be based only on logical considerations, which do not presuppose
acquaintance with any special kind of property or object (cf. 3.D.10, 7.C.2, 7.D.3,ff). Kant's account simply happens to be less general than mine, and is not as detailed, since it does not explain how it is possible for a statement to be analytic. (Cf. Sections 5.C & 5.D.)

In addition, I think that my definition of "analytic" brings out what people are getting at when they describe some statement as "true by definition", or say such things as "If that's what you mean by so and so then you must admit that ...." or "You cannot really believe that, unless you mean it in an unusual sense", etc.

6.C.12. It should be noted that in my definition of "analytic", the phrase occurred ".. if it is possible to determine the truth-value ..." The point of this is the fact that one may fail to notice that a statement is analytic, and then discover whether it is true or not in the usual way, by carrying out empirical enquiries. I shall explain the significance of this presently.

But first we must take note of the complexities in our ordinary use of words which were described in chapter four.

6.D. Indefiniteness of meaning

6.D.1. It should not be thought that every time anyone makes a statement that statement is either analytic or synthetic, even if it falls within the class of statements we have selected for discussion (in 1.C.2). For there may be some fact about the words used to express the statement which is not clearly an identifying fact about the meanings of those words nor clearly not an identifying
fact about the meanings of those words. If it is possible to infer from this fact that the statement is true, then it may not be clearly analytic or clearly not analytic, since it is not clear whether the truth of the statement can be logically inferred from an identifying fact or not.

The reason why a fact about words may be neither definitely an identifying fact nor definitely not an identifying fact is simply that words may have meanings which are indeterminate in any of the ways described in chapter four. This indeterminateness has the effect that sharp criteria for identity of meanings cannot be applied. As pointed out in section 2.C and section 4.B, this does not matter much for normal purposes, but it does matter when philosophers are discussing the analytic-synthetic distinction, and say such things as "A particular speaker on a particular occasion who uttered 'All phosphorus melts at 44°C' without knowing whether he was following a rule which made this analytic or not, would be cheating" (Pears, in Mind, 1950, p.204). To use a word with an indeterminate meaning is to cheat only when one implies that one means something perfectly definite by it, that one would know in all cases what would count as settling questions about the truth-value of a statement using the word, but one need not imply this when one uses a word.

6.D.2. For example, if the word "U" is correlated by an indeterminate d-rule with a range of properties with indeterminate boundaries (4.A.4, ff.), and the word "V" refers to one of the borderline properties, then the statement "Possession of the property referred to by 'V'
is a sufficient condition for being correctly describable by the word "U" is neither definitely an identifying statement about the meaning of "U" nor definitely not an identifying statement about the meaning of "U", even if it is generally believed that all things which are V are also U, for some such reason as that the property referred to by V happens always to accompany some other property which is taken as a sufficient condition for being describable by "U". (Far more complex and interesting cases are possible.) In such a case, the statement "All things which are V are U" is neither definitely analytic nor definitely synthetic, even if it is definitely true. In this case the proposition would cease to be definitely true if someone produced an object which had the property referred to by "V" without definitely having anything else which sufficed to ensure correct describability by "U".

More interesting cases, from the point of view of this essay, concern necessarily connected properties. If what was said in 2.C.3 and following paragraphs is correct, then the property of being bounded by three straight sides is different from the property of being rectilinear and having three vertices. But if we ask whether the English word "triangle" refers to one of these two properties, or to the other, or to both conjunctively, or to both disjunctively, then there will surely be no answer, for since these two properties are always found together it makes no difference for practical purposes (e.g. when a man orders a table with a triangular top) to which of them or which combination of them the word refers. This helps to account for our use of the expression "can be defined ..." in such contexts as "The word 'triangle' can be defined as referring to the
property of being bounded by three straight lines". (Cf. 2.C.10, where it was shown how this could lead to a question-begging argument.) The word can be defined in this way for normal purposes, since a word so defined will, for normal purposes, do exactly the same job as the ordinary English word "triangle": loose criteria for identity of meanings are all we need. Since it is not definitely the case that the word has to be defined this way, or that it has to be defined as referring to the property of having three angles, we cannot say definitely that the statement "All triangles are bounded by three sides" is analytic, as understood in English, or that it is definitely synthetic.

6.D.3. When a word or sentence is used with an indefinite meaning, it is often possible to make the meaning more definite in one way or another by adopting an additional linguistic convention. This was illustrated by the n-rule correlating the words "red" and "redange" in 5.B.4,ff. Sometimes one way of making meanings more definite makes a statement analytic, while another way of making the meanings of the same words more definite makes the statement synthetic. In such a case the original statement is neither analytic nor synthetic: its meaning is too indeterminate for the distinction to apply. When a sentence does not definitely express this or that proposition, we cannot always ask whether the proposition which it expresses is analytic or synthetic.

Normally there are several different ways in which the meaning of an ordinary sentence could be made more determinate: for example, if one of the words in it is correlated with a range of properties whose boundaries
are indeterminate, then there must be many different possible determinate boundaries. To each way of making a concept or meaning more determinate there corresponds what may be described as a (relatively) "sharply identified" concept or meaning, since sharp criteria for identity can be used for distinguishing these new concepts. (Cf. 2.G, and 3.C.9-10). All of these different sharply identified meanings may be thought of as somehow "superimposed" in the old meaning, to produce the indeterminateness, (as if several different but similar faces were superimposed to produce a blurred photograph). (In 3.E.2, it was remarked that several different concepts of the sorts distinguished in chapter three were superimposed in our ordinary concept "red". Cf. 7.D.11.note.)

As pointed out in 4.B.7, this indeterminateness can occur at different levels in a language and manifest itself in different ways.

6.D.4. This sort of thing is sometimes ignored by philosophers when they are engaged in "conceptual analysis". For example, they may argue over the question whether it is part of the meaning of "daughter" that a good daughter behaves in a certain way, or whether it is part of the meaning of "table" that the word describes objects which are used for certain purposes. One side will argue that it is part of the meaning, and another will argue that it is not, that it is just a fact which is generally taken for granted in one way or another, and both may fail to consider the possibility that as far as ordinary use goes the concept may be too indeterminate for either side to be correct, or perhaps as some people understand the word it has one sort of meaning, and as
others understand it it has the other. In such a case, the argument can only be pointless. (But see 5.E.7.a.)

6.D.5. It should not be assumed that the analytic-synthetic distinction can never be applied to ordinary statements using words which have indefinite meanings. If two areas have fuzzy boundaries it may not be clear whether they overlap or not, but this doesn’t rule out the possibility that a circle with fuzzy boundaries may be completely inside another, or completely outside another, or that they may definitely overlap. Similarly a concept may stand in a definite relation to some other concept even though each of them is indeterminate in some way. For example, no matter how indefinite the concept "horse" may be it is certain that the statement "Every horse chews everything it eats at least five times" is synthetic, whether it is true or false. Some ordinary statements may be definitely synthetic despite the indefiniteness of some of the concepts employed in them.

If all statements in some language were to be either analytic or synthetic then even the most subtle ambiguities would have to be eliminated (which need not be done for ordinary purposes). But as soon as the most flagrant ambiguities have been eliminated it is possible for some statements to be definitely analytic or definitely synthetic.

6.D.6. All this shows that there is no need to say that there is no such distinction as the distinction between analytic and synthetic statements just because some statements fail to fall on one side or the other of the distinction. (It is often difficult to tell whether an
utterance is meant as a question or as a statement: should we therefore abandon the distinction between questions and statements? Indeterminateness can make a statement neither definitely true nor definitely false, where borderline cases turn up: should we say that there is no distinction between true and false statements?) Certainly we cannot assume that the distinction can be unambiguously applied to everything which can be described as a statement: if that was Kant's assumption, then it is an assumption he should not have had. We could try to make the distinction cover all cases by making it a "pragmatic" distinction and talking about degrees of analyticity, as suggested by Pap in "Semantics and Necessary Truth" (p.352, etc.), but that would be of interest only in answering empirical questions about how statements as understood by certain persons ought to be classified, and would certainly not be relevant to the problems discussed by Kant (and in the next chapter of this thesis). The alternative of adopting a "system-relative" distinction (suggested, for example, by M. Bunge in Mind April, 1961) is quite unintelligible to me unless it is simply an obscure and confused version of what I have said, namely that we must be clear as to what meanings (definite or indefinite) are associated with words before we can ask whether the statements they express are analytic or synthetic.

6.D.7. To sum up: the fact that words may be used with indeterminate meanings has the consequence that, as understood in some language, or by some person, or group of persons, a sentence may express a statement which is neither definitely analytic nor definitely not
analytic. This is because the relations which hold between the meanings of some of the words occurring in such sentences may not be definitely identifying relations, nor definitely not identifying relations. This possibility is sometimes ignored by those who believe that there is a distinction. But others who are aware of the possibility go to the opposite extreme and ignore the fact that the distinction can be applied in a clear way in some cases. My description of the way logical and descriptive words work has the advantage of being able to take account of or explain both of these facts, namely the fact that the distinction can be applied in some cases, and the fact that it cannot be applied in all.

6.E. Knowledge of analytic truth

6.E.1. We are now able to see the resemblances and differences between analytic propositions and synthetic ones. Both kinds of proposition are expressed by sentences built up out of descriptive words and logical words (and constructions) which have a perfectly general application in statements about the world. So in both cases it is possible to discover truth-values by taking account of meanings of non-logical words and applying logical techniques corresponding to the logical forms of propositions, i.e. by investigating facts. The difference is that in the case of analytic propositions there is another way of discovering truth-values, namely by examining the meanings of non-logical words and the logical techniques which have to be applied in discovering the truth-value in the other way.
This shows that the notion that "the way we get to know the truth of necessary propositions is by inspecting them" is not quite as misleading as Malcolm suggested in Mind, 1940 (p.192). For it is one way in which we can get to know the truth of some kinds of propositions.

But it is not the only way in which one can come to know that they are true. For, as repeatedly pointed out, analytic propositions are the same sorts of things as all other propositions, insofar as they are expressed by sentences which refer to non-linguistic entities, and whose logical form determines what sorts of observations count as verifying them. That is to say: analytic propositions merely form a subclass of the class of propositions which can be verified empirically. (Cf. 5.A.9, 5.C.7, 5.D.5, 5.E.3.)

6.E.2. For example, a person may fail to notice that the proposition "All gleen things are glossy" is analytic ("gleen" as I have defined it means "glossy and green"), and look to see whether it is true or not by examining all the things which are gleen to see whether they are glossy or not. (Cf. 5.B.11). We know that he must find that they all are, but he may simply fail to notice that one of the steps in recognizing that something is gleen is recognizing that it is glossy, and so he may fail to see that his search is superfluous. Perhaps he divides the investigation into two stages: he first examines all gleen things and finds that they are ellipsoidal in shape, and then he examines all ellipsoidal things and finds that they are glossy. In either case, on the basis of what he has observed, of what he knows about the meanings of "gleen", "glossy", etc., and of what he knows about
the general technique for verifying statements of the form "All P's are Q's" he is justified in asserting: "All green things are glossy".

(This shows, incidentally, that although only an analytic proposition can be formally entailed by an analytic proposition, nevertheless, any kind of proposition, whether analytic or not, can entail an analytic proposition. For example the proposition (1) "All bachelors are happy men and all happy men are unmarried", which is certainly synthetic, and may perhaps be false, formally entails the proposition (2) "All bachelors are unmarried," which is analytic. Some people - such as P. Long in Mind, April 1961, pp. 190-191 especially - find this sort of fact surprising. But the fact that a synthetic proposition can entail an analytic proposition is no more surprising than the fact that a true proposition may be entailed by a false one. (Even a purely formal truth of the form "All P are P" may be entailed by a false contingent proposition of the form "All P are Q and all Q are R and all R are P".)

This fact that analytic propositions have in common with synthetic propositions the possibility of being verified empirically helps to show how wrong people are when they say that analytic propositions are not really propositions but rules, or when they say that empirical facts are irrelevant to their truth-values. (They are not irrelevant but ineffective.)

6.E.3. When knowledge of an analytic truth is based on empirical enquiries, all three elements in the justification of the proposition are involved (see 5.E.1). But we have seen that the third element (observation of the facts) need not be involved in a justification for asserting
the proposition. This, however, does not mean that the other two elements can, on their own, provide a justification in the same way as they did when accompanied by the third. For when all three are involved, the logical technique corresponding to the form of the proposition has to be applied, and the technique can only be applied when facts are observed. When we dispense with empirical observation, we no longer apply our knowledge of meanings and logical techniques; instead we study them, which is quite a different matter.

(Similarly, in showing that when numbers standing in certain relations are taken as arguments the value of some arithmetical function must be positive, no matter what those numbers are, we do not apply the calculating techniques for determining the value of the function; we study them. They can only be applied when actual numbers are taken as arguments. This step to a higher level is concealed in normal mathematical procedure owing to the technical devices used for proving general theorems with the aid of variables, which helps to give the misleading impression that techniques are being applied (e.g. to entities of a special kind known as "variable numbers"), owing to a misleading formal analogy. In proving the algebraic theorem normally stated thus 

\[(a + b)^2 = a^2 + 2ab + b^2\]

we do not add or multiply; we study the general effects of adding and multiplying in certain ways.)

This is important, because it explains why people may fail to see that a proposition is analytic even though they understand it perfectly well. For they may understand it perfectly in the sense of knowing the meanings or functions of all the words and constructions involved
and knowing how to tell whether statements expressed by sentences using them are true or false, and yet fail to notice the aspects of these meanings or functions in virtue of which some of these statements are analytic. (Cf. 5.C.7.) People may be quite good at applying a technique automatically without being able to think clearly about it. It may never even occur to them to study it. (See appendix on "Implicit Knowledge".) Having failed to see that a statement is analytic, one may also fail to notice that it is true.

By describing several different ways in which one may come, mistakenly, to think a proposition false when it is analytically true, I shall now try to bring out the inadequacy of the definition of an analytic proposition as a proposition which cannot be intelligibly denied, or which one must know to be true if one knows what it means, or which is such that when a person denies it this is a sufficient justification for saying that he does not understand the meanings of the words used to express it.

6.E.4. First of all, we may get out of the way a whole series of cases which are rather puzzling from a certain point of view, but need not be discussed here: the cases where a person seriously denies something simply because he is temporarily muddled, or confused, or absent-minded. We must simply take these for granted as possibilities which can explain completely why a person denies or affirms anything at all, whether it is true or false or analytic or synthetic.

Secondly, we must notice that a person who has failed to see that a proposition is analytically true may then deny it on account of mistakes of the same sort as could lead him to deny a true synthetic proposition which he has
tried to verify by making empirical enquiries or observ-
evations. For example, he may have asked someone and been
given the wrong answer. Or he may have misunderstood
one or more of the individual words or constructions, or
failed to take in the structure of the sentence expressing
the proposition, so that he thinks it expresses some
other proposition than the one which it does express, in
which case he may take certain facts as falsifying it
when they do not really do so. Failing to take in the
structure of the sentence properly is a different matter
from failing to understand one or more of the descriptive
or logical words. One may know perfectly well what the
elements of a sentence are, and how they work, but simply
be mistaken as to the way in which the sentence is built
out of them, or mistaken as to the way in which the
verifying technique corresponding to its logical form
is in this case determined by the rules for the individual
logical words and constructions (see circa 5.3.15).

So there are many different ways in which one can
get the wrong idea, and not all can be described simply
as "failing to understand the meanings of the words".
(Notice, incidentally, that instead of getting the wrong
idea one may, as a result of imperfectly grasping the
structure of a sentence, not have any clear idea at all
of what it means, even, in some cases, without realizing
that one does not have a clear idea.)

In addition to all these factors, which may account
for a person's making the wrong enquiries, or drawing
the wrong conclusions from what he observes, there is
also the possibility of mistakes of observation. For
example, someone who wishes to find out whether all gleen
things are glossy may try to collect all gleen things
together and, having done so, look them over and mistakenly think he sees one which is not glossy. Or he may make a mistake which has nothing to do with special features of the proposition in question, such as establishing the two premises "All bachelors are happy men" and "Not all happy men are unmarried" and mistakenly concluding that "Not all bachelors are unmarried". Obviously still more complex mistakes may explain a person's denying some proposition which is analytic.

6.3.5. But all this presupposes the possibility of failing to notice that the proposition is analytic. What sorts of things can account for this failure? Once again, there are many distinct possibilities.

A person who knows perfectly well how to tell whether any particular object is or is not correctly described by some word may fail to notice what he is doing in doing this, and so fail to observe that there is some identifying fact about the meaning of that word: he knows the meaning of the word in a practical way, since he can use it, he can apply his knowledge, but he is not explicitly aware of its connections with other words. In the same way one may be quite good at counting, and be able to decide which numeral follows any given numeral, and yet be unable to formulate the general principle on which one constructs the new numerals. (E.g. one may never have thought about it.) Failing to notice the relations between the meanings of words one may fail to see a consequence of the fact that they stand in these relations.

6.3.5.a. In a similar way one may fail to notice some general feature of the logical technique corresponding to
the logical form of a proposition, despite the fact that one can apply it in particular cases in deciding whether statements are true or not. Such a person fails to take explicit note of the fact that in deciding that the proposition "All glean things are glossy" is true he examines each thing which has the combination of properties referred to by "glean" to see whether it also has the property referred to by "glossy". Failing to notice the general procedure corresponding to the logical form of the proposition, he fails to notice facts about the application of that procedure which determine its outcome.

6.E.5.b. Alternatively, one may be perfectly well aware of the relations between the non-logical words in a sentence, and be able to describe, in a general way, the logical technique corresponding to the way logical constants occur in that sentence, and yet fail to notice how all this applies to the particular case in question, for some reason. (It is possible to fail to notice something which is well within one's field of view.)

6.E.5.c. Each of these, and perhaps other possibilities, may explain a person's failing to notice that some proposition is true independently of the facts, even though in a clear sense he understands the proposition, since he understands its parts, he knows how they are put together, and he knows what counts as the proposition being true. We could say that in such a case he doesn't fully understand it unless he notices that empirical enquiries are unnecessary, but then we are adopting a new terminology, giving a new sense to the notion of "full understanding", and to say that a person who sincerely
denies an analytic proposition cannot fully understand it is correct and not misleading only if the new terminology has been made clear, and even then it is not very informative, since it slurs over the differences between possible explanations of a failure to notice the truth of an analytic proposition.

6.2.6. All this may suggest that in order to notice that a proposition is true by definition, that it has to be true on account of its meaning, one has to be an expert logician who can formulate facts about meanings and logical constants and draw conclusions from them, or perhaps formulate non-formal truths of logic of the sort described in 6.B.12.a. But this is not so, for one may know these facts implicitly (without being able to formulate them) and see, perhaps in a "dim" sort of way, what they imply. One may know something, and be fully justified in asserting it and yet be unable to say what justifies the assertion.

This can be illustrated by much of the ordinary person's knowledge of arithmetical facts. It is fairly easy for someone who knows what a recursive definition is to say explicitly how the series of numerals used in counting is generated (for example either in Arabic notation or in English words). But a person who knows perfectly well how to go on producing new numerals when counting may be quite unable to formulate the general principle which he is following, and may even be unable to recognize a correct formulation suggested by someone else. Nevertheless, he knows the principle, since he can apply it and distinguish incorrect from correct moves in accordance with it. We may say that he knows it
"implicitly". (Cf. Appendix III.) Now this implicit knowledge may give him the right to assert with confidence some general statement about numerals such as that numerals ending in "6" are always closer to numerals ending in "3" than they are to numerals ending in "0". ("Closer" = "separated by fewer numerals".) In particular, it may justify his asserting that between "0" and "100" there is no numeral ending in "6" which is closer to one ending in "0" than to any ending in "3". He is justified by his knowledge of the general principle for constructing numerals, properties of which he can see more or less clearly; so there is no need for him to justify the assertion by writing out the sequence from "0" to "100", though he could do this.

Similarly a person who says "It is true and has to be true that all green things are green" may be perfectly justified in making this claim, on account of his implicit knowledge of the techniques for working out the truth-values of such propositions. He may be quite inarticulate about the reasons why it "has to be true", yet what he says is correct, and he is justified in saying it. He need not have seen a logician's proof (or anyone else's).

6.6.7. We see therefore, that a person may see, correctly, that a proposition is analytic, that on account of what it means it has to be true no matter how things happen to be in the world, without fully understanding the reasons why it is true, or why it would be true in all possible states of affairs. He does not fully understand what makes it true, because he has not noticed that it is true on account of a general feature which the proposition shares with other propositions expressed by
sentences whose meanings are related in the same way.

Most philosophers have, of course, hitherto been in this position, which is why they have not been able accurately to characterize the class of analytic propositions, or propositions true by definition. Their misunderstanding is shown, for example, when they say that the difference between statements which are true in virtue of their logical form (such as "All bachelors are bachelors") and analytic statements which are not formal truths (like "All bachelors are unmarried") is that in the sentences expressing the latter, some non-logical words occur "essentially". This is mistaken, since it is not in virtue of any special property of the words "bachelor", "unmarried", that the sentence "All bachelors are unmarried" expresses an analytic proposition, any more than it is an essential property of the word "red" which accounts for the truth of the proposition "All red things are red". All that is essential is that the words occupying their positions in the sentences should have meanings which stand in certain identifying relations. That is to say, an analytic proposition is not true in virtue of the fact that the non-logical words have the special meanings which they do have, but in virtue of the fact that those meanings, whatever they may be, stand in certain relations, and other propositions, including words with quite different meanings, may be true for the same reason. One need not know the meaning of a sentence in order to know that it expresses an analytic proposition, one need only know certain facts which must be known implicitly by anyone who knows the meaning. (Though if one knows only these facts one will not, of course, know which proposition the sentence expresses.)

This shows how the class of formal truths is merely
a subclass of the class of analytic truths. (Compare 5.D.1.)

6.E.8. One thing that is clearly brought out by all these examples, which is sometimes overlooked, is that there is a difference between knowing that a proposition is true and knowing that it is analytic. This was pointed out as long ago as 4.E.5, in connection with the more general fact that there is a difference between knowing that the propositions expressed by certain sentences are true, and knowing what those sentences mean. (This does not contradict the thesis that knowledge of meanings can often be explained as knowledge of the general way in which the various words and constructions used in sentences contribute towards determining the conditions in which the propositions expressed are true, or false.) Knowledge that an analytic proposition is true can be based on observations in the same way as knowledge of the truth of any empirical proposition, whereas the knowledge that it is analytic has to be based on a priori considerations of facts about meanings and the techniques for determining truth-values. (Cf. 5.C.7, 6.E.3.)

6.E.9. It is possible to get into a muddle by failing to distinguish knowledge that some proposition is analytic from knowledge that a sentence expresses an analytic proposition as understood by certain people. The latter presupposes knowledge of empirical facts about the way the people concerned use words, the former does not. We may put this by saying that knowledge that some proposition is analytic is knowledge that if certain words are used with certain kinds of meanings, then the proposition which
they express when combined in a certain way is analytic. In order to discover this one need not know anything about the way in which anybody actually uses words, though one will not be able to report one's discovery unless one knows which language is understood by the people to whom one is reporting it. Of course, one will not be able to think about such matters without having learnt a language, and one learns a language by seeing and hearing what happens when others speak it (and trying to speak it oneself), which involves picking up some empirical knowledge. But that is irrelevant. I believe Malcolm must have been muddled about all this when he wrote (in Mind 1940) that a child learns necessary truths by observation of the way people talk (p. 193) and that we answer questions about entailments "by finding out certain empirical facts about the way we use words" (p.195).

What one learns by this sort of observation is how people understand sentences. The discovery that the propositions expressed by those sentences are analytic, or stand in relations of entailment, requires a further step which is quite different from empirical observation. (Pointing to the way people use the words "triangle", "line", etc., is not relevant in the proof of a theorem about triangles. Neither would it be relevant to establishing an empirical fact about triangles.)

6. E.10. To sum up: I have tried to bring out various factors involved in the justification of the claim to know that some proposition is true when that proposition is analytic. One way of bringing them out is to describe ways in which one may fail to see that such a proposition is true. This also reveals the superficiality of some commonly accepted definitions of "analytic". 
One of the most important points to be stressed is that analytic propositions can be verified empirically like other propositions using the same empirical concepts. (This suggests that the empirical-nonempirical distinction should be applied to ways of knowing, not to kinds of proposition.) The importance of this is that it shows in what sense they are propositions, capable of being true or false.

6.F. Concluding remarks

6.F.1. The contents of this chapter may now be summarized. I have tried to show how it is possible for propositions to be analytic, by showing how the truth-value of the proposition expressed by some sentence may be determined by identifying relations between the meanings of non-logical words in that sentence together with facts about the logical technique corresponding to its logical form. This is equivalent to saying that there is something which is essential to the proposition's being the one which it is, from which it follows logically (but not formally; cf. 6.B.12) that the proposition has the truth-value which it does have. It could not have any other truth-value unless the descriptive words expressing it had different meanings or the logical words and constructions involved in it had different functions, in which case it would have been a different proposition (since we are using strict criteria for identity of meanings and propositions - see section 2.C.). It follows that anyone who talks about "declaring a proposition to be analytic" is muddled or using loose criteria for identity, since one cannot simply declare
a proposition to be analytic without risk of changing the proposition. The most one can do is declare that words are to be used in a certain way, which may have the consequence that a certain combination of these words expresses an analytic proposition, but that proposition is analytic whether those words are used to express it or not. (Cf. Waismann in "Analytic-Synthetic II", p.25. See 6.A.3, above.)

6.F.2. The identifying facts about meanings, which must be known if it is to be known what those meanings are, are what correspond to the notion of a "definition" in the crude account of an analytic proposition as one whose truth follows logically from definitions. The fact that metalinguistic concepts are required for stating these identifying facts, shows why Frege was wrong to think of definitions as occurring on "the same level" as other propositions. (Cf. 6.B.3.a,ff.) The fact that we can, in a non-formal (but perfectly rigorous) way, draw logical conclusions from facts about meanings, shows how Quine and Waismann were wrong in denying that "definitions" could be used to found truths, and in asserting that they were merely substitution licences for transforming truths. (6.B.3-4,ff.)

6.F.3. We found, in section 6.B, that the Quine-Waismann definition of "analytic proposition" as "proposition derived by substitution for synonyms in formal truths" was not sufficiently wide. The question now arises whether propositions which are analytic in their sense are also analytic in the sense defined in 6.C.10: is our new definition simply wider than the old one, or is it completely different?
We can show that propositions which are analytic in the old sense are also analytic in the new sense, as follows. A formal truth is one kind of analytic proposition, for its truth-value is determined in a purely logical (topic-neutral) way by (i) its logical form and (ii) the structure of the argument-set of non-logical words to which that form is applied. But the example of 5.D.1 shows clearly that replacing a word or expression by another word or expression referring to the same property or properties, in some sentence, cannot alter in any essential way the factors which determine the truth-value of the proposition expressed by that sentence, since the actual shapes of the words used in the sentence do not matter: it is what they refer to or what their functions are that matters. Hence, if general logical considerations about logical form and meaning suffice for a determination of the truth-value of a proposition \( P \), and if \( P' \) is derived from it by substituting synonyms for some of the non-logical words used to express it, then \( P' \) can be shown to be true by general logical considerations of the same sort as before, taking into account also some new identifying facts about meanings. Hence, if \( P \) is analytic, then so is \( P' \), and if \( P \) is a formal truth then \( P' \) is analytic, since formal truths are analytic.

This shows that the Quine-Waismann definition is included under our definition, which simply happens to be more general, since it allows us to take account of identifying relations other than synonymy, as shown in 6.B.

6.F.4. We have just proved a logical "theorem" by
non-formal considerations, namely, the theorem that analyticity is preserved by synonymy substitutions. We could prove, in a more general way, that analyticity is preserved by any substitution of one descriptive expression for another which is such that those two expressions are logically equivalent, in the sense that identifying facts about meanings, together with purely logical considerations, can show that if anything is correctly described by one of these expressions then it is also correctly described by the other, no matter how things happen to be in the world.

In addition, we can prove that if a proposition is analytic, then any other proposition formally entailed by it (5.3.8) is also analytic.

For example, suppose that by general logical considerations we are able to deduce from some identifying fact about the meanings of "A", "B" and "C" that the logical connector corresponding to "All P things are Q and all Q things are R" takes the value "true" for the argument-set ("A","B","C"), in which case the proposition expressed by the sentence "All A things are B and all B things are C" must be analytic. In addition, we know that this proposition formally entails the one expressed by "All A things are C", since we can discover, from a consideration of the logical techniques corresponding to their logical forms, that the latter must be true whenever the former is, no matter how things happen to be in the world. (See 5.3.8). Now add these considerations to the previous ones which showed that the former sentence expressed an analytic truth, and we find that we have a way of showing, by consideration of identifying facts about meanings and general logical principles, that the latter sentence
expresses a proposition which must be true independently of what is the case in the world.

This example should show that a general theorem could be proved to the effect that analyticity, like truth, is preserved by formal entailment. (The reader who wishes to test his grasp of my definition of "analytic", "formal", etc., may try to write out the general proof in detail.) This is a theorem of non-formal logic. (i.e. it is not just a formula in a formal system derivable from axioms using rules of inference, nor is it a proposition about what is derivable in formal systems.)

6.F.5. The fact that any analytic proposition formally entails many other propositions implies that if there is one proposition which is true in virtue of some identifying fact about the meanings of non-logical words, then there will be many others which are true in virtue of the same fact (though different logical considerations may be required in order to establish their analyticity). We are reminded, therefore, of the fact pointed out in 5.D.6, namely that to any identifying fact about meanings of non-logical words, there corresponds a whole family of analytic propositions whose truth it helps to guarantee. This fact is sometimes made use of when people try to define "analytic". Hare's definition, in "The Language of Morals" (pp. 41-42) went as follows, for example:

"A sentence is analytic if, and only if, either (1) the fact that a person dissents from it is a sufficient criterion for saying that he has misunderstood the speaker's meaning or (2) it is entailed by some sentence which is analytic in sense (1)."

We have shown how (2) is not part of the definition of
"analytic", in our wide sense, but is a theorem about analytic propositions. The importance of this is that we do not need to say that some propositions are analytic in one sense and others in another: the class of analytic propositions is homogeneous on our definition.

6.F.6. The homogeneity of the class of analytic propositions is due to the fact that definitions or statements of identifying facts about meanings must be thought of as being on a different level from propositions using the words they mention. So the "definitions" in virtue of which analytic propositions are true are not themselves included in the class of analytic propositions. There are not some analytic propositions, or propositions true by definition, which are themselves definitions, or "registers" of linguistic conventions, or direct expressions of linguistic conventions, or linguistic "proposals" (see end of 6.B.3.b), while the remainder are analytic only in virtue of being logical consequences of these propositions. Instead we must say that no analytic proposition is the definition in virtue of which it is true, and all analytic propositions can be shown to be true in the same way, namely directly from a consideration of meanings and logical (topic-neutral) facts, without the mediation of other analytic propositions.

This homogeneity relieves us of the task of discovering which of the analytic propositions are the definitions and which are merely entailed by these "definitions", a task which could be quite embarrassing. In addition, this homogeneity enables my definition to escape the objection to the Quine-Waismann definition of "analytic" which I raised in 6.B.7.
6.F.7. For reasons given in 1.C.2, and Appendix I, I have deliberately restricted the discussion of the analytic-synthetic distinction to a small class of propositions, namely those which are universal in form (i.e. mention no particular objects) and include only fairly simple descriptive words in addition to logical constants. The main reason for this restriction is that any attempt to define "analytic" straight off for all kinds of propositions seems to lead to muddle and confusion. However, now that we have taken the first steps in the clarification of the notion, the question arises whether it may not be generalized. The first and most obvious generalization would be to take account of relational expressions, which have not been mentioned since 6.B.5.b, where it was pointed out that the irreflexiveness of the relation "to the left of" might be due to a purely linguistic convention, in which case "Nothing is to the left of itself" must express an analytic proposition. The extension of the notion of an identifying fact about meanings to take account of relational expressions, and the extension of the notion of a logical regator to allow relational expressions as arguments, can be easily accomplished. I shall say no more about this.

6.F.8. Secondly, one might try to extend the notion of an analytic proposition to include those using proper names and other singular referring expressions, by extending the notion of an identifying fact to include facts about the meanings of proper names and other referring expressions. For example, it might be said to be an identifying fact about the meaning of the word "Socrates" that the thing referred to by the word is a
human being and a man. This assumes that we can talk about knowing the meaning of a referring expression in a sense which is different from knowing which thing is its referent (for I might very well know which material object was called "Socrates" without having the faintest idea whether that object was a human being: for example I might not have the concept of a human being).

Whether or not it is possible to extend the notion of an analytic proposition to include propositions like "Socrates is human", "Tom's bachelor uncle is unmarried", etc., need not concern us now, since we are mainly interested in necessary connections between universals. (See Appendix I. For an attempt — not very successful in my view — to show that proper names may occur in analytic statements of the form "x is P", see Searle's D.Phil. thesis.)

6.F.9. The next possible generalization concerns words or expressions for which there are "appropriateness-conditions" instead of just truth-conditions. (See 2.D.9.) In general, rules laying down appropriateness-conditions for utterances (such as "Alas!") are concerned not with observable states of affairs which make propositions true, but with such things as the purposes which may be served by utterances, the contexts of utterance, the things which are to be expected of the person producing the utterance if he is not to be said to have been deceitful or changed his mind, and so on.

There is an enormous variety of cases, and it is not to be expected that we can deal with them all at once, except in a very vague way, as follows: it may be possible to extend the notion of an identifying fact
about meanings to include identifying facts about the functions of words or expressions governed wholly or partly by appropriateness-rules. For example, it may be that the conditions in which it is appropriate to say "Ouch!" are identifyingly related to the conditions in which it is appropriate or true to say "Something just hurt me". Perhaps there are identifying relations between the conditions in which it is appropriate to utter sentences expressing statements and the conditions in which it is appropriate to utter the words "I believe that ...." followed by such sentences. (Thus identifying relations between appropriateness conditions may help to account for so-called "pragmatic" implications, and also the notion of "logical oddness". See 2.B.9.) Perhaps there are identifying relations between the conditions in which expressions of moral judgements are appropriate and the conditions in which statements to the effect that one has decided to do something are appropriate, though we must be prepared to find that such relations are extremely complicated and difficult to describe, if there are any (we are prepared for complicated identifying relations by the example of 3.B.5, and comments thereon).

6.F.10. In general, we may talk about an identifying fact about the meanings or functions of words (or perhaps an identifying fact about concepts), wherever there is some fact which must be known if the meanings or functions of those words (or expressions, or constructions) are to be known. (Cf. 6.C.3-4.) But it is doubtful whether this extension of the notion of an identifying fact to include facts about appropriateness-conditions, or, more
generally, meanings or functions of words, always leads to an extension of the notion of an analytic proposition, or analytic utterance. For the connection between analyticity and identifying facts was explained in terms of the ways in which truth-values of propositions might be determined, and the whole point about appropriateness-conditions, for example, is that they need not be concerned with truth. For this reason, I regard with suspicion the use of the terms "analytic" and "synthetic" in connection with imperatives, or moral judgements, or aesthetic judgements, unless it is made clear that a special new terminology is being used. I should prefer to talk about analytic and synthetic connections between meanings or functions.

6.F.11. This concludes my account of analytic truth. I have tried to show in what way analytic statements are true, and why they are true independently of facts, that is, independently of how things happen to be in the world. It should be clear that their being true, or even necessarily true, does not rule out any states of affairs as actual or even as possible states of affairs, since their being true is fully determined by matters which have nothing to do with observable states of affairs, though this may be concealed by the fact that they can be verified by observation in the usual way. In addition, they have the appearance of saying something, they have a meaning, they seem to state facts. ("It is a fact that all bachelors are unmarried, just as it is a fact that pieces of wood fall to the ground when dropped, only the former fact couldn't have been otherwise.") However, their having a meaning comes only to this: they are constructed out of words and expressions which have
meanings and can occur in statements which are not analytic. To say of any statement that it states a fact can be very misleading. Certainly if it is true it is true in virtue of some fact, which may be described as the fact which it states, but if it is false we have to talk about "possible facts". We might try saying that the fact stated is the one which if it actually existed, would make the proposition true: but in general there are indefinitely many different possible states of affairs in which a proposition would be true (e.g. the truth of "Tibs is on the mat" leaves open the possibility of many different arrangements of the cat and the mat). Is the fact stated by the proposition a collection of all these possible states of affairs, or is it something common to them all, or what? Until questions of this sort have been answered, it is not at all clear what the significance is of the assertion that even analytic statements state facts, unless it simply means that carrying out the normal procedure for discovering their truth-values by making empirical observations will always yield the result "true". But that should not surprise us, since we selected this as the characteristic property of analytic propositions.

What we must now ask is whether there is any other way in which a proposition can be true in all possible states of affairs, or any other way in which the truth-value of a proposition can be discovered independently of applying the normal logical techniques. Are there any other ways than those which we have described, in which the truth-value of a proposition may be due to facts about the meanings of the words and constructions used to express it? Is there any other way in which a proposition can be a necessary truth than by being analytic?

The meanings of these questions will be clarified, and answers suggested, in the next chapter.