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LOGICAL NECESSITY

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A thesis submitted in July, 1968 to the University of Glasgow.

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CONTENTS

Part One

Preface. 1.

Ch.1. The Intensional Use of Language. 8.

Ch.2. Plato and Platonism. 42.

Ch.3. Aristotle and Essence. 84.

Ch.4. The theory of Reference and the Triviality of Necessary Truths. 120.

Ch.5. The Paradox of Analysis and the Triviality of Necessary Truths. 166.

Ch.6. Wittgenstein and the theory of Meaning. 212.

Ch.7. Wittgenstein and Conventionalism. 277.

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Ch.8. Leibniz and the Relation of Necessary Truths to Facts. -1-

Ch.9. Locke and Hume. -21-

Ch.10. Kant and Analyticity. -68-

Ch.11. Spinoza and Rationalism. -113-

Ch.12. The Phenomenological Movement and Intuition. -143-

Ch.13. Putnam, Quine and Gradualism. -166-

Ch.14. Pap's Contribution. -226-

Ch.15. Synthetic Necessary Truth. -276-

Ch.16. The Exorcism of Logical Necessity. -317-

Bibliography. -337-

Explanation of abbreviations - FOLDS OUT. -At the end-

Part Two

PREFACE

We are not about to embark on what one would call 'conceptual analysis', 'analysis of meanings', or 'linguistic philosophy'. Our conclusions will not be semantic, analytic, a priori, or even necessary truths. Our interest will be in logical necessity itself. We shall aim to increase the adequacy of our thinking about logical necessity, not to remind ourselves of the nature of current thinking on the subject (which we shall see to be inadequate). We shall be concerned to grasp properly the underlying situation which determines the truth-value, and degree of adequacy, of any thinking whatever about logical necessity. There are those who would restrict philosophy to the study of the content of concepts only. Who then studies logical necessity itself, i.e. the underlying situation? Not only would the linguistic philosopher be hard pressed for a reply to this question, furthermore he could scarcely deny that an adequate grasp of the underlying situation is of importance for the practice of philosophy itself. The philosopher needs to know the nature of logical necessity, so that he is able to handle necessary truths properly; it is not enough for him to know the content of such-and-such a concept

of logical necessity if he is to know whether w h a t h e i s a c t u a l l y d o i n g is in order or not. It is natural to call an investigation 'philosophical' when its results impinge drastically on whole bodies of philosophy, decisively determining their acceptability or unacceptability. However, what matters is not whether our undertaking merits the description 'philosophical'. Our guiding principle will be faithfulness to our subject-matter, not faithfulness to a methodology arrived at by slavish conformity to some concept of philosophy.

Our interest in logical necessity will extend to such relational matters as: the connection of logical necessity with analyticity, apriority and many other properties; the question of how we know truths to be necessary; the question of the general character of truths which are logically necessary and of how they are to be handled. Certain subsidiary issues in the theory of meaning will have to be entered into. A more detailed summary of individual topics will be found in the table of contents. The published literature relevant to our concerns will be examined at whatever length it requires. Minor pre-twentieth-century contributions, commentaries and desultory expositions will be

ignored. Quotations will be offered except where paraphrase affords a justifiable and considerable economy. References will be by title and author (whose name is the key to further details in the alphabetical bibliography at the end); and by page-number of the work specified in the bibliography (unless it indicates some other mode of reference).

The following conventions will operate. S p a c i n g will be used instead of italicization. Often 'logical necessity', etc. will be shortened to 'necessity', etc., though not where confusion could result. Often "the word 'W'" will be shortened to "'W'". A sentence in inverted commas may mean either a sentence or a statement - the context will make plain which. A semantic statement may, as English allows, take any of the following forms:

"'W' means red";

"'W' means r e d";

"'W' means 'red'".

A statement to the effect that one word means the same as another (the meaning not actually being stated) will be of the following form:

"'W' means the same as 'X'".

'Platonism' will generally cover conceptualism, in

the sense in which Locke and Hume, for example, were conceptualists. 'Concept' will not be restricted to ideas in the platonist's sense, however; nor will 'idea'. 'Fact' means an aspect of reality, the state of affairs making a statement true - not the description of that state of affairs. 'Ontologism' will mean the view that logically necessary truths owe their truth and/or their necessity to independent facts which may embrace bachelors and colours as well as concepts and conventions. To say that necessary truths have 'ontological import' will be to say that they commit us to claims other than claims about meanings (concepts). Thus, in our unmysterious sense, Mill subscribes to ontologism. 'Essence' will generally mean an aspect of the ordinary empirical world, the point of the 'essence' - 'thing' distinction is that the identity of an 'essence' is not preserved by spatio-temporal continuity as the identity of a 'thing' is. When we divide the world into 'essences' we classify more or less similar states together - on the basis of their falling under a certain concept. We shall use 'essentialism' as a synonym of 'ontologism' and not just to characterize Anstotelian theories.

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"In submitting a thesis a candidate must state, generally in the preface and specifically in the notes, the sources from which his information is derived, the extent to which he has availed himself of the work of others, and the portions of the thesis which he claims as original."

Our aim will be improve our thinking about logical necessity by recalling relevant facts; one could say that our aim is to penetrate the phenomena or to grasp the essence of logical necessity. We shall (generally) not need fresh observations of the data, because we are already aware of it. Which, it unfortunately needs to be pointed out, is not to say that all our thinking on the subject of logical necessity is in order. One may compare the situation to that of a man who can recall all the facts which are constitutive of his being an hypocrite, but who habitually entertains a different estimate of himself. Philosophy, in our sense, is concerned with advances in conscious knowledge which require disciplined sifting of known data, rather than fresh observations. Fresh observations are (on

the whole) useless, as in the case of the hypocrite, because the fault lies in our mode of transition to subsequent thinking on the subject in hand. Sometimes the failure amounts simply to ignoring the data, rather than to actual error. It is precisely on account of faulty conceptualization of known facts that philosophers have tended to fail to see the possibility of investigations such as ours. They have tended to argue that they must either aim for a priori, necessary conclusions or be convicted of emptily theorizing without an adequate empirical base. They have failed to notice that possession of logically sufficient data does not guarantee correct and adequate thinking. And, as was said, this failure of theirs is a case in point.

It follows that, taken at its face value, much of the material listed in our bibliography is irrelevant to our inquiry. However, a sentence purporting to express the content of a concept could, in principle, turn out to be correct or stimulating when construed as a real definition, or as a description of the facts. Moreover many philosophers have believed it possible to arrive at the nature of logical necessity itself a priori, and have therefore actually intended their

conclusions to have an import relevant to our own inquiry. Furthermore it is useful to us to learn when a definition is circular or self-contradictory (a matter independent of the use to which the definition is put); though no positive results can be arrived at in such ways. We shall see that the situation regarding the possible usefulness to us of published literature is really quite complex. What we need to state here is that very little of it finally proves satisfactory, even when it is bent to our requirements in respect of the interpretation of what is said. One of our main tasks will be to show up the unsatisfactoriness of the bulk of the published work. And this task in turn, we shall find, cannot be said to have already been performed satisfactorily, a few cases apart, even for pre-twentieth-century work, since current errors infect would-be refutations of earlier work. Any areas of agreement with others will be noted. But it has certainly not proved possible to take over any substantial body of theory intact, as a springboard to further refinements. Throughout we shall be sifting at the most fundamental level.

I

THE INTENSIONAL USE OF LANGUAGE

There are several reasons why our first step needs to be a heightening and a rectifying of our awareness of the nature of the intensional use of language. The principles established in this chapter will be employed again and again in attacks on errors in methodology and fallacies in reasoning which result from insensitivity to the intensional use of language. The same principles constitute part of the justification of the methods by which we ourselves are to proceed. They will be relevant also in a different and more obvious way when we come to our consideration of the relationship of statements of meaning to necessary truths. For, except insofar as they treat solely of denotation, statements of meaning involve the intensional use of language. So do modal statements (e.g. 'It is necessary that men are male' or 'Men are necessarily male'). But necessary truths (e.g. 'Men are male') generally do not: like impossible statements, they are no more likely to be intensional than contingent statements are. Such are the results of applying the popular

test of intensionality, whereby we notice the effect on truth-value of substituting for a term another which is not synonymous but which has the same denotation. (A statement is 'intensional' if its truth-value can be altered in that way.) The result for necessary truths is somewhat at odds with the expectations of those who seek to connect them intimately with statements - or rules - of meaning! Certainly we have unearthed a difference between the two kinds of statement. What does change, generally speaking, when we apply the substitutivity test to necessary truths, is the modality. But this does not mark off necessary truths from amy others, except in respect of the frequency with which a change of modality occurs: such a change is quite possible if we begin with a contingent statement. Here are instances of the exceptional cases we have alluded to, in case none spring to mind:

(a) Initial statement: Men are male (Necessary).
Substitution: 'Male featherless bipeds' for 'Men'.
Resultant statement: Male featherless bipeds are male (Necessary).

(b) Initial statement: Featherless bipeds are rational (contingent)

Substitution: 'Rational bipeds' for 'Featherless bipeds'.

Resultant statement: Rational bipeds are rational (Necessary).

Yet the substitutivity test is an extremely blunt and opaque instrument. However sharply it marks of intensional contexts, it does nothing to illumine the ground of the failure of substitutivity. Therefore it does not show whether necessary truths differ from statements or rules of meaning in major or in minor respects. Thus we have every reason to embark on a more thorough investigation of the intensional use of language.

Imagine a man reading a biography of Hitler. By him is a notebook, and in it we see him write

'Hitler was fond of cream cakes'.

One might wonder

either: 'Is this true of Hitler?'

or: 'Does the book (or the biographer) say this?'

And the man taking down the sentence might regard it

either: as a piece of information about Hitler

or: as a record of the biographer's opinion

or else: as both of these.

One might write down 'Hitler was fond of cream cakes' to record, correctly, an opinion about Hitler which one wanted to record precisely because one believed it to be erroneous. On hearing the sentence 'According to reports, Hitler was fond of cream cakes', one might wonder whether a guarded assertion about Hitler or a reporting of reports were intended. Perhaps the speaker himself has not yet decided.

It is clear that the story we have just concocted for 'Hitler was fond of cream cakes' could be repeated for any sentence whatever: the man reading the biography might have come upon and noted down any sentence whatever. Thus any sentence whatever, taken as a whole, can function in either of two quite different ways. Or rather, to note the first complication, there are three quite different ways. Suppose that the man taking notes wishes to record neither a fact about Hitler nor the biographer's opinion, but merely that the book contained a certain sentence. This too, in a suitable context, would be effected by his writing down 'Hitler was fond of cream cakes'. By the substitutivity criterion introduced earlier, the second and third cases will both be intensional uses of language. But the third case already possesses

a name peculiar to itself: 'the autonymous use of language'; and an associated substitutivity test different from the one we have been employing hitherto. In the test for the autonymous use of language, we notice the effect on truth-value (and meaning) of substituting for a term another which is synonymous. If the truth-value of a statement can be altered by this method, we may conclude that language is used autonymously within it). Thus it is convenient to define 'intensional use' in terms of satisfaction of the first test (by which we mean that the truth-value d o e s alter) plus failure to satisfy the second. By taking this step we eliminate the overlap of the classes of intensional and autonymous uses, arising from the inclusion of the latter in the former when the former class is determined solely by the first substitutivity criterion. And we do this by moving in a desirable direction - we need to distinguish reports of thoughts, meanings, etc. from reports about marks and sounds, and to reserve 'intensional' for uses of language concerned with the former activity rather than with the latter.

Here is a tabulation of the framework so far arrived at:

Use of language	Test
Extensional	Neither test satisfied
Intensional	First test only satisfied
Autonymous	Both tests satisfied

When the sentence 'Hitler was fond of cream cakes' is used to record the biographer's opinion, it is functioning intensionally. But intensional language does not always concern opinion. If the biographer included a question or an imperative in his text, this too could be recorded in intensionally used language. So far, then, we lack any general account in which to ground the test of intensionality. But if we think a little about the test, we shall be tempted to draw Frege's conclusion that intensional language is concerned with intensions, and that this is the reason why the substitutivity test works as it does: when a sentence deals with meanings, of course the truth-value will be altered if non-synonymous expressions are put for the words specifying the meanings concerned. As a result of such trains of thought one might come to share the views expressed in the following quotation from pp. 94/5 of 'On Sense and Nominatum':

"In the instances thus far considered

> the words in the clause had indirect nominata; this made it intelligible that the nominatum of the clause itself is indirect, i.e. not a truth-value, but a proposition, a command, a request, a question. The clause could be taken as a noun; one might even say, as a proper name of the proposition, command, etc. in whose role it functions in the context of the sentence-structure."

(In this translation, 'nominatum' is used where Frege uses 'Bedeutung'.)

Frege is thinking of intensional c l a u s e s. But expressions can occur intensionally without being clauses - some examples will occur later; (see (B) and (C) below) - so that if we make his account cover these cases too, we can say that, if Frege is right, then all expressions may have at least two quite different denotations. The substitutivity test relies on our interpreting the words 'the denotation' to mean the usual, ('direct') denotation of the expression in question, as opposed to the less usual denotation, its own sense. In sum, the failure of a statement incorporating intensional expressions to retain its truth-value during

the substitutivity tests would be ascribable to our substituting expressions which do not really have the same denotation at all. But now one would expect an intensional statement to behave just like any extensional statement if one performed the substitutions with expressions which really did have the same denotation! Investigation of this point leads to a most interesting discovery. The following examples will occupy us:

(A) John believes that frogs eat.

(B) 'Red' means r e d.

(C) Peter hunts unicorns.

((C) is so meant that the existence of unicorns is not one of its truth-conditions.)

If we apply to (A) the first substitutivity test, taking care to substitute for 'that frogs eat' non-synonymous expressions which, to Frege's satisfaction, really would have the same denotation as that of 'that frogs eat' in (A), then we find that all goes well for Frege. For instance, we find that if we substitute 'what is expressed in the "that"-clause of example (A)' for 'that frogs eat', the truth-value of the resulting statement will be identical with that of (A). The same goes for any other

substitution we care to try. It is case (B) which is most revealing. Let us choose to substitute 'what the French mean by "rouge"' for 'r e d'. For the interpretation that springs to mind, Frege triumphs once more. But suppose we substitute 'w h a t t h e F r e n c h m e a n b y "r o u g e"' for 'r e d'. It is true that 'red' means r e d, but not that 'red' means 'w h a t t h e F r e n c h m e a n b y 'r o u g e'.' There are two ways of taking (X) 'what the French mean by "rouge"', and for only one of the two ways is it natural to employ spaced or italicized letters (but this is obligatory in neither case). Finally, Frege sustains a defeat over (C): whilst Peter may be fool enough to hunt unicorns, he need not thereby find himself hunting the idea of unicorns. (It should be pointed out that, in all our remarks about italicization here, the possibility of using italics for emphasis is ignored; the point is e.g. that for (X) there is a way of taking 'red' where it is natural to use italics even when one does not wish to achieve emphasis, whilst there is another way of taking 'red' where italics would be improper unless for emphasis - in which we include emphasis

with the aim of creating or expressing surprise or the like.)

What is to be our diagnosis? Attention to (X) disclosed that, intuitively, there are two ways of taking it. Perhaps the easiest way of approaching a fuller understanding is to ask oneself why one would have certain preferences in certain situations. Recall the man taking notes on the biography of Hitler; why does he write down 'Hitler was fond of cream cakes.' rather than 'the assertion on page...'? When Hans asks us what 'red' means, why might he be satisfied with (the German translation of) '"Red" means r e d', but dissatisfied with (the German translation of) '"Red" means what the French mean by "rouge"'? Their answers, let us suppose, run respectively as follows:

(i) If one writes down 'Hitler was fond of cream cakes' then this actually g i v e s one what is asserted, whilst the other entry does not - it would be useless, for one would need to re-examine the biography in order actually to h a v e what one wants (unless one could remember what came on a particular page).

(ii) If one hears '"Red" means r e d' then one is actually g i v e n the meaning of 'red', whilst the other reply is completely useless unless one happens to know the meaning of 'rouge', and even so it would be unnecessarily i n d i r e c t. And, of course, if it were meant in the way that goes with italicizality then the reply '"Red" means what the French mean by "rouge"' would be positively untrue.

What we need to do is to probe what underlies this natural inclination to talk with such words as 'given', 'direct' and 'have' in the situation we have just found to evoke their employment.

In a sense, of course, 'the assertion on page...' does give us what the biographer asserted - it gives information, in a sense of 'give' replaceable by the sense of 'provide'. But when I entertain the thought that Hitler was fond of cream cakes and assert that this is what the biographer claims, then the thought about which I make the assertion regarding what the biographer claimed is given in another sense as well - in that I entertain that very thought. Thus in the

intensional use of language the denotation of that language is not merely denoted; it is also given, or rather a qualitatively identical replica of the denotation is brought before one's mind. (This is true whenever the subject-matter falls under the heading 'thinking' rather than 'sensing'; the situation is more complicated for phrases like 'image of...', for then the intensionally used words completing them will give not thoughts qualitatively identical with what is denoted, but thoughts peculiarly intimately associated with the images in question. One might want to distinguish this from 'properly intensional' use of language because of that. We do not need to concern ourselves with the matter for present purposes.) Phrases which, like 'the assertion on page...' above, denote intensions without giving them should not be called intensional in the sense of 'intensionally used'. Intensionally used expressions denote in a peculiar way, the way just described. Probably the description sounded somewhat platonic. However it admits of behaviouristic or neuralistic interpretations as well. Decisions on which theories of thinking and meaning to adopt will be argued for in

subsequent chapters. Just now we shall merely note the compatibility of all the theories with our account of the intensional use of language, given a willingness to consider alternative interpretations of the account; which will simply be a matter of thinking our words in the favoured way. The platonic interpretation requires no elaboration for the moment, for what 'giving' will amount to on a platonic theory is obvious enough. The neuralistic account should be conceived on the analogy of the platonic one, neural states and occurrences replacing platonic ideas and thoughts, and 'given' being understood as 'undergone' or 'induced'. The behaviourist is most likely to be sceptical. For him at most the identical words are given. However there remains a distinction between mere marks and marks which have meaning; and there is a distinction between marks which have meaning for someone and marks which have meaning for the person trying to understand them. For the behaviourist, there will be no collapse of the intensional into the autonymous use of language, but the factors making the difference will not be given at the time at which the intensional use

occurs. Saying that the thought is given will be like saying that one has a birth certificate before one's eyes, even though not all that makes the object in question a birth certificate is in factbefore one's eyes. What Hans needs is, in behaviourist terms, the very word which itself functions in the manner of the term he does not yet understand. He needs to have that particular word given, and not some other expression which, though it denotes the mode of functioning in question, does not, p u r e l y b y b e i n g u n d e r s t o o d, enable him to imitate the use of the word he is trying to understand. If one understands (the German equivalent of) 'red', one understands 'red'; but if one understands 'what the French mean by "rouge"' one does not necessarily understand 'red', even though it denotes the same intension or use. (Thus understanding a word is not: knowing its intension, under any old description.)

We can now appreciate that Frege fails for (A) and (B) only in respect of his not entering into the problem of the mode of denotation of intensions in intensionally used language. The word 'indirect' used in English translations - c.f. the extract quoted above - is the reverse of appropriate. Rather, an intension denotes

itself, which is as direct a mode of denotation as one could wish to find. Frege leaves open the question 'Through what sense does an intensionally used expression denote its own intension?', and only when we appreciate the rôle of givenness can we deal with this question by dismissing it: no sense is involved, in the way the questioner conceives. It should be stressed that in the cases of (A) and (B) truth-value is preserved if we substitute for the intensional expressions other terms which genuinely have the same denotation. For when (X) cannot in this manner be substituted for 'r e d' in (B) it has a different denotation from 'r e d', namely its own sense, and not that of 'red'.

We can say that only weakly intensional uses of language are involved in (A) and (B); for with examples like (C) we find a stronger intensionality, in the sense that the truth-value of the statement changes even when we substitute for the intensionally used expression an expression which really does have the same extension. This is because the substituted expressions cannot naturally be taken in the requisite manner, and are naturally taken in some other manner. For example, 'Peter hunts the idea of unicorns' is not naturally

interpreted as 'Peter hunts, envisaging unicorns', but, rather, in a different way. But (C), in its intensional use, does mean 'Peter hunts with the idea of, or envisaging, unicorns' (roughly), and the intensionally used word 'unicorns' denotes an aspect of Peter's hunting by giving it. (That aspect is, of course, Peter's mental state; actually this will involve thoughts of hunting unicorns, not just thoughts of unicorns; in (C) 'hunts' has to be taken both intensionally and extensionally.) These remarks which we have made concerning (C) are more important than they seem at first sight, for many philosophically important intensional expressions are of the same kind as (C). But it is better to look first at non-philosophical intensional uses of expressions.

'Intensional' has been used interchangeably with 'intensionally used', or 'taken intensionally'. Although it would take us unnecessarily far afield from our topic, logical necessity, if we entered into a detailed examination of philosophers' writings on intensionality, nevertheless it is the existence of these writings which prompt the following terminological observations. 'Intensional' is ambiguous. It has the following senses, which are not always distinguished:

(1) The sense of 'intensional' in which we have been concerned with intensionality - the intensional use of language, the intensional way of taking a thought.

(2) The phenomenologists' (originally Brentano's) sense, expressing the peculiarity of psychological phenomena - their contentfulness, their object-directedness, their being 'of something'.

The thought that Hitler was fond of cream cakes is intensional in sense (2), but that clearly does not settle whether I am taking the thought intensionally (sense (1)). Similarly for language: a meaningful sentence will always be about something, but not always intensionally used.

(3) 'Intensional' often means d e n o t i n g i n t e n s i o n s. As we noticed, not all expressions denoting intensions do so by using language intensionally (sense (1)).

Confusion of (1) and (3) - or, rather, failure to notice the distinction - has two undesirable effects. Criteria for (1) are wrongly judged inadequate*

*The substitutivity criterion is however genuinely inadequate with counterfactuals -c.f. ch.8- and also where a combination of intensionally and extensionally used expressions is replaced by a single expression of dual function (e.g. where 'E' replaces 'The thought that frogs eat').

because they do not cover (3). Kenny errs in this way; and he also writes as if (2) were not a further sense. (c.f. 'Action, Emotion and Will', pp. 194ff.). Kenny writes, quite wrongly:

> "An objection to these criteria is that by them many expressions containing psychological verbs are not intensional." (p. 198). And in the following passage he mistakes Brentano's subject:
> "He [Brentano] appears to have taken a feature common to all grammatically transitive verbs as being a peculiarity of psychological verbs." (p. 195).

The second undesirable effect of confusing (1) and (3) is that the radical peculiarity of the intensional use of language remains unnoticed. Of this peculiarity more will next be said.

At P I p.11 Wittgenstein has the following note at the foot of the page:

> "Imagine a picture representing a boxer in a particular stance. Now, this picture can be used to tell someone how he should stand, should hold himself; or how he should not hold himself; or how a particular man did stand in such-and-such

> a place; and so on. One might (using the language of chemistry) call this picture a propositional-radical. This will be how Frege thought of the 'assumption'."

At this point Wittgenstein is criticizing Frege, though he does write (P I 22):

> "Of course we have the right to use an assertion sign in contrast with a question-mark, for example, or if we want to distinguish an assertion from a fiction or supposition. It is only a mistake if one thinks that the assertion consists of two actions, entertaining and asserting (assigning the truth-value, or something of the kind), and that in performing these actions we follow the propositional sign roughly as we sing from the musical score."

In reality the picture of the boxer serves as an excellent analogy. Imagine it replaced by a detailed description of a stance, followed by these words: 'Have you got all that ? Well, that is how I was told to stand'. To understand correctly one has to take the initial description of the stance intensionally rather than in some other way (e.g. those mentioned by Wittgenstein).

What we need to notice is that there is nothing suspect in this pronouncement;that the 'taking' need not be interpreted in the way to which Wittgenstein objects - if, that is, another interpretation is forthcoming; and that the objection to Frege, on the present matter, is at best marginal: the sentence or thought has to be 'taken' a certain way in whatever sense the picture has to be 'taken' in a certain way.

Yet there is a way in which the analogy of the picture of the boxer might mislead us. Classifying a use of language as intensional is not to make a classification of the same order as that involved in the division of language-uses into the imperatival, the descriptive, and so forth. For an imperative can, as we saw, be taken intensionally, and intensionally used language can be, and generally is, descriptive. One entertains the thought that Hitler was fond of cream cakes, say, taking it either as a representation of a fact about Hitler or as a representation of somebody's thought. These takings differ in a way in which the imperatival and descriptive, as such, do not differ from one another. When I say to myself 'Yes, this is how it was with

Hitler', I do not mean that my thought to that effect r e s e m b l e s, or i s a s a m p l e o f, Hitler's fondness for cream cakes. Similarly, the boxer is not told to stand in a way which resembles (literally) the description with which he is to comply. But in the case of the intensional use of language one does intend one's representation (thought) as an imitation in the full and literal sense. The 'this is how he thought' is like 'this is the sort of box Jones owns' in a way in which the 'this is how it was with Hitler' is not. Even a pure behaviourist may admit this with respect to whichever factors he regards as making a thought the thought that it is.

When one says in everyday life 'He said, "Hitler was fond of cream cakes"' one does not normally mean to convey merely the sounds used by the man spoken of. This comes out in the fact that one would be taken to task for saying 'He said, "Hitler was fond of cream cakes"' if it turned out that the man had used those words in some private sense different from that which we spontaneously attribute to them. One must not assume that inverted commas always mark the autonymous use of language.

'"Red" means r e d' has as alternatives not only '"Red" means red' but also '"Red" means "red"'. For the wholly autonymous case one needs to write '"Red" means the same as "red"'. In view of all this one might justly object that so far indirect speech (oratio obliqua) has been made to seem like direct speech (oratio recta) to the point of identity, apart from such grammatical inessentials as the 'that'-construction instead of inverted commas. (In many languages the subjunctive is an additional marker of intensionality, though not reliably). Certainly we could get on well without oratio obliqua, saying perhaps 'He expected, "Jones will not come today"', for example. In fact we use the 'that'-construction (oratio obliqua) to gain an advantage revealed by consideration of the following exchange. X says 'Louis is bald' and Y says to Z 'He said that the king is bald'. Now the account so far given of such utterances as Y's would lead one to think it correct to retort: 'No, his thought was not that the king is bald but that Louis is bald'. Clearly the word 'that' is not in fact necessarily meant to introduce the original verbal form of the thought; nor does it introduce even the original sense. A very frequent change is from 'You' to 'I' (c.f.

'You are rich'; 'You say that I am rich?').

The device of altering the words and sense in this way enables us to avoid such instances of clumsiness as "He said 'Louis is bald', meaning by 'Louis' the king". The thought is distorted, but not in any way that is likely to matter. The aim is to make alterations in such a way that the reference of the thought, i f a n y, remains constant. Sometimes we can appeal to the fact that an extensional element has crept into the 'that'-clause: sometimes 'He said that X has the property F' is meant to refer to X, taken extensionally - is meant to entail the existence of X. Thus the force of 'He said that the king is bald' could be "He said of the king [taken extensionally]: '... is bald'". Then the part of what was asserted which really was reported would indeed be reproduced without distortion. But not all cases of apparent distortion can be explained away in such a manner. After some-one has spoken of Mars, one can remark truly that he said so-and-so about the god of war, or, even, the god after whom a planet has been named. It is significant that the original speaker might be dissatisfied with the 'distorted' oratio obliqua rendering of his

speech. He would say 'I did not mean to say that', or something similar. The point is that, insofar as 'distortion' is not explicable by the intrusion of extensional elements, the failure of identity of original and reported statements is due to the looseness of connection between different intensions. In the case of proper names like 'Mars' this is well-known. There is no reason to abandon our original account.

Confusions lurk behind the plan of translating intensionally used language into extensionally used language. Intensionally used language does commit the speaker to belief in the existence of intensions - unless he uses the language to deny their existence or in a way which is neutral respecting such a question, as in aimless musing! But this commitment need not be platonic; the talk could be interpreted as being about ways of using words in a non-platonist sense of 'use'. From our account it is clear that intensionally taken thoughts are thoughts like any others, taken in themselves, apart from the context which imposes a certain rôle on them. And this imposition of a rôle by the context (e.g. the rest of the sentence, or the title of a book, such as 'What so-and-so said') - this imposition can in turn be interpreted as one pleases. That

intensionally used language, taken in itself, functions just as at any other time can be seen from the possibility of constructing sentences of the following kind. As an example we may take 'He thinks that she thinks that he is insincere.' - the so-called spiral of perspectives. The intensionally used whole following 'He thinks' contains r e l a t i v e l y extensional and intensional elements, 'she thinks' and 'that he is insincere' respectively. In other words, intensionally taken language is, in itself, 'normal' to the extent that parts of it can be (relatively) extensional. Again, a man may make a remark like 'It is nearly time to go', which is obviously in no way suspect or mysterious, and I may take advantage of theremark by saying 'Jones keeps on saying that'. Thus I ask the original remark to be taken intensionally. Surely I do not thereby make it suspect or mysterious. (Quine, 'Word and Object', p. 195 uses the expression 'obscure idioms.')

After an elimination of intensionally used expressions, one would still be left with other expressions denoting intensions, though the terminological confusions pointed out earlier obscure this fact. The constant appeal to the

substitutivity criterion ensures that it is the intensionally used expression which is at least a frequent target for exercises in elimination. But does this elimination seem so desirable, even to the crude hater of intensions, once it is distinguished from elimination of all expressions denoting intensions, and, moreover, seen in its true light? Imagine a description of a thought in extensional language. It cannot in any straightforward sense be synonymous with the intensional specification; for intensionally used language no more has a sense than does a gesture indicating a box in front of me as I say 'That is what Paul's box is like'. Or, if one insists on talking of a sense in such a connection, one must bear in mind the peculiarities of the case and the analogousness of the status of the box in our example. Intensionally used words have no sense separate from their normal one in virtue of which they denote their own sense. We can find or invent alternative words which give the same intension as the originals, but this is not what the eliminationists have in mind. But any other kind of specification of the thought in question will give us thoughts about that thought, not that thought itself, and we shall not be able

to operate with the specifying thoughts as we can with the thought itself (e.g. in inference, acting on belief, etc.). This is true no matter how the extensional specification is conceived.

The main point to bear in mind, in the face of the crude American nominalists' attacks on intensional language, is that intensionally used language simply introduces thoughts, or fragments of thoughts, as models; so that there is no commitment to anything which is not involved in thinking in general. Or one can express the matter in terms of 'talk' or 'discourse' if one prefers. Certainly Quine is wrong in saying that anyone finding intensionally used language acceptable is bound to Husserlian phenomenology. (c.f. the part of 'Word and Object' already referred to.) That is the same as Kenny's error of confusing senses of 'intensionality'. We have also seen what is wrong with any elimination programme. One could say that people like Quine mistake an unique, but essentially comprehensible, mode of reference for an ordinary mode of commitment to a weird kind of entity. In fact, any entities involved will only be those involved in any intelligible talking or thinking whatever. How can one, like Quine (as we shall see), quibble

over the intelligibility of (definitions of) 'analytic', if one proposes to deny the possibility of the conditions of intelligibility in general - including, then, intelligibility of the quibble? Another mistake has been the obsession with the substitutivity criteria at the expense of an attempt to illumine their ground, even though it is only the ground which gives them point and can save people from errors such as Quine's.

It is now time to begin putting our account of the intensional use of language to work for our ultimate ends. Detailed, particular applications will occur in subsequent chapters, but we shall do well to close this first chapter with some of the more general remarks which are called for. Their force and correctness is readily appreciated once the general account of the intensional use of language has been assimilated and agreed to.

There are some major fallacies and confusions in thinking which all spring from insensitivity to the intensional use of language. Intensional and extensional uses are confused, resulting in fallacies in arguing or the citing of evidence

which only supports a claim different from the one actually at issue. Here we are of course speaking of special forms of equivocation and ambiguity - forms which can be guarded against only given a sound grasp of the intensional use of language. It will sometimes prove convenient to insert 'intensionally' or 'extensionally' into a sentence to indicate the way in which certain expressions are being used. (Incidentally, our use of 'use' is just ordinary usage: it does not reflect any commitment to Wittgenstein's 'use' theory of meaning; which will be critically examined in ch. 6, though there are some anticipatory remarks in ch. 2.)

Examples which we shall be encountering later frequently involve mistakes associated with the use of 'means', etc.; or 'about' and 'of' (as in 'report of a battle' or 'concept of dough'). These will be recognized as being key terms in much philosophical discourse; we are often invited to consider the m e a n i n g s of statements a b o u t so-and-so, or to consider whether statements a b o u t so-and-so m e a n the same as statements a b o u t such-and-such. Linguistic philosphy as a whole is vitiated by the failure to take account of, or to successfully

negotiate, the intricacies arising from the dual functions of such words as 'means' and 'about', and the position is made worse by certain equally widespread fallacies in the theory of reference. The whole picture will emerge in chs. 4 and 5. Meanwhile only the basic distinction between extensional and intensional employments of 'means', etc., and of 'about' and 'of', will be established. The establishment of the basic distinction in connection with these terms is not a recondite matter, yet, perhaps because of presentiments of the course the argument will be taking, the linguistic philosopher is apt to scorn the distinction unless it is set out plainly before him.

Suppose a man mistakes a factory for a school as he is walking along a road with a companion, and suppose he asks 'Is that the school whichyour son attends?'. It would be correct to describe the situation by saying that the man asks a question about the factory which he sees. However, this description is correct only if the words 'the factory which he sees' are taken extensionally, i.e. as pointing out the physical object which has prompted the question. Taken intensionally, i.e. as giving the concepts

occurring in the question, these same words would make the description false. The words are susceptible of either interpretation, and it is clearly a matter of some importance to know which is intended on any given occasion: one way we obtain a truth, the other way we obtain a falsehood, in the instance we have taken; and it is obvious that there will be numerous further instances where likewise not even a material equivalence obtains. Consider two further examples. If someone points to an object and says 'Speak about this', then he clearly does not mean that the concept t h i s is to be employed - a clear case of an extensional functioning of 'about'. On the other hand, since there are no Icelandic unicorns, though one can rightly say that Icelandic unicorns can be spoken of, it is equally clear that 'of' or 'about' may introduce intensionally used words.

Analogous considerations are needed in connection with 'means'. After all, 'speaks about' and 'means' are often interchangeable; and it is not difficult to modify our three examples in such a way that they turn on 'means' or 'mean'. We shall not bother to do

this here, though a different example may briefly be considered. It is one which will play a certain rôle in ch. 6 and ch. 14 (the section on Pap). '"White" means the colour of snow' expresses a truth when taken extensionally, and means that 'white' applies to the colour of snow. But it does not express a truth when 'the colour of snow' is taken intensionally, i.e. in the way to which italicization is appropriate. Confusions in this area manifest themselves in several ways, some minor and some major. Dictionaries sometimes describe the objects to which words apply instead of giving the connotation, which one would expect; this creates confusion in those who do not already know the connotation (as is not uncommon among those looking up the entries), for a dictionary is supposed to initiate one into the use of a term, and a description of the objects to which a word applies does not always do this. Thus the 'Pocket Oxford Dictionary' gives 'willow used in basketwork' for 'osier', which is correct as a description of application, but which does not, as one might imagine if one lacked relevant background information, indicate a conceptual equivalence (an equivalence of connotation); if one assumed that this entry really did g i v e

the (intensional) meaning, one could be led to write such infelicities as 'She sat by the willow used in basketwork'. We frequently find 'semantics' defined as the study of the relation of language to the world, and opposed to 'syntactics' in such a way as to leave no obvious scope for the study of intensional meaning. Again confusion of intensional with extensional meaning is at the bottom of this. The definition given really applies to the theory of reference. Semantical questions are raised and answered in intensional language, questions in the theory of reference (denotation) in extensional language, and syntactical questions in autonymously used language. (Except, of course, that autonymous use is needed in all three cases to specify the words under investigation.) There is a fundamental mistake in such slogans as 'The meaning of a descriptive word is specified by reference to its application'. For intensional meaning, the kind of meaning relevant to analyticity and conceptual analysis, is what is talked of in such slogans. And yet a repetition of the dictionary-makers' mistake is advocated. One cannot answer questions posed in intensional language by answers cast in extensional language. (Nor, as we saw, could any

elimination programme bring one to the stage where this would be possible.) To answer 'What does W mean?' with 'W applies to...' is to set off fundamentally on the wrong track. However, it does not follow that intensional meaning i s n o t application; for all that has so far been said, it might be that application is what two expressions have to have in common to give the same thought - to have the same connotation (intension). The refutation of this view must wait till ch. 6. Finally, as has already been mentioned, there are the confusions affecting the whole of linguistic philosophy which parallel those that centre on 'about' and 'of'. These too are matters which must wait for a while. The chief chapters of relevance are 4 and 5. In chs. 2 and 3 we shall from time to time apply some results of the present chapter, and we shall also be preparing the ground for chs. 4,5 and 6, as well as preparing the ground for still later chapters and arriving at some conclusions about logical necessity.

II

PLATO AND PLATONISM

It is a mistake to suppose that the doctrines of the Platonic dialogues are always final or mutually consistent, or that Plato regarded them as such. That is one of the reasons for adopting the dialogue as a literary form. Plato was consciously struggling forwards. A sober attention to, for instance, 'Parmenides' 130 should suffice to reveal the tentative character of Plato's doctrines. There Socrates informs Parmenides that he would recognize platonic ideas 'of the just and the beautiful and the good, and of all that class' but is more uncertain about man, fire and water; and when Parmenides asks about 'hair, mud, dirt, or anything else which is vile and paltry' Socrates says:

> "visible things like these are such as they appear to us, and I am afraid that there would be an absurdity in assuming any idea of them, although I sometimes get disturbed, and begin to think there is nothing without an idea."

Here vacillation is explicitly conceded, not merely exhibited, as it is in other passages.

Partly Plato's vacillation springs from his

confusions and conflations. Platonic ideas are assigned many rôles, not all mutually compatible. Many of these are detectable in the passage we have begun with. There is an outright admission that there is a greater inclination to recognize ideas for the evaluative sphere. Plato is possessed by moral fervour, and it is during fervent mental activity that one finds oneself in those psychical states which tempt one into platonism. And there really is such a procedure as comparison of objects with an ideal, though this need not involve an idea in Plato's sense, and need not be linked with approval (c.f. 'a perfect crime', 'an ideal hammer'). We all know, too, the temptation to speak of non-natural properties in connection with evaluation - hence the contrast in the above-quoted extract with 'visible things like these'. The same sentence invokes ideas to draw the distinction between appearance and reality - one can appreciate the rôle here of the ambiguity of phrases like 'real justice'. It is because Plato adores: ideas - and ideas are: what he adores - that the thought of ideas for what is 'vile and paltry' strikes him as 'absurd'. The reason why, as he confesses, he sometimes wishes to go back on this is that ideas have other rôles too. The last one hinted at in the above-quoted extract is that of properties of things, and it is obvious

that ideas will have to have a more extensive rôle to perform that task, unless we drop the requirement that the ideal used in evaluation is to be approved for its own sake. That Plato is not prepared to do, though, as has been noted, the move is by no means a fatuous one: it is very informative to compare an individual with a paradigm, whether the paradigm exhibits a desired condition or not.

Plato's ideas have many additional rôles which do not emerge in the passage so far attended to. Theseare inter-connected, and they all connect intimately with our topic, logical necessity. Consider 'Timaeus' 51; Timaeus says:

> "If reason and true opinion are two distinct classes, then I say that there certainly are these self-existent ideas unperceived by sense, and apprehended only by reason."

(Jowett's uses of 'mind' and 'the mind' have been altered to 'reason'; the very crudity of Plato's distinction makes a fully satisfactory rendering impossible.) One of Plato's reasons for this claim is put by Timaeus at 27/8 of 'Timaeus':

> "That which is apprehended by reflection and reason always is, and is the same; that, on the other hand, which is conceived by opinion with the help of sensation and without

reason, is in a process of becoming and perishing, but never really is."

(A similar passage occurs at 'Republic' 476/7.) Before assessing these passages directly we should reach some general conclusions concerning platonic ideas.

Many a nominalist regards Plato's ideas as complete fictions, whilst other thinkers have taken their existence to be a matter of course. This difference of opinion presumably originates in individual psychological differences among different men. It is significant that nominalism and platonism tend to become accepted by whole groups of philosophers at once, But it is not immediately clear whether this signifies that platonic thinking is susceptible to encouragement and suppression or whether it signifies the possibility of a fundamental absence of self-awareness. Platonic thinking has all the attractions of sight over blindness; the thought of thinking without a psychical awareness of one's subject-matter is as horrifying to anyone who is aware of thinking in a platonic way as blindness is to everyone. Yet objections from nominalist quarters do not always question the existence of the brute psychical facts at the basis of platonism. The denial is often

rather that these have anything to do with thinking; or, more sinisterly, they are alleged to constitute a crude grade of thinking, to which thinking in the nominalist's sense is superior. Both of these charges are discoverable in Wittgenstein's writings, and they are due for examination in a subsequent chapter (where references will be found). In the present chapter we are thinking in more general terms.

The key assumption of platonic theories of thinking is that there is a non-conventional connection between any act of thinking and the objective realm which either does or does not fall under it. Hence Plato's use of such terms as 'imitation' and 'copy' (passim). But Plato himself was more aware of the difficulties than many of his successors. In 'Cratylus' Socrates is made to say (432) that

> "the image, if expressing in every point the entire reality, would no longer be an image".

It seems that there will be a 'gulf' - to use Wittgenstein's word - between the psychical state and what it is supposed to represent. The idea that the psychical state inexorably determines what falls undera description begins to seem to

be an illusion.

Such a line of thought arises in the minds of those who suppose that the psychological basis of platonism is the occurrence of images, where by 'image' is understood something which could, practically speaking, be replaced by a picture on a piece of paper. (This again is an idea of Wittgenstein's, to be dealt with more fully later.) Yet this nominalist neatness is phenomenologically a gross over-simplification. Even people of slight platonistic tendency can be brought to admit that their imagery has a 'sketchiness' not reproducible in a drawing, even if it is a sketch. The recourse to a term like 'sketchiness' springs from an incipient awareness of a representative power of psychical states which is neither simple copying of an individual (or a set of individuals) nor a matter of convention. Locke's celebrated remarks on abstract ideas are not so lacking in phenomenological soundness as to be absurdities to which he is driven purely by erroneous premises. The question that one has to ask oneself is whether there is something about one's psychical state such that it could not be taken to concern matters other than those one would normally specify. (E.g. 'Could that thought I just had of others be taken as representing anything else, if one ignores mere conventional association?')

We shall not be embarking, in these pages, on the phenomenological investigation that is actually called for. We shall take certain results for granted, on the basis of investigations which are too extensive to record here, but which anyone can try to carry out for himself. (Some of the relevant factors will, however, be mentioned in the chapter dealing with Wittgenstein's teachings on meaning.) Our working conclusion is that platonic thinking will be found to consist of a mixture, probably varying from person to person, of three kinds of psychical activity:

(a) Intensional acts (Husserl's term) of the ('faded',faint) copy type;

(b) Non-conventional, non-picturing powerful representations of the kind Locke was hinting at;

(c) Intensional acts in which the picture entertained guides us in a conventional manner - e.g. like a diagram which would fit many different situations.

Any one intensional act will be liable to combine aspects of all three kinds. (a) will occur only for the simplest of thoughts - the traditional obsession with colour examples is not an insignificant phenomenon here. (c) is a kind which tends to be overlooked. Images can

constitute a language just as well as sounds or marks. Remember that early languages were picture-languages. At least many people continue to think in private hieroglyphics. But these will rarely be purely conventional. When they become so they are no longer pictures, and it becomes expedient to reduce the number of signs and standardize them. Historically speaking, this has, again, been a matter of transition.

It is difficult to protest at the use of the word 'image' in connection with any non-perceptual state of consciousness. This habit is indeed perfectly satisfactory so long as case (b) is not overlooked. If case (b) is included, then we can safely say that platonic ideas are images, for then the reasons for protesting at the equation will all be bad ones. Plato himself realizes - c.f. the end of 'Parmenides' - that if givenness is never a property of the ideas, then they will be unknowable. Intellectual intuition will still have to be intuition. This is clearly accepted in many contexts outside 'Parmenides'; consider e.g. 'Phaedrus' 250, where Socrates says that the higher ideas

'are seen through a glass dimly'.

Some of our later quotations will constitute further evidence. The denial of the involvement of 'sensible objects' and the like (passim; c.f. some of our

quotations) should be taken as ruling out the involvement of perception in the ordinary sense, both as an aid in acquiring knowledge and as the supplier of subject-matter. There is, though, a further reason which might dissuade one from regarding platonic ideas as, in a broad sense, images. Plato regards his ideas as existing independently of the individual contemplating them, and as being public. This is a matter which we must next examine.

We generally think of images as private to the individual, and this is convenient because different people do not generally have qualitatively identical images simultaneously. But this could be explained as being due to the fact that they merely do not happen to contemplate numerically identical images. Plato wishes to regard his ideas as populating a single objective realm accessible to all. There are however really four possibilities among which we are free to choose as we please:

(a) Images exist only in the mind and are accessible only to one mind in the case of each image;

(b) Images exist only in the mind but are accessible to many minds;

(c) Images exist independently of the mind

but are accessible only to one mind in the case of each individual image;

(d) Images exist independently of minds and are accessible to many minds, i.e. are public.

Our freedom to choose springs from the fact that images are not in space (or can in turn be ascribed position only by fiat). One who is attached to the ordinary empirical world - we have argued that Plato's world must be a n empirical one too, though it is not given to external sense - one who is attached to the ordinary empirical world will wish to insist on the publicity and independence of sense-data, or at least of a world revealed by sense-data. Plato is attached to his other realm, and wishes to safeguard its objectivity in a broadly similar spirit.

Once the objectivity of the realm of ideas has been postulated, Plato's talk of the difficulty of perceiving the true ideas, and his talk of the degree to which one succeeds, both become natural. But hard data do not dictate this framework, and a characteristic piece of authoritarian-objectivistic sleight-of-hand which Plato weaves into it needs to be exposed too. We can say that it is difficult to perform certain intensional acts - to attain to certain visions -, that certain others constitute steps towards them, and so on. Certainly there is no firm basis for

saying when one has achieved contemplation of a genuine idea rather than something else. Plato will wish to equate genuine ideas with the ones he treasures as paradigms in a moral context. His confidence that we should all approve the same paradigms if only we could come to contemplate them is unfounded. (c.f. some of the quotations below for his objectivistic insinuations.) All in all it is best to drop all the unfortunate features of Plato's theory which spring from his moral preoccupations - as the 'Parmenides' quotation showed, he himself does so when his concerns are different.

There is a very different matter which also has a bearing on the objectivity issue and which comes out at 'Sophist' 236, where the Stranger says:

> "how a thing can appear and seem, and not be, or how a man can say a thing which is not true, has always been and still remains a very perplexing question".

The cause of such perplexities is insensitivity to the intensional use of language. It gives rise to that version of platonism which welled up in the 'Gegenstands-theorien' of Meinong and others a few decades ago. Such philosophers ask such questions as 'How can one speak of unicorns unless unicorns somehow exist to be spoken of?'. Seeing that it

will not do to say that one never speaks of unicorns but only of the idea of unicorns, they postulate a realm of beings distinct from that of entities which exist in the ordinary sense. But, of course, it is even clearer that we do not mean to speak of Meinongian 'objects' ('Gegenstände') either. The idea of unicorns is all that is involved - only these people fail to grasp how it is involved. (c.f. Ch. L) We mention all this merely in order to expose one of the origins of the move to de-psychologize ideas, so that the aura with which Plato surrounds his ideas can be dispersed. At the same time we are dealing a similar blow to universals ante rem, essences ante rem, Meinongian objects and 'objective' concepts (i.e. concepts existing apart from both their instances and thought).

A very important passage occurs at 'Phaedo' 99, where Socrates says:

> "I was afraid I might be completely blinded in my mind if I looked at things with my eyes and attempted to apprehend them with one or other of my senses; so I decided I must take refuge in propositions, and study the truth of things in them."

And (99/100:)

> "I don't altogether admit that studying things

in propositions is more of an image-study than studying them in external objects.".

A passage which is most advantageously considered at the same time is 'Theaetetus' 174, where Socrates says that

"the philosopher is wholly unacquainted with his next-door neighbour; he is ignorant, not only of what he is doing, but he hardly knows whether he is a man or an animal; he is searching into the essence of man, and busy in enquiring what belongs to such a nature to do or suffer different from any other.".

In these passages Plato exhibits his tendency to advocate that the philosopher should inhabit a different world from theordinary empirical world of the plain man. Could one not go further and say that to some extent Plato actually does inhabit that world? Only to some extent - for he continually talks of happenings of the ordinary, mundane kind. Nowadays philosophers do not hesitate to adopt in a very self-conscious way an empirical criterion of reality which is based on sense-perception. They no more dream of abandoning it than does the plain man. Perhaps less so, for the plain man is sometimes inclined not merely to day-dream but to pretend

or to believe that the world of his dreams is his real world, if only for very brief periods. Plato does this in a way which is more systematic, and which strikes his readers as being more dignified. This is of course connected with his moral purpose, which gives point to the having of the visions; but also with the fact that the project is not whole-heartedly carried through - many of the rôles of his ideas require that the ordinary empirical world be regarded as real. Almost any biography of Plato points out the socio-psychological basis of his flight from ordinary reality: dissatisfaction with it. At first sight one might imagine that it did not matter which realm one called the representation of the other; but it does; people do not day-dream for nothing. Just compare the following statements:

(1) 'In reality society has such-and-such a character, and my ideal is never attained in it.'

(2) 'I live in awareness of my ideal, which exists objectively, and there is a set of experiences which can be characterized by saying that they are of states of affairs falling more or less short of the ideal.'

The question is of course: to which realm does one accord merely intensional existence, and to which

realm is one committed? If we follow Plato's programme, we can have pleasant dreams and, by withdrawing our commitment, reduce the horrors of the ordinary world of the senses to the level which the plain man finds in his thoughts about fleeting images which are of no concern to him. The connection with necessity will emerge soon.

At this point one should note the obvious connection with the problem of the flux: as our earlier quotation from 'Timaeus' 27/8 showed, Plato thought that one could have knowledge (as opposed to mere opinion) only of ideas. He thus finds a second powerful impulse leading him in the same direction, and there are other factors: the moral one; the desire for a priori knowledge; aesthetic pleasure in contemplation; the aim of gaining mastery, through knowledge, of cognition itself; the desire for necessary truth. These pre-occupations are illustrated in our quotations, given or to come.

Plato wants to gain knowledge possessing all of the following attributes: importance, necessity, apriority, certainty. (This, too, emerges clearly in our quotations.) Plato is not alone in these aims, yet they turn out not to be so easily reconciled with one another as sometimes appears possible. We shall be noticing the continuity between Plato's

difficulties and present-day ones; and it will in fact be argued that even today, despite all the refinement which has occurred in philosophizing, Plato's difficulties are submerged rather than overcome. Many philosophers, including some who explicitly reject all of Plato's doctrines on the matter, continue to philosophize as if some of Plato's false theories were true. Plato thinks relatively crudely, but also boldly and explicitly in ways which subsequent thinkers have yet to transcend in crucial respects. An appraisal of Plato's views will thus afford us an excellent preliminary orientation.

Let us distinguish forthwith between platonism, the theory of meaning and of thinking; and Platonism, the theory of logical necessity which maintains that necessary truths are about ideas (or universals ante rem or 'objective' concepts or essences ante rem). Obviously, one might reject platonism and yet have a certain affinity with Plato by maintaining that necessary truths are about meanings (or concepts) in some nominalistic sense. Even more obviously, one might accept platonism as a theory true of all thinking and meaning and yet reject Platonism, i.e. the view that necessary truths a r e a b o u t the entities invoked in the platonistic theory of thinking and meaning. (We shall investigate in later

chapters the disastrous consequences of confusing platonism and Platonism).

Given the personal commitment to the world of ideas - which even Plato himself does not fully have - one seems to have taken a step which will enable one to achieve the reconciliation of importance, necessity, apriority and certainty already alluded to. The extraordinary commitment to the world of ideas enhances the importance, to such a person, of knowledge of ideas, and Plato, like many others, thinks that necessary truths treat of ideas. Not all truths about ideas are necessary (e.g. 'I am contemplating the idea of justice' would not express a necessary truth), but the ones Plato seems to have in mind appear to be necessary. For he seeks definitions and dwells on tautologies or near-tautologies - e.g. 'all beautiful things are beautiful, because of the beautiful itself' (Socrates at 'Phaedo' 100). Necessity, once known, seems to confer certainty, as does the givenness of ideas during thought, which also seems to confer a kind of apriority; though in a sense, we have argued, knowledge of ideas is empirical. But by 'apriority', it turns out, most philosophers mean not verifiability on the basis of no data but verifiability on the basis of no data external to the thought entertained at the time. On Plato's assumptions, the necessary truth

and its subject-matter in the objective, extensional sense coalesce. This is reminiscent of intensionality as discussed in ch. I. Apriority of a remarkable kind is achieved. Because fact and thought-content coincide, one can genuinely, clearly and unproblematically say that one can verify the necessary truths in question by attention to ideas alone. So far so good!

The first difficulty to be discussed is a cousin of the paradox of analysis. (It is characteristic of many of the difficulties in Plato's views that they do not vanish, but are merely modified, when platonism is dropped in favour of nominalism.) Now in order to understand such questions as 'What is justice?' one of the ideas one needs to have, so it seems, is that of justice itself, so that any intelligible question about an idea seems to answer itself, given some of Plato's very own assumptions. Some might refer us to 'Cratylus' to try to persuade us that Plato was in fact a nominalist, with the ideas playing no rôle in thinking or meaning. But a careful reading shows that this is not so. Consider e.g. 435:

> "...custom and convention must be supposed to contribute to the indication of our thoughts."

Although in 'Cratylus' Plato continually alludes to the fact that language does not (generally) serve as a copy of what it represents, we see from this quotation that he nevertheless has in mind that the relationship of language to thought is conventional, not imitative, and not that the relationship of thought to what it represents is founded on convention. Failing to distinguish the intensional and extensional senses of 'represents...', Plato could hardly fail to be platonist, with the ideas hovering uncertainly between heaven and earth (in the latter case somehow as ingredients of things). In any case, as we shall see, nominalism does not take the sting from the paradox of analysis or its cousins: the paradoxes are merely more apparent if one thinks of meanings as psychically given in understanding.

Three alternative replies are open to Plato. Because as we have seen, he tries to maintain a distinction between appearance and reality within the realm of ideas he could say that he was really asking for a description or definition of true or genuine ideas, which may not immediately be given. They would be if the question ran 'What is the true idea, j u s t i c e ?'. But one could ask 'What is the true idea which goes with the word "justice" or the ordinary idea of justice?' However, leaving

aside the problem of the absence of a reasonable criterion of genuineness, it now turns out that correct answers, of the definitional type Plato envisages, will be only contingently correct. When givenness is given up - for the sake of importance, or informativeness - necessity also vanishes, or rather is transferred to the new triviality. 'A true idea of justice is a true idea of justice' (or something synonymous therewith). Similar problems arise if one says that Plato's requests for definitions are for definitions of whatever idea it is that goes with such-and-such a word, but without invoking the distinction between genuine and apparent ideas at all. For once again necessity disappears as givenness is eliminated, and in precisely the same way. The third reply that Plato could make is radically different from the firsttwo.

This third course (c.f. Kant) would invoke the distinction between clear and less clear awareness. This distinction is obviously applicable in the perceptual sphere, and most easily understood with reference to it. If I focus attention on some physical object, my awareness of it is heightened, but the same descriptions apply to what is perceived, despite

this change. Quite different, of course, is the case where I take a closer look at something and discern new properties, ones I had not noticed before at all, even dimly. Applied to ideas, this second version would land us once again with the difficulties inherent in the first and second replies, unless one were to count as a part of an idea what is not in fact given. An example of this would be: saying that S is P is necessarily true because the idea P is a conjunctive part of the idea S, though not at first discernible in it. But such a claim is beset by insurmountable difficulties which in fact push one back into one of the other positions. I can present you with a box and say that what I have presented you with is a box containing such-and-such not immediately discernible contents - the lid is shut. But there is no analogy with this in the case of ideas. Either one fails to specify an idea, or one specifies it by giving it - entirely - or one specifies it by some (other) description which will determine it. The first case is patent failure, the third case destroys the necessity desired, whilst the second case is incompatible with the case we are assessing. Nothing ever satisfies the description 'the idea which you are now partially contemplating' unless some indirect,necessity-destroying specification of the idea in question has been given independently,

to be lurking - destructively - as backing for the specification 'the idea which you are now partially contemplating'. This is overlooked because people say 'the idea I' when in fact I is not given at all, and they are really saying 'the idea associated with "I"'. This will become clearer in subsequent chapters. Our present concern is that Plato will be forced back on to the first version of the distinction between clear and less clear awareness; that is to say, on to that version in which we are concerned with a heightening of awareness without there being any change in the list of w h i c h properties one is aware of.

This version of the distinction is also applicable to intensional acts. Images are commonly spoken of by philosophers - e.g. the British empiricists - in such terms as 'faded'; which is satisfactory so long as it is realized that the fading is not of the same kind as, say, the fading of paintwork. For an image of faded blue paint would be faded relative to a sense-impression of faded blue paint, however faded the blue paint. An image of unfaded blue and of faded blue are both faded, in the technical sense applying to images. This sense has, of course, to be grasped ostensively, phenomenologically. (It is preferable to use a term like 'faint'.). What is in question, then, is

a straightforward heightening of awareness. This helps to explain why Plato seems to find satisfaction even in the propounding of overt tautologies and near-tautologies, for the aim is to work oneself up into a heightened state of awareness of an idea, so that contemplation or tautological affirmation meet one's ends. Hence e.g. the use of 'perceive a nature' in 'Symposium' (in Socrates' report of Diotima of Mantineia) as well as the tautological language already instanced. Yet contemplation of an idea is not to make a necessarily true affirmation about it. A tautology has been found acceptable only because it contains an idea which is contemplated and heightens one's awareness of it through the device of repetition. If all one wants is contemplation of ideas, a falsehood will do just as well as a truth. Even Plato does not wish to restrict knowledge to a matter of contemplation, say with an aesthetic motive, or for the sake of finding a morally attractive ideal. So much seems clear from his references to mathematics in connection with knowledge of ideas - and also on account of the rôle of ideas in his theory of definitions. (c.f. some of our quotations, given or to come.) Therefore our problem remains; a vividly apprehended triviality is still a triviality. Definitions (or analyses or explications) of

intensionally specified concepts may seem to be either necessarily true or necessarily false, but we have seen that Plato is unable to present an account which squares with such a claim.

So far we have been assuming that Plato's ideas are given non-perceptually to the mind, but we have noticed that some of the roles of ideas would require them to be located in the ordinary, perceptually revealed world. Consider e.g. the following passage, which occurs at 'Phaedo' 100; Socrates says:

> "...if anyone tells me that the reason why such-and-such a thing is beautiful is that it has a bright colour or a certain shape or something of that kind, I take no notice of it at all, for I find it all confusing, save for one fact, which in my simple, naïve and maybe foolish fashion I hug close: namely that what makes a thing beautiful is nothing other than the presence or communion of that beautiful itself - if indeed these are the right terms to express how it comes to be there: for I won't go so far as to dogmatize about that, but merely affirm that all beautiful things are beautiful because of the beautiful itself."

In 'Parmenides' (c.f. the very end) Plato himself

cites a case against a literal identification of elements of the perceptual world with ideas. But this rests chiefly on the dogma that there is only one idea of each kind; a clearer objection is the qualitative difference between ideas and impressions, and another is the fact that many distinguishably different individuals and properties fall under the same idea, even if there is more than one type of idea associated with each type of expression. Such talk as that of 'presence or communion' of ideas in things needs to be abandoned. Acquaintance with ideas will not ipso facto be awareness of kinds instantiated in the ordinary, perceptually revealed world.

There are passages where Plato acknowledges this. Consider e.g. the words of Socrates at 'Theaetetus' 174:

> "For the philosopher is wholly unacquainted with his next-door neighbour; he is ignorant, not only of what he is doing, but he hardly knows whether he is a man or an animal; he is searching into the essence of man, and busy in enquiring what belongs to such a nature to do or suffer different from any other..."

It would clearly be justifiable to regard this passage

as the exhibition of an urge towards what is in fact conceptual analysis. But this is not clearly distinguished by Plato from ontological preoccupations. Nor, of course, is the nature of conceptual analysis clearly understood by Plato. We shall see that philosophers still have not yet reached perfection in either of these matters. And there is a third sort of unsatisfactoriness which is still as common today as it is in Plato. Notice the ambiguity in the last clause of the last quotation above. It admits of a moral as well as a conceptual analytical interpretation. Too often these are confused. On one of the days when this chapter was under preparation, February 6th, 1968, B. Mitchell, fellow of an Oxford college, had a letter in the 'Times' newspaper which analyses the idea of a university and then states that there is therefore a strong presumption in favour of seeing to it that universities continue to conform to this idea. This is Plato at his most outrageous; and also it is typical of a mode of thought very common in certain circles still. 'X's are essentially - necessarily - by definition so-and-so; therefore do A to X' is the way the persuasion runs, and it is a crude exploitation of ambiguity: a formula accepted as a morally neutral analysis of an idea is transformed into a paradigm setting a goal. This kind of error, like that deriving from insensitivity to

the intensional use of language, needs to be included in the lists of fallacies found in logic books; both derive from Plato.

If Plato is right in saying that all necessary truths treat of ideas, then one would expect them to be formulated on the model of

'The idea b a c h e l o r is the idea u n m a r r i e d m a n.'

or 'The idea b a c h e l o r is the idea b a c h e l o r.'

Instead we find Plato preferring the model

'Bachelors are unmarried men.'

This preference for the material mode - Carnap's term is dangerous, with its overtones in 'mode' of a prejudged equivalence - this preference is shared by many living philosophers. Now it certainly is the case that material mode utterances like 'Bachelors are unmarried' can be meant as definitions of concepts or even of words. The following exchange is idiomatic: 'What does this word mean?'-'Oh, unicorns are white horses with a horn on the forehead.'. The use of the material mode to talk about ideas would seem all the more natural to Plato, in view of his tendency to objectify them and to treat them as 'realities' rather than as 'appearances'. But unfortunately this is only a tendency, and what we obtain is

an ambivalence of disastrous significance. "I don't altogether admit that studying things in propositions is more of an image-study than studying them in external objects." ('Phaedo' 99/100, Socrates speaking.) Here it is not being asserted that ideas are just as worthy of study as (other) things, but that somehow studying ideas can constitute a way of studying (other) things, presumably as an alternative to ordinary empirical procedures. One will find many living philosophers who do not agree in general with Plato but who would spring to his defense at this point. They would say that there is a way of construing 'Bachelors are unmarried men' such that it treats neither of words nor of concepts, but of (other) things, namely bachelors; that the sentence would then express a necessary truth; and that all one would need to verify it is information about the ideas or concepts involved. With this stout-looking line of argument we shall be much concerned in later chapters. But although one might construe the 'Phaedo' passage just quoted as an indication that Plato had already grasped this way of arguing, on the whole it is preferable to think not.

For there are many passages in Plato's dialogues wherein it is explicitly and vehemently maintained that necessity cannot attach to any truth which is not about ideas. Consider the words

of Timaeus in 'Timaeus':

> "That which is apprehended by reflection and reason always is, and is the same; that, on the other hand, which is conceived by opinion with the help of sensation and without reason, is in a process of becoming and perishing, but never really is." (27/8.)

Also relevant are 'Timaeus' 51 (already quoted), 'Cratylus' 439/40 (where knowledge is stated to be of the ideas, not of the flux), 'Republic' 476/7 and 'Phaedo' 78-80 (both similar to the extract above). Clearly Plato's distinction between knowledge and opinion is a cousin of the similarly named distinction in later philosophers. Necessity is held to confer certainty; insofar as this certainty is more than simply necessity itself, it presumably amounts to knowledge of the necessity. But it is not on this aspect of the matter that Plato places his chief emphasis. He does not argue directly from the necessity of knowledge to a conclusion about what its subject-matter is; rather, he argues to his conclusion about subject-matter from another characteristic of 'knowledge' which has always been considered to be intimately related to necessity, namely eternality. 'Eternal truth' has often been used as a synonym or rough synonym

of 'necessary truth'. In Plato the whole matter is handled in the vaguest possible way, and is intertwined with the problem of the flux.

Any statement is eternally true if true at all - in the sense that it is true whenever it is made. On the other hand, there is no sentence, i.e. set of marks or sounds, which cannot ever beused to make a false statement. There is thus a certain difficulty in such remarks as that 'Bachelors are unmarried' is always true whilst 'This is red' is sometimes false. However some such distinction is possible if we distinguish meaning which is context-dependent from meaning which is context-independent, or lexicographical. 'Bachelors are unmarried' will in any circumstance express a true statement ,ifits lexicographical meaning remains as it now is; 'This is red' will express a truth only on certain occasions, even if its lexicographical meaning remains constant. On these criteria, the class of eternal truths is more extensive than the class of necessary truths (as generally contemplated); 'Some butter issoft' or a scientific law will both be eternal truths, for example, provided that no contextual restrictions on range of application are supposed). None of this bears directly on Plato's views, however, for he wishes to call the objects of knowledge eternal, not the truths themselves. There is, though, a

more general relevance in our remarks; Plato, we shall see, is confused on the issue of eternality, and we need to dispose of a whole cluster of theses.

Perhaps Plato thought as follows. People are alive, but they die, they are not eternally alive, and to say of a person that he is alive is to say something contingently true. People are people, but they cease to be people, becoming something else after death (unless personal immortality is assumed; for the purpose of the example it is assumed not to be a fact); thus people no more eternally remain people than they remain alive, and to say of a person that he is a person is to say something contingently true. There is no denying that, at least, there is a sense in which a person might not have been a person (e.g.) if a genetic mishap had occurred). Thus 'People are people' seems not to be necessarily true if it is about people - for these might not have been people, are not necessarily people. Then Plato could easily conclude that 'People are people' cannot be necessarily true unless it is about what 'always is, and is the same' ('Timaeus' 27/8) - and it is after this fashion that he conceives ideas.

But do not ideas (or meanings) change? Has not the idea of witchcraft or the idea of madness, for example, changed? Evidently there is a sense

in which this is so. But we can insist on so using 'idea' that we should have to state the facts in terms of giving up one idea for another. It is a remarkable and important fact that generally speaking we do adopt such a convention for ideas (and the like), but do the reverse in the case of physical objects, so that we should findit odd to say 'Before this shed stood here there was another there, rather like it' after carrying out a slight structural modification. That is to say, we very often speak using a maximally strong condition for identity in the case of ideas,and very often we are less stringent in the case of physical objects. If we include relational properties, not even ideas are free of all change, given that they are sometimes contemplated and sometimes not, but we may regard ideas as strictly changeless in respect of their nonrelational properties. But we may also, on other occasions, e.g. in writing histories of ideas, classify ideas by continuity and mere resemblance. Plato would find this misleading because of his desire to objectify ideas - it would be like calling a librarian and his successor the same man because of certain continuities. It would give the impression that heaven changed from day to day, whereas Plato would deny this, and insist that really it was a matter of contemplating

different elements of heaven from day to day. But then we may appease him by allowing him to construe our talk of ideas changing in the way that he found more fitting. Equally, he must permit us to talk of ordinary physical objects in terms such that even the slightest change leads us to speak of 'a different object'. Ontologically, there is no relevant difference between the sphere of ideas and the sphere of physical objects. In fact, according to the ordinary view, ideas are more evanescent than physical objects, for ideas are not generally supposed to exist uncontemplated. And if we concede that ideas never change, i.e. that there are ideas which suffer no changes at all, we may find ourselves recognizing equally changeless entities in the ordinary empirical world: not everything is in flux, except in the sense of being temporal; but then the world of ideas must also be in time if we have access to it.

If we seek entities which never change - or never give way to new entities related to the old by certain continuity relationships - we shall probably find none, but there is no reason to expect to find them only in the sphere of ideas. And wherever we find them, truths about them will be of a modality which is not connected with the sphere as such. Both a physical object and an

idea will be sempiternal or changeless only contingently. Bachelors do not always remain bachelors, and the idea of a bachelor may change from time to time. However, perhaps Plato means that the facts apprehended are either sempiternal and changeless or not - rather than that the objects involved are so. But facts give way to other facts just as ideas give way to other ideas (or: just as ideas change), and just as physical objects change. To be sure, there is a sense in which no fact ever ceases to be other than as it is; the same goes for ideas and physical objects; in no case is it a matter of there being no change in an entity. Nothing is ever other than as it is, but the world keeps changing. Obviously Plato has failed to understand the sense in which it is true that nothing is ever other than as it is, and consequently he gets into a muddle.

Plato has further reasons for saying that necessary truths must be about ideas. Geometry for instance seemed to him to consist of necessary truths, and he thought that its subject-matter could not be said to be found in the ordinary empirical world, because no perfect geometrical figures exist there. In 'Republic' 510 - Socrates is speaking - it is said that mathematicians 'make use of the visible forms and reason about them' but are 'thinking not of these, but of the ideals which they resemble...

which can only be seen with the eye of the mind.'. That perfect geometrical figures are not to be found in the ordinary empirical world is by no means clearly true. Nor is it now plausible to say that all geometrical truths are necessary. However, there certainly are necessary truths about entities not instantiated in the ordinary empirical world; e.g. necessary truths about unicorns. But then there are contingent truths about entities not instantiated in the ordinary empirical world; this follows from the existence of contingent counterfactuals (in the broadest sense of 'counterfactual') about (e.g.) unicorns. Thus one cannot convincingly argue from the view that a necessary truth is not about ordinary empirical things to the view that it is about ideas - unless one is prepared to do the same with contingent counterfactuals. Some have been prepared to do the latter (using as a rule the word 'universal' rather than 'idea'). If one does so one finds oneself in the position of inferring from certain quite extraneous data that e.g. the idea or universal, brakeless express incorporates the property, dangerousness. (But not as an element of the meaning, for then 'Brakeless expresses are dangerous' would be necessary.) On a number of general grounds other ways

of treating counterfactuals are now generally preferred. The point is that necessary counterfactuals could be treated analogously, logical laws taking over the role of empirical laws in our extrapolations from instantiated cases. (More will be said on these matters later.)

Still, suppose we did construe necessary truths as treating always of ideas? (Presumably if 'Men are male' is about the idea of a man, 'The idea of a man is the idea of a human male' will be about the idea of the idea of a man.) The fact is that we wish to be able to claim that necessary truths are true of ordinary empirical things as well as of ideas. If we could say that nothing is ever necessarily true of a physical object, then presumably it would be in order to suppose it possible that a physical object should satisfy two mutually contradictory predicates at once. And, in view of this, even in the case of a necessary truth about unicorns we shall not be satisfied if it reduces merely to a statement about ideas involved in other ideas, for it will guide our expectations about the ordinary empirical world unsatisfactorily. We could say: 'Unicorns are necessarily animals, but I wonder whether there are any (physical) unicorns in the world which are not animals?'. (One cannot protest that the wonderment must beabout the idea of a

unicorn: I can wonder about unicorns also.)

In assessing the theory of recollection ('Meno' 80-6, 'Phaedo' 72/3) we are faced with one of Plato's major inconsistencies. At 'Phaedo' 72 Cebes says that 'learning is really just recollection', for (73) 'when people are asked questions they can produce the right answers to anything of their own accord, provided that the questioning is done properly.' The appended argument for immortality makes it clear that by 'recollection' is meant acquaintance with ideas in a previous existence. As is clear from the close of the 'Parmenides', Plato was inclined to make ideas transcendent to the point of unknowability. From this point of view the apriority of our necessary knowledge seems to Plato to require a previous opportunity for acquaintance with ideas. But there seems to be only one reason for saying that difficulties in knowing ideas would be less severe in a previous existence than at present or in earlier earthly life: this would be that a non-temporal mode of existence of ideas and contemplation of them were involved. We do not accept the framework needed for the theory of recollection to seem compelling, and Plato himself frequently rejects an important part, in proclaiming our ability to become acquainted with ideas. Unless, that is, we construe

him not as a naïve realist about our earthly awareness of ideas, but as a believer in a representative theory or as a nominalist. Our quotations do not support such interpretations. Consider the passage in 'Symposium' where Socrates is reporting Diotima of Mantineia:

> "'He who has been instructed thus far in the things of love, and who has learned to see the beautiful in due order and succession, when he comes toward the end will suddenly perceive a nature of wondrous beauty.'"

Not only does this passage have the ring of naïve realism, it might even be taken to be a description of idea-formation, though it would better be taken as a description of a method for getting oneself receptive to an idea.

However many of these claims of Plato's one rejects, one must not overlook the fact that Plato has located a problem which faces anyone who says that necessary truths are, (generally), not about ideas in the mind but are about things which are not given at the time when the necessary truth is verified (or accepted as necessary.) We have noted the apparent need to locate logical necessity in facts: for otherwise necessary truths will not serve us as we wish. This raises the problem of how we

could know the necessity, and, even more obviously, of how we could know the fact a priori or at all. There seems to be a conflict between our different requirements and suppositions; we shall be returning to the matter in later chapters.

One may say that Plato, at times, assumed his definitions (or analyses) of ideas to provide information 'derivitavely' about ordinary empirical phenomena; such after all is one of the suggestions of the talk of "participation" of ordinary empirical things in ideas. One could perhaps say that Plato approached, the view that necessary truths are primarily about ideal models to which ordinary things more or less conform. This is obviously far less crude a view than bare Platonism. It is obvious on reflection that any statement about an ideal model would give us information about the ordinary empirical world only if we knew how far things in fact corresponded with the model. This would clearly not be discoverable merely from the model. Yet Plato not only seems unaware of the dangerof confusing statements about models with statements about ordinary empirical things, he also seems to fall victim to the fallacy. How else could we account for his not appreciating that on his own views geometry could be of no practical importance, since it is supposed by him to be a priori yet,

presumably, useful in everyday affairs of earthly life? Actually the 'model' theory (by itself) is quite inadequate as a theory of logical necessity: in natural science we find idealization which is not accompanied by the acquisition of logical necessity by the statements in question. In later chapters we shall be returning to the matter more fully. At the moment we should note merely one of the dangers of the talk of necessary truths as being about 'models'.

Although this critical survey, of Plato's thought relevant to logical necessity, serves mainly to bring out the difficulties which later theories will have to overcome to be successful - nevertheless we have already not only shown what is wrong with Plato's own view, we have also shown what is wrong with all those later expositions which say that necessary truths are about (relations among) universals. For these later expositions, as e.g. in the early Russell's introductory book on the problems of philosophy, are simply more guarded versions of Platonism, with the difficulties less obvious to the casual eye, but still ineradicably present. The use of the term 'universal' is symptomatic of the conflicting tendencies towards objectifying the subject-matter of necessary truths, on the one hand, and subjectivizing it, on the other, so as to satisfy conflicting requirements

(e.g. usefulness in inference as against a priori knowability). The connection with rationalism in general is also clear: a term like 'universal' conceals very crude and facile illegitimate moves from statements about meanings or thoughts to statements about things or essences. Onemust suspect, too, that the resort to a term like 'universal' reflects Plato's error of thinking that necessary truths cannot be about ordinary things, but must be about special, unchanging objects.

Thus in Part I of 'Principles of Philosophy', XLVII, we find Descartes saying that eternal truths have no existence beyond thought, which is very convenient from the point of view of verification, but ill-advised given his rationalist programme for knowledge of a world which he is emphatically disinclined to hold to exist only in thought. He has just taken over a doctrine of Plato's without beginning to be preparedto pay the price, or to offer a proper justification. (He would not feel the need for 'Principles of Philosophy', I, XLVII if he constantly believed that the ontological argument leads to a guarantee that clearand distinct ideas are instantiated in the world external to thought. In any case, we shall be seeing what is wrong with the ontological argument in later chapters.) When it comes to logical necessity,

Descartes is inferior to Leibniz and Spinoza, both of whom we shall need to consider at length, though not immediately.

The statement which summarizes the lessons to be drawn from our study of Plato is this. It is difficult to hold of any statement that it is at once true, important, a priori, certain and logically necessary. One works with a fruitful framework if one enquires systematically how far Plato's successorshave, could have, and should have overcome the problem. In the following chapters we shall continually be inquiring how the problem is to be resolved.

III

ARISTOTLE AND ESSENCE

Plato took for granted a relationship of necessary truth to definition. He seemed to regard definitions as analyses of ideas, and, provided all the ideas are taken to enter into the thought-content of the definition, we certainly do find ourselves with necessary truths if we follow his procedure. Aristotle also assumes as a matter of course a relationship of necessary truth to definition, in the sense that he is continually talking of them in the same breath, so to speak, though without ever considering very precisely what the exact relationship is. At 'Metaphysica' Alpha VI he says during his criticism of Plato's theory of ideas that Plato held that the common definition could not be of any sensible thing, as things were always changing. We have seen that one cannot justly say that it was Plato's unswerving aim to state correctly 'common definitions'. He certainly wanted to talk of ideas rather than of words, but it is by no means clear that he wished to talk of the 'common' idea rather than of the 'real' idea. And, of course, there is the tendency to assume that his definitions were somehow about ordinary empirical phenomena,

since these 'participate' in the primary subject-matter of those definitions. Our next task is to examine Aristotle's remarks on definition, insofar as these are relevant to our main concern, to see how far they advance us and how far they leave us stranded in Plato's mire.

At 'Analytica Posteriora' I.10 Aristotle says that definitions (unlike hypotheses, which postulate facts on the being of which depends the being of the fact inferred) "require only to be understood," and are "neither universal nor particular." (At this point Aristotle is discussing the methodology of 'demonstrative science'.) At 'Analytica Posteriora' II.3 Aristotle proclaims that never yet by defining anything - essential attribute or accident - did we get knowledge of it. Hegoes on to say that there can be no demonstration of the definable, as demonstrations posit and assume the essential nature and definitions do not involve predicating one thing of another. There is no identical object, he says, of which it is possible to possess both a definition and a demonstration. 'Analytica Posteriora' II.7 is also highly relevant. There Aristotle remarks that one may know the meaning of a word to which nothing in the world answers ('unicorn' would be an example); and he states that existence is shown by demonstration,

not definition, for it is not a genus, and so no part of anything's essence. Definitions, he continues, do not prove existence. Definition neither proves nor demonstrates anything, and knowledge of essential nature is obtained neither by definition nor by demonstration. Yet in 'Analytica Posteriora' II, 13 Aristotle says that to discover the essential nature (definition) of pride, we should examine instances - proud men - finding what is common, etc. At'Metaphysica' Alpha IX Plato's theory of ideas is rejected as idly multiplying entities.

A comparison of these passages discloses a by now not unfamiliar ambivalence. On the one hand definitions are supposedto disclose nothing about the nature of the objects in the world which we name by the words defined, whilst on the other hand they are supposed to disclose precisely that. Aristotle has not made up his mind whether it is to be a criterion of adequacy of his definitions that they are in conformity with the real nature of the field of application (of the words and concepts) in the ordinary empirical world. According to the first of the above-given remarks only lexicographical adequacy of definitions is to be demanded: they are to tell us only what a word means. Thus, he goes on, no knowledge of things is thereby provided.

He even seems to suggestthat a definition is not a statement at all, but only a rule to be followed. (And some formulae called definitions are indeed this.) He makes it a part of demonstration that it relies on knowledge of what (in re) essential natures there are, i.e. presumably it involves existential commitment to a subject-matter, and the doctrine of definition emerges plainly enough through the contrast he draws. Yet equally plainly, in the later extracted remarks, definitions are supposed to concern essences which, as we shall see, are distinguished by Aristotle from meanings, and supposed by him not to exist apart from the ordinary empirical world. The only way there is of reconciling these two tendencies is to say that definitions disclose meanings, but also the essences which fall under, or are determined by, the meanings when the meanings are correctly applied to some field; similarly, a definition disclosing some essence will also provide a formula for specifying a correlated meaning. There is no a priori guarantee that the essence, if any, conforming to the concept expressed by such-and-such a word will be identical with the essence of what we in daily life in fact call by that word. The trouble is that Aristotle, like many other philosophers, overlooks just this possibility. (We

shall be returning to the matter at great length in subsequent chapters.)

To appreciate the difficulties in question consider the following passage from 'Categoriae' VII, 7b:

> "If the perceptible is annihilated, perception also will cease to exist, but the annihilation of perception does not cancel the existence of the perceptible. For perception implies a body perceived and a body in which perception takes place."

What is supposed to be going on in this argument? Are we supposed to be thinking of whatever, if anything, conforms to such-and-such a concept of perception? Or is it supposed that we are thinking of what happens to be the case in the sphere we talk of with the word 'perception', whether it conforms to the concept or not? Is the concept constructed on the basis of independent knowledge of the essence, or is the essence in question specified as being determined by such-and-such a concept (e.g. the ordinary one)? At this juncture we wish to note merely that the answers are by no means obvious. Aristotle has failed to clarify his methodology. He wishes to have it both ways. One might conjecture that Aristotle had a theory of thinking that somehow overcame the difficulties we have

found. But we find only a few unhelpful comments on the nature of thought, as at 'De Interpretatione' I, where it is said that the spoken word (like the written) varies from people to people whilst the thought (judgment of the mind) it expresses is invariant. Nothing is said which would entail the impossibility of a divergence of meanings (or concepts) from their putative instances. We shall argue later that such a view is not, in any case, correct.

Let us next consider 'Analytica Posteriora' I, 4. We encounter there once more Plato's claim that the object of pure scientific (i.e. necessary) knowledge "cannot be other than it is," but without any elucidation of the sense in which this is true, though the problem is, as we saw, no less pressing in the case of essences than it is in the case of ideas or physical objects. Next he says that the truth obtained in demonstrative knowledge will be necessary and inferred from necessary premises. But this does not square with 'Analytica Posteriora' I, 10 or II, 3/7, where existential commitment is supposed to be incurred by demonstrative science, thus ruling out logical necessity, one would think. Notice that unless 'demonstrative science' does involve existential commitment - to which essences there are - it does not begin to look a promising scientific methodology. For

no sane methodology will leave to chance even the matter of whether hypotheticals have a bearing on the world as it actually is; in this sense, there must be a - perhaps tacit - existential commitment pledging for the relevance of the hypothetical, and intuitively this does not seem to be necessary. This matter will be developed more fully in later chapters, but it is as well to note here one of the seeds of a fundamental misconception which natural science, but not philosophy, has long outgrown. One might argue that Aristotle is more culpable in the present respect than is Plato. For Plato had the excuse that the ideas, which he was inclined to think were the objects of necessary knowledge, were frequently conceived of by him as if they were given to the mind on the occasion of judgments about them. In that case the doubt about relevance to actualities vanishes. Aristotle wishes to bring us down to earth, but he fails to see the need to pay a price, viz. empirical checking of relevance.

Also in 'Analytica Posteriora' I, 4, Aristotle distinguishes four senses in which there are essential attributes; he says that there are the following kinds:

(1) Such as belong to their subject as elements in its essential nature; thus

> the very being or 'substance' of
> triangle and line is composed of
> these elements: line, point -
> which are contained in the formulae
> defining triangle and line.

This kind may be schematically represented by 'AB is A'. Notice the easy transition to talk of the defining formula from talk of the essence; concerning which we have already made a few observations. In the case of the formulation of kind (1) in terms of the definition, 'containment' will have to be read as 'containment as a 'conjunct', for reasons which will be discussed in later chapters; since, historically, they have emerged only after and because of Kant. But no such qualification is needed insofar as we are talking of parts of essences, as essences in re in Aristotle's sense do not have disjunctive parts. An essence may be specified by a disjunctive formula, such as 'finger or toe', but it would not be correct to call being a finger a disjunctive part of being a finger or toe, for only thinking can be disjunctive. Rather, one should say that s o m e of the individual essences specified by 'finger or toe' are fingers.

> (2) Such that, while they belong to certain
> subjects, the subjects to which they
> belong are contained in the attribute's

> own defining formula (e.g. straight and curved belong to line; odd and even, prime and compound, square and oblong to number - and also the formula defining any one of these attributes contains its subject (e.g. line or number as the case may be).

The idea here seems to be that adjectives like 'straight' and 'odd' are defined by certain nouns ('line such that...', 'number such that...'), so that anything to which the adjective applies will fall also under the noun. There is no real difference from kind (1); in the sense that there is no difference at all at the essence level and the fact that noun replaces adjective and adjective noun is not at all of fundamental significance: one could just as easily say 'The straight is linear' and 'The odd is numerical'. So the representation is again 'AB is A'.

(a) or (3) Such as is not predicated of a subject other than itself (i.e. substance, not predicate).

This kind is clearly to be represented by 'A is A', and it differs from (1) in that the whole of what is contained in the essence is said to be so contained.

(b) or (4) Such as is consequentially connected (e.g. lightning is not essential to

walking, whilst death is essentially connected with the throat's being cut).

Aristotle recognizes explicitly that this is only a causal connection, to be opposed to the case of coincidence. (Notice also that 'essential' is distinguished from 'true in every instance' at the very beginning of I, 4.) At I, 4, 73b consequential is distinguished explicitly from necessary connection.

It is at 'Analytica Posteriora' I, 4, 73b that Aristotle makes a new point about the examples he gave for (2), though he seems not to notice the novelty. He distinguishes 'simple' essential connection from the case where we can say that it is essential that one of a pair of opposites is present in a subject - men must be male, but a number must be odd or even, though one cannot say that any number must be odd or that any number must be even. "For within a single identical genus the contrary of a given attribute is either its privative or its contradictory", says Aristotle to explain the second case. The background to this is the fact that 'odd' and 'even', for example, are not contradictories in a straightforward sense, as it would be unnatural to infer the one from the negation of the other outside the sphere of mathematics for which they have

been defined. The schematic representation would be 'A is[(A and B) or (A and not-B)]', if we assume that 'odd' and 'even' are defined with 'number' as one conjunct, as Aristotle seems to wish us to do. However, our interest in the matter is not centred on the point he is wishing to make. The example provides a challenge which will emerge in a moment.

It emerges from the discussion of the kinds of essential connection (1)-(4) that Aristotle believes there to be necessity whenever we say of an essence that it is as it is, whether we mention some or all of the characteristics in question. We have already pointed out that Aristotle, like Plato, cannot overcome the problem of clarifying in what sense a thing may be unable to be other than as it is, since the difficulties apply to essences as well as to ideas or physical objects. But this failure does not alter the fact that there is a sense in which, say, a man cannot fail to be male, so that Aristotle's failure need not yet vitiate his whole account. We shall next examine a further partial defectiveness of his account. This is connected with the notion of the containment of characteristics in an essence. Suppose we consider the necessity of 'A is [(A and B) or (A and not-B)]' with respect to the notion of containment. It is easy to appreciate that whiteness is contained in whiteness and that maleness is contained

in manhood, but not easy to see e.g. how being [white and hard, or white and not hard] is contained in whiteness. As the left-hand disjunct contains a conjunct specifying a characteristic which is not a part of whiteness at all, one might suppose - from Aristotle's account - that 'White things are white and hard, or white and not-hard' can be necessarily true only by white things' not being hard. Yet this is scarcely the natural way to conceive the matter. One wishes to say that white things are necessarily white and hard, or white and not hard, because white things must fall under one disjunct, or the other, not because they must always fall under the right-hand disjunct. The truth is that necessary truths need not be about an essence, e.g. whiteness, at all, but may be about things having that nature (among others).

Nor is this the end of our trouble with the idea of containment in an essence. Negative necessary truths would presumably require an account in terms of what is n o t part of the essence. At 'Analytica Posteriora' I, 2, 72a (lines 12/3), Aristotle himself describes a contradiction as an opposition which of its own nature excludes a middle, and this formulation diverges from the patterns Aristotle has declared explanatory of necessities. It does so even in the

gross respect of not invoking essences at all: a contradiction does not consist in the existence of opposed e s s e n c e s; for if it did it would be a truth. (So Aristotle seems at this point to be saying that a necessity is to be explained purely by reference to what a thought excludes; which is not his usual thesis.)

Furthermore, given that some men are white, why do we not say that whiteness is contained in manhood? The individual cases of manhood vary among themselves, only some including whiteness. It is evident that we shall have to qualify Aristotle's formula at least by stating that containment of a characteristic in an essence will not bestow a necessary connection unless the characteristic is contained in every individual (exemplification of the) essence. (Needless to say, Aristotle should also try to show that universal containment in an essence is necessary containment. The same applies to his and Plato's talk of the changelessness of the objects of necessary knowledge: they err in failing to try to show that this is necessary. However their theories fail before this stage of the argument is reached.)

To return to the main thread: is not featherlessness contained in (all instances of) the essence humanity? It is no use just pointing to the fact that the concept of being featherless is not a conjunctive

constituent of the concept of being human. That does not show whether the essence, featherlessness is contained in the essence, rational animality. It might be thought to do so if the essences are supposed to be specified as falling under the concepts of featherlessness and humanity. But we cannot point to Mr. Jones, say, and indicate which of his properties are constitutive of his humanity and which are not; and this prevents our being able to say that featherlessness falls outside the essence, humanity. For if we excluded featherlessness we could run through all the individual characteristics of Mr. Jones in turn, and exclude each of them. It might be objected that animality differs from featherlessness in not being excludable from the essence, humanity. The distinction felt here is that between what is and what is not a necessary condition of humanity. It does not help us to decide that featherlessness is no part of the essence of humanity, for this is supposed to be intelligible independently of the idea of being a necessary condition - it certainly needs to be if it is to have any clarificatory function. In short, we could retort that in including animality in the essence, humanity we are ipso facto including featherlessness. The essence in re consists of elements not themselves each necessary to its being

humanity, despite their being, collectively, entirely constitutive of that essence. (We shall return to these matters in ch. 8).

'Analytica Posteriora' 10, 76a is noteworthy for the clarity with which it is stated that in 'demonstrative science'

> "while as regards unity and magnitude we assume also the fact of their existence, in the case of the remainder proof is required.".

We have already made the more directly relevant observations required in this connection. However, now that the Aristotelian doctrine of necessary connection has been discussed we may notice a few consequential points. Aristotle evidently envisages the deriving of novel existential conclusions by taking advantage of necessary connections. Because he thinks that necessary connections are among essences, he avoids the difficulty arising from the containment doctrine which Plato had: since essences in re are not given to the mind with the problem, there can be containments of which we are not aware on being aware of the premises. On the other hand, how could he think that the containments may or should be discovered a priori?

'Analytica Posteriora' I, 12, 77b is interesting on account of its suggestion that the necessary truths

'Every circle is a figure' and 'No epics are circles' are verifiable from a diagram. Unfortunately, however, he does not expatiate. Perhaps he is thinking that the diagram of a circle is itself a circle. There would then remain the problem of how acquaintance with a single instance could confer knowledge valid of the whole range of instances of the essence. It is still more problematic to say how acquaintance with a diagram which is not an exemplification of the essence under investigation can confer knowledge of that essence. These are problems to which we shall recur in connection with philosophers who have attempted to provide answers. At 'Analytica Posteriora' I, 31 it is said that

> "Scientific knowledge is not possible through the act of perception"

as universals are not perceptible. Significantly he adds that we should reach a demonstration if we elicited the universal 'from the several groups of singulars'. At the very end of the section he uses the phrase 'intuit that it must be so in all instances'. Thus Aristotle seems to believe that we arrive at universal knowledge of an essence by a kind of induction; but talk of 'intuition' does nothing to show whether and how this differs from ordinary induction, apart from a felt conviction of necessity. Does Aristotle believe

that apprehension of logical necessity involves a non-perceptual awareness of all the instances of a universal at once? (For him only the instances exist.) This is an implausible view: rather, we seem to be satisfied on the basis of one or two instances, given perceptually or in imagination. This is the difference from ordinary induction, and the problem is to describe and justify our procedure. At 'Analytica Posteriora' II, 19, Aristotle does attempt one explanatory remark - he says that the content of perception is universal. In fact, the content of no perception is identical with all others of the same essence; but we can take a particular content as a representation of a kind of essence if we wish. In the same passage he goes on to admit the need for abstraction - but this leads us away from acquaintance with the essence itself to a mere representation. Even when we use a physical object as a model of a kind of essence, we are not genuinely becoming directly acquainted with the whole set of instances of the essence. Thus Aristotle offers no solution to the problem.

Aristotle sometimes writes as if he wishes to identify the necessary with what is true of all or most instances. An example of this tendency is provided by 'Metaphysica' Epsilon II, where the whiteness

of a man is called an accident (as opposed to an essential attribute) because men are not always or mostly white. Perhaps Aristotle lacked the idea of necessity (understood as distinct from any kind of universality.). This is not as likely as two other possibilities. For e.g. in the Philosophical Lexicon at 'Metaphysica' Delta V the necessary is identified with what could not be otherwise and at 'Analytica Posteriora' I, 4 the necessary is distinguished from what is true in every instance (though perhaps 'at all times' is implicitly excluded in this last formulation). Probably Aristotle was either indecisive on the issue or else rather meant to be talking of causal necessity when equating 'necessary' and 'true in every instance'. (His grasp of the distinction between the two necessities is itself none too sure.) As with Plato, there seems to be an assumption that all physical objects are in flux, so that the crude equation of necessity with truth in every instance will have seemed safe, given that necessary truths are supposed to be about essences, which are wrongly supposed to be unchanging. (Aristotle has even less excuse than Plato for this mistake, as Aristotle makes essences coincide with physical objects, only re-drawing the boundaries between distinct entities; so that the illusoriness

of changelessness is easily detected.)

We now turn to an examination of the relevant aspects of Book Zeta of 'Metaphysica', where Aristotle attempts to be precise and so reveals the inadequacies of his theories even to himself. The style is that of the tentative and provisional exposition. The basic trouble is a confusion of linguistic (and semantical) with ontological issues.

At 'Metaphysica' Zeta IV Aristotle says that white man is white indeed, but its essence is not to be white; probably, he says, such compounds are not essences at all for the essence is an individual type (which rules out the assertion of an attribute of an alien subject); individuality belongs only to substances. Therefore, he concludes, there is an essence only of those things whose formula is a definition, which must be of something primary, and primary things are those which do not imply the predication of one element in them of another, alien element. The inadequacy of this can be seen from a consideration of the question 'Is it of the essence of the negro to be black?'. The verbal difference between 'negro' and 'black man' cannot possibly be thought to correspond with some ontological difference in the essences, for they determine the same essence. For as Aristotle says in the same chapter, the formula

of the essence of each thing is the formula in which the term itself is not present but its meaning is expressed, and surely 'black man' is the formula of the essence of the negro, and determines that same essence. Any formula of an essence will be of the type 'white man', so that it would be disastrous to deny that 'white man' determines an essence. It is simply that there is no one word which is synonymous - a quite different matter. One might suppose that really Aristotle wishes to deny that complexes have essences; but this is unlikely, in view of what he admits as instances of essences elsewhere.

> In 'Metaphysica' Zeta V Aristotle says:
> "A genuinely essential determination is one in which the concept or the word, whose determination it is, is contained; and which cannot be explicated without that concept; the white, for example, is definable without the concept of humanity, but the female cannot be defined without the concept of animality."

We have already seen that Aristotle fails to draw any satisfactory essence-accident distinction for substances, and in this passage the distinction (or rather a particular case of it) is drawn explicitly by reference to concepts. Aristotle is inclined to

construe 'Men are essentially male' as 'The concept m a l e is a (conjunctive) constituent of the concept m a n ' - which makes the essence terminology look redundant and misleading relative to his real intentions. But also in 'Metaphysica' Zeta there is a sustained attempt to carry over the distinction so that it genuinely applies to substances, and in this he fails. Thus at 'Metaphysica' Zeta X we are told to distinguish the bronze 'matter' of a statue from its 'form'. And we are told that bones, muscles and flesh are parts of the concrete thing (man), but not of the form, i.e. that to which the formula refers. But, as we saw, one cannot separate off form from matter in this way, even by asking 'Which aspect of this falls under the concept and which falls outside?' The concepts b r o n z e and s t a t u e are distinct, but not the statue and its bronze. Of course we could exclude bronze from the essence of the statue on the ground that some statues are not of bronze, but Aristotle himself is to some extent aware that this will not suffice to permit the ontological essence-accident distinction to be upheld. He says as much at the beginning of 'Metaphysica' Zeta XI, where he notes that it is "difficult" to separate

man's form from his flesh, bones, etc. and also that all circles might have been found to be bronze. And if bronze is not of the essence of (all) statues, we may add, nor is it an accident of (all) statues.

Without pursuing any further details of Aristotle's exposition - he himself admits defeat - we may conclude at once that his theory of essence is radically confused and defective, and unsuited to giving an account of logical necessity. We turn next to his views on the fundamental axioms of logic, which are given in 'Metaphysica' Gamma. The passages concerned continue to be influential, though probably the chain of influence is somewhat complicated. A detailed appraisal is called for.

At 'Metaphysica' Gamma III, Aristotle starts by confusing the following:

(a) 'dealing with all being';

(b) 'involved in all enquiry into being';

(c) 'immanent in all being'.

He argues that philosophy must treat of the fundamental axioms because they treat of all being, the special sciences dealing only with restricted aspects of being. But as the axioms are only a very restricted part of all being, such an argument should lead one to conclude

that they should be the subject of some special science! (As indeed they (also) should - there is no reason why psychologists should not examine the psychological rôle of the fundamental axioms.) In this argument Aristotle has confused (a) and (c). He goes on to say that everyone uses the fundamental axioms because they concern being as such. This inference is not valid. 'Everything obeys physical law L' does not entail 'Everyone relies on L', so why should an analogous inference be valid for the fundamental laws of logic? Aristotle is confusing (a), (b) and (c) with one another. (b) is nearest to the sense required in the conclusion Aristotle desires, but remoter from the sense of the premise, in comparison with (a) and (c).

Next Aristotle argues that it is wrong to claim that the axioms of logic can be accepted only tentatively until they are proved - one must know the axioms before one comes to philosophy, and not expect to be instructed in them by philosophy. This is superficial; there is obviously a sense in which we learn of the fundamental axioms in philosophy (or logic), just as Molière's hero learnt he was speaking prose. Even if we concede that we are continually relying on the fundamental axioms, in all cognition, it is not clear that we must do so. Aristotle thinks of the laws of contradiction and excluded middle as the fundamental axioms, yet

stating premises and using modus ponens to draw a conclusion in no obvious way constitutes use of either 'fundamental' law.

Aristotle proceeds highly dubiously by claiming that the philosopher "must be able" to give the most invulnerable principles of all being, i.e. those where deception is impossible. There follows a shameless slithering from arbitrary requirement to assertion of fact and back again. Three conditions, of highly uncertain status, are stated:

(1) Deception regarding the principles must be impossible.

(2) The principles must be most easily knowable - otherwise one is easily deceived.

(3) The principles may not rest on arbitrary assumptions - otherwise they could not be conditions of all knowledge.

Our interest is in whether Aristotle can show these conditions to be fulfilled by necessary truths, or rather by the two laws of logic he is dealing with. In subsequent chapters we shall ask whether anybody could succeed in Aristotle's aim.

An attempt is made to prove that it is impossible to believe that one and the same thing

both is and is not, whatever one may say. Aristotle argues that if a man were mistaken in this point, he would have contrary opinions at the same time, which is impossible. This argument is invalid in a way which results from insensitivity to the intensional use of language. Believing that P and not P is wrongly supposed to entail that it is a fact that P and not P, which is impossible. True the thought that P cannot be the thought that not P, but the thought that P and not P is neither of these thoughts, not an impossible combination of both of them; so Aristotle cannot prove his conclusion this way either. Nor is Aristotle correct in supposing that his invalidly drawn conclusion entails that everyone bases all his proofs on the principle of non-contradiction as an ultimate axiom: 'We cannot disbelieve P' does not entail 'We always rely on P'.

'Metaphysica' Zeta IV reiterates the groundless claim that by assuming the principle of contradiction we have just proved it to be impossible to disbelieve it; and the unproved claim that it is vain to try to prove the principle of contradiction itself. One cannot prove everything, he rightly says, for such an attempt launches one on an infinite regress. But this does not show that the principle of contradiction falls into a special category of ultimates. Proof must

in practice have an end, but this is different from saying that for some particular statement or principle it is improper to demand a proof. Aristotle says that if there are unprovables, then the principle of contradiction is a plausible candidate. But nothing is in principle improvable on account of the infinite regress argument, and the attempt to prove involvement of the principle in every proof also failed.

Next Aristotle promises to show that those who claim to deny the principle of contradiction in fact assume it if they speak at all. He says he is not begging the question, because the assumption is seen to be made by the other side. This is a muddle on Aristotle's part. If he is correct in his claim that the principle of contradiction must be assumed by all whenever they talk rationally, then he will be begging the question, for his demonstration will assume the principle just as much as his adversary. He also begs the question when he says that anyone denying the principle of contradiction thereby destroys the rationality of his discourse (why say this?), and contradicts himself when he says that such a sceptic nevertheless says something, violating his scepticism. Aristotle then commits a further fallacy arising from insensitivity to

the intensional use of language, arguing:

> "...words signify the being or nonbeing of a thing, from which it follows that it is impossible that everything should be in a certain state and also not."

Nor is Aristotle right to go on to equate denial of the principle of contradiction with asserting nothing, making a mere noise from which all meaning has been eliminated, since the signification is 'indefinite'. For there is nothing vague in a contradiction, and the accusation of 'indefiniteness' is an idle one. Aristotle says nothing which would show the conjunction of a statement with its negation to be more 'indefinite' than any other conjunction. He also comes to talk of a contradiction meaning an infinity of things, but this is not the same as meaninglessness, and is in any case misguided. At best, in these passages Aristotle is merely affirming the determinateness of reality and of our thought-contents. He does not succeed in showing denial of the principle of contradiction to be unintelligible or self-refuting. He continually confuses sense and reference, arguing as if determinateness of the one were identical with determinateness of the other. This one would expect from his treatment of essence. If we, for ourpart, adhere to normal logical

principles, we can say of one who denies the law of contradiction whether he speaks consistently with his own doctrine: if his denial is a universal generalization, he should concede that his opponents are both wrong and right, and that he himself is both wrong and right in his sceptical claim. How could we discriminate the sceptic's consistency and skill in this way if his denial of the law of contradiction is meaningless? Incidentally, it will not do to say that one "does not know what to make" of a contradiction, as P is both asserted and denied. This is true only if one suspects that the contradiction has been asserted unintentionally. Otherwise one is clearly being enjoined to accept both P and its negation, which is quite the reverse of the matter's not having been made clear.

Aristotle next shows that the sceptic is involved in contradictions when he asserts his thesis, but this is scarcely a telling objection. Nor can we think highly of his appeal to certain rules for answering questions, which prohibit contradictory answers. His argument that the sceptic eliminates essence is circular, for he merely lays down conditions which the sceptic violates, but without grounding them. He says that in specifying the essence of a thing we assert it to have such-and-such an essence and no other. In a sense this is patently false: in saying

X is green, we do not mean to exclude its being soft as well. But in this passage Aristotle does not do himself justice; fundamentally he shows himself to have realized that the sceptic conjoins a specification which cancels the very one made in the other conjunct, so that it is not a normal case of adding an additional specification. But he does not succeed in showing that this makes the utterance meaningless or self-refuting. Rather, we are given inferences to such conclusions as that the sceptic implies that nothing really exists - whereas it is quite clear that he is committed both to asserting and to denying this.

Instead of saying that perception reveals that the law of contradiction does hold of reality, Aristotle next says that it is (perceptually) clear that a supposed consequence of the sceptic's position is false: the sceptic manifestly exists. However, one could just as easily claim that one only has to look about one to discover an individual which does not both have a certain property and lack it. However, although the immediacy of perception is the most compelling force against the sceptic, the mere fact of relevance suggests that the sceptic's position is not unintelligible, as Aristotle wishes to prove; nor is it self-refuting, so far as per-

ception can reveal.

At the end of 'Metaphysica' Gamma IV Aristotle argues that the sceptic does not really believe what he professes. Why go to Megara instead of staying at home, he asks, if one already believes oneself to have gone (since one is committed to everything)? Why take care not to fall into a ravine? If one values these actions more than the sceptic's philosophical affirmations for the purpose, one will agree with Aristotle that the criteria indicate insincerity on the sceptic's part, which is again different from speaking unintelligibly or self-refutingly. Furthermore Aristotle has once again admitted that we can appraise the sceptic's performance in ways which would be impossible if his would-be sceptical utterance were meaningless.

Aristotle begins 'Metaphysica' Gamma V by noting that the same considerations apply to the law of contradiction as stated in terms of truth and falsity which apply to the ontological version of the law. The emphasis now falls on the mistakes of early theorists which led to their denial of the law of contradiction. These are, of course, quite different mattersfrom the issues relevant to our concerns, and they need not be entered into. But there are some other new arguments which are

relevant. He says that those who oppose the law of contradiction cannot explain change, as anything is already everything. But this would be a difficulty only if they did not wish to contradict themselves. We find also some stern appeals to common sense. He soundly advises us to concentrate on sense-data in order to reduce the room in which the Sceptic may throw doubt onthe evidence of perception for the truth of the law of contradiction. But this, again, does not affect the issues of unintelligibility and self-refutingness; which are clearly the issues relevant to a grasp of the nature of logical necessity.

'Metaphysica' Gamma VI contains nothing of substance additional to the contents of the preceding chapters, so we now pass directly to a consideration of 'Metaphysica' Gamma VII, where Aristotle deals with the law of excluded middle. He is aware that there are borderline cases such as 'something which is neither man nor horse', as he is willingto put it, and he is aware that this sort of case differs from the sort of case exemplified by grey's lying between black and white. (We are uncertain whether to call the intermediate creature a man, but we do not hesitate to deny that grey is black.) The decision whether to call the creature a man causes us more difficulty than the decision as to whether,

having called him a man, we may also deny that he is a man. For this reason there is a greater inclination to object to the law of excluded middle than there is to object to the law of contradiction, although we do not shrink from such assertions as 'He is and he is not'. The difficulties spring from the nature of thinking: what falls under a concept is not dictated quite so simply as the dogmatic platonist supposes. This being so, one may be inclined to seek ontological versions of the fundamental laws of logic, i.e. versions not mentioning cognitive entities such as assertions. One may say, without trouble from borderline cases:

(A) For any aspect of the world, any object will either be identical with it or not.

(B) For any aspect of the world, no object will both be identical with it and fail to be identical with it.

If 'identity' is understood as strictest qualitative identity, then (A) will correspond to the law of excluded middle and (B) to the law of contradiction. We have replaced troublesome concepts by troublefree paradigms. This we cannot always do in practical affairs, but the exercise is wathwhile because it

demonstrates the possibility of stating troublefree principles with respect to which we may appraise Aristotle's pronouncements without qualms deriving from essentially extraneous considerations. This we have done in connection with the law of contradiction. Now to the law of excluded middle.

Aristotle's first argument is that the sceptic regarding the law of excluded middle will say of the putative middle that it is or is not; which is not how we talk either of being or of non-being. But it is more likely that the sceptic would say, rather, that the middle simply is. 'You can say that it is or that it is not' is in fact just the way we talk of borderline cases, and, understood aright, as a complaint about the imperfections of our concepts, such talk is compatible with an upholding of the law of excluded middle in an ontological version. Next Aristotle adduces an argument from the nature of change: change is never to white without being from the non-white - change is never from some third kind of state. This istrue, but it is not the kind of argument which is of interest to us, since we are not interested in the truth-value of the law but in the nature of its necessity. Then comes the dubious assertion that we must affirm or deny anything which is proposed for consideration - this bald assertion

amounts to a non-ontological version of the law, and is therefore difficult. Aristotle expects us to be shocked at the consequence (of scepticism) that we should sometimes speak neither truth nor non-truth, but it does not show the scepticism to be unintelligible or self-refuting; it is sufficient for the sceptic's position that sometimes one may speak the truth. Next Aristotle says that it follows from something's being a number that it must be either even or not. This, however, would make the concept of number possess a circular definition, since, as we saw, 'even' is supposed to be defined in terms of 'number'. It would, however, be self-contradictory to suppose a middle between contradictories without a middle. The sceptic, however, will deny that there are such contradictories. He could equally well say: 'But you must admit that there are middles between contradictories which have middles.'. Still, there is a difficulty in maintaining both the law of contradiction and that it is i m p o s s i b l e that there should be contradictories without a middle; since it is self-contradictory to suppose a middle between contradictories without a middle, and 'contradictories without a middle' is not self-contradictory (or will not be if properly construed). But the sceptic about the law of excluded middle may

be a sceptic about the law of contradiction too. And we are not helped in our appeal to the latter, to refute the sceptic about the law of excluded middle, if our goal is to grasp the nature of the necessity involved, for this problem arises just as acutely for the law of contradiction itself. Aristotle will be quite correct in affirming that a universal claim that contradictories have middles will generate an infinity of entities, unless middles cannot be negated or at some point we identify the middles we come to with others already reached. Next Aristotle argues that in denying a thing to be white we exclude only its being white, which leaves over (only) its not being white. But this is a bald assertion, presumably designed to hammer us into thinking 'sensibly'.

At the end of 'Metaphysica' Gamma VII and in 'Metaphysica' Gamma VIII Aristotle attempts some more grandiose and general remarks about the two kinds of sceptic dealt with. He thinks they gain support from those who cannot refute them and from those who demand a reason for everything. We have not found Aristotle's refutations adequate from our own point of view - and he does promise to do more than merely unearth crude mistakes leading to the scepticism; he does not say either how knowledge is compatible with the impossibility of an infinite chain of reasons.

He tries to sum up by saying that the sceptic about the law of contradiction makes everything true, whilst the sceptic about the law of excluded middle makes everything false by making all things indeterminate. But the first scepticism would have every statement false as well as true; and the second scepticism would have truths about middles and also about other entities. The rest of Aristotle's remarks thus rest on unsatisfactory characterizations of what is to be attacked. Insofar as these further remarks are not thereby vitiated, they nevertheless have no force, since once again Aristotle contents himself with a demonstration of the self-contradictoriness of the self-contradictory.

IV

THE THEORY OF REFERENCE AND THE TRIVIALTY OF NECESSARY TRUTHS

The present chapter is most intimately related to the following one. Both investigate the f o r c e of truths possessing the property of being logically necessary. Later, as well as earlier, chapters contribute to our understanding of this matter also. Chs. 4 and 5, however, are both concerned to raise the specific question of the sense in which one may say that if a truth is necessary then it is t r i v i a l. In view of the philosophers' general addiction to necessary truth, the present chapter and its immediate successor will thus have a high degree of metaphilosophical import. During them it will become much clearer why our own methodology does not involve aiming for necessarily true conclusions. And also why it has been, and always will be, a grave mistake to try to establish necessary philosophical truths. The same applies if we substitute 'analytic' or 'a priori' for 'necessary'. In this chapter we shall be concentrating on analytic necessary truths, and this restriction will apply in ch. 5 also; but in ch. 11 we shall see that no great difference is made

in respect of triviality if synthetic necessities are admitted. Although chs. 4 and 5 are concerned centrally with twentieth-century thought, considerable light will be thrown on matters raised in chs. 3 and 4; continuity between Ancient and Contemporary errors is much greater than it appears at first sight. Nowadays people are much more likely than they were to appreciate the errors when they are set out explicitly; but they are still just as liable to fall into them in practice - i.e. when thinking about other matters. That is why we need to become aware not simply of the nature of the errors themselves, but also of the contexts in which they arise, of their disguises, and of the occasions on which they are present as tacit presuppositions. (A notable instance of the last of these must wait till ch. 13- c.f. the section on Putnam.) The preliminaries over, we are now ready to begin; consider the following account.

*We can fit various adjectives into the gap in (say) 'Bachelors are...'; sometimes the resulting sentence will express a truth, sometimes a falsehood. Only experience can reliably tell us which. Except in certain cases. Only experience

can reliably tell us whether bachelors are healthy, wealthy or wise. But no experience is required to establish whether bachelors are male, whether they are human or whether they are unmarried. We can answer these questions a priori. True one could just guess at whether bachelors are healthy, without even relying on memory. As van der Waerden reminds us (in 'Synthetische Urteile a priori'), there are synthetic a priori truths in that sense (282/3). But (283) they are just prejudices. 'Bachelors are male', on the other hand, is no mere prejudice. It is n e c e s s a r y , and so e v i d e n t l y true - in marked contrast to 'Bachelors are healthy', which is neither evident nor necessary. So great is the fortune of the philosopher, for he is able to establish some truths a priori and with certainty, about large numbers of things. That is the philosopher's province. These necessary truths describe the chief and fundamental features of the objects in question. The 'bachelor' examples are of course hackneyed, and so strike us as trivial, but everyone knows that not all analytic truths are immediately obvious, and the philosopher must use his skill to reveal these truths to us.*

Not all that is ultimately wrong with this

seductive account will emerge in the present chapter; nor even in the next; though by the time we have reached the end of our investigation we shall be fully enlightened. At the moment we are interested in the illumination provided by some considerations belonging to the theory of reference, i.e. the theory of the relationship of language and thought to the world. This relationship is more complex than it must seem if the seductive account given above is to appear at all plausible. Once the true complexity of the relationship is grasped, that account loses its seductiveness and takes on the appearance of a highly dangerous - and disastrous - quagmire; one into which theorizing continually tends to plunge in practice, when dealing with other matters, even after the absurdity of that seductive account has been grasped. For is not the absurdity of that account continually flashing across philosophers' minds, though only fitfully, tantalizingly and in opposition to their philosophical practice - and even to the remainder of their theory? There is scarcely a major philosopher who does not somewhere say that necessary truths say nothing about the world but treat only of ideas, or who does not say that necessary truths are contentless. (Not

that either of these rationalizations of the feeling of absurdity is quite correct, mind!) Yet these same philosophers will claim necessary knowledge of reality, and have additional theory about logical necessity to back this up. This sort of thing is true of the philosophers so far considered - Plato, Aristotle and, most purely, Descartes. It will later be seen to be true of many others, including both the early and late Wittgenstein. The unresolved dilemma continues to have a hugely vitiating effect on the conduct of all parts of typical Anglo-Saxon philosophy. The situation is clearer in the early than in the later Wittgenstein. The early Wittgenstein commits himself to the pursuit of necessarily true metaphysics but finds himself concluding that necessary truths cannot be informative. Yet that very conclusion seems to inform us about necessary truths - and surely the information is not just of a contingent character? So necessary truths are necessarily informative - or else, at least, necessarily not? But surely necessary truths c a n n o t tell us how things are! Surely we need experience for that! A most perplexing dilemma. And the later Wittgenstein, as we shall also see, fails to resolve it. True he embraces conventionalism in the late period; but he

retreats from it again in his last and major and most influential work (though not wholeheartedly), and his metaphilosophy becomes tellingly obscure and confused once more. Furthermore even acceptance of conventionalism does not always amount to a resolution of the dilemma which would be acceptable if conventionalism itself was acceptable. For some forms of conventionalism are so guarded or vague that they are themselves ineffective. We shall be encountering a rationalist conventionalist quite soon in our investigation.

Let us consider a further example before proceeding with a theoretical analysis. Let it be the question of the nature of perception, which we saw Aristotle treating in a quotation in ch. 3. "If it can be shown to be analytic that perception involves an object external to the mind, then surely idealism is refuted", someone might argue. "It would be self-contradictory. After all it was the nature of p e r c e p t i o n that was put up for discussion, was it not?" Thus the same philosopher might continue. And now one only has to put together what has already been said in previous chapters and the tendency to stress 'perception' in phrases like "p e r c e p t i o n is at issue" to be on the right track. That is, we shall then

soon see what is wrong with saying that 'Perception involves an object external to the mind' would be an important necessary truth, about the structure of perception, if it were analytic.

Perhaps the best move to make next is to introduce a decidedly scientific example. There was once a phlogiston theory of combustion. Suppose that people had made possession of phlogiston a conjunctive constituent of the concept of a combustible object. Then would they have contradicted themselves in doubting the phlogiston theory, i.e. in entertaining the possibility of a combustible object lacking in phlogiston? The obvious and usual reply to this question is correct as far as it goes. There is a contradiction if 'combustible object' is taken in the phlogiston theorists' sense, but not if it is t$_a$ken in ours. The phlogiston theorists should have denied the existence of combustible objects in their sense of the expression. Similarly, the idealist contradicts himself if he uses 'perception' in Aristotle's sense, but it is open to him to deny the existence of perception in that sense. All this is quite true, but the kind of consideration that we are working towards has yet to be reached. However it does suggest a new

question: how can an analytic truth about perception be informative about perception if perception in that sense need not exist, and perception in some other, or perhaps no, sense might exist? "True", will come the reply, "an analytic truth does not tell us what exists. But the enquiry will have been about perception in some particular sense- presumably the ordinary one - and the relevant analytic truth will be informative regarding any instances of that concept which there may happen to be." Or else we may be told "It is analytic that any genuine perception will have such-and-such character.". "After all", they may add, "science contains numerous non-existential truths which are nonetheless informative."

The seemingly innocent 'the enquiry will have been about perception in some particular sense' is a snare. It can be said to be true - but not in the way required by those against whom we are arguing. What people want to know is the nature of w h a t w e c a l l perception, w h a t w e c a l l combustible objects, w h a t w e c a l l necessary truths, w h a t w e c a l l bachelors. And what we call by these names, and apply these concepts to, do not necessarily fall under the respective concepts, in the sense of possessing

those features required for application of the concepts to be correct. The phlogiston theorists, for example, called objects 'phlogiston-possessing' - applied the term de facto to objects - which in fact lacked any such property. They did not mean to be talking only about whichever objects possessed phlogiston, as in the mistaken philosopher's picture of the situation. A t e r m c a n p e r f e c t l y w e l l d e t e r m i n e a s e t o f o b j e c t s a s a s u b j e c t m a t t e r, e v e n t h o u g h t h e y d o n o t f a l l u n d e r t h e c o n c e p t w h i c h o n e w o u l d n o r m a l l y s a y i s e x p r e s s e d b y t h a t t e r m. In fact terms are continually beingused to mean w h a t w e c a l l s o - a n d - s o ; where ' s o - a n d - s o' stands for a term or concept and ' w e c a l l ' means the same as 'one generally calls'. It follows already that the analytic truths alluded to in connection with our examples will have been completely beside the point in the questions at issue. Those analytic truths have a sense which makes them irrelevant. And nobody will claim that analytic truths beginning 'What we call so-and-so is/are...' should be substituted. For e.g. it is not analytic that what we call bachelors are male.

It is important to be aware how frequently, and

in which contexts, reference is via the sense w h a t w e c a l l T rather than via the sense T (where 'T' replaces 'bachelors', etc., understood in the sense noted in dictionaries and not in the sense w h a t w e c a l l ...). Let us call the first mode of reference of terms 'reference (1)' and the second 'reference (2)'. Note that the difference lies in the sense via which reference is made. Reference (2) is the sort emphasized by philosophers when they insist, with the veins standing out on their foreheads, that b a c h e l o r s could not possibly be married. It is wrong to confuse the truth that reference (2) is via what would normally be regarded as 'the' sense of the term in question - it is wrong to confuse this truth with the statement that reference (2) is normal and reference (1) is abnormal. This latter statement is grossly incorrect. It is perfectly idiomatic to say 'Are bachelors really unmarried?' without doubting an analytic truth. If Smith orders Jones to bring some combustible objects, he will not be too pleased if Jones returns empty-handed, with the excuse that it has just been discovered that nothing falls under their concept of a combustible object. If a mediaeval gentleman made so bold as to doubt whether witches really have magical powers, it was not legitimate to reply to him that his doubt was self contradictory, on the

ground that 'witch' was so meant that an analytic truth was expressed by 'Witches have magical powers'. In fact in almost any inquiry the subject-matter is determined by means of reference (1). This includes our own. We use 'logical necessity', to select a particular area for investigation, without prejudice regarding the character of our conclusions. Our interest in the facts in question is not conditional on their having certain features specified by some concept of logical necessity. (There are many concepts of logical necessity with considerable currency; only the reference remains fairly constant.) One completely misunderstands much of what people say if one assumes that they always employ reference (2) and never reference (1). To answer the question 'What is X?' by analysing the concept of X is not even r e l e v a n t, let alone important, relative to the requirements of the questioner; the analytic truth based on the conceptual analysis fails to use 'X' in the relevant sense. It is only during philosophizing that the intuitive grasp of the mode of reference in use vanishes. The desire to philosophize in a certain way sustains the blindness, the insistence that reference (1) is unimportant, rare, and inadmissible unless the words concerned are enclosed in inverted

commas. In reality, if the programme of marking occasions of the use of reference (1) with inverted commas were carried through, then everyone would find himself using inverted commas very much more frequently than at present. We only use inverted commas in the way suggested when we both k n o w, and wish to draw attention to, the divergence between a concept and its field of application.

We have not yet beaten the man who wishes to say that there remain many important analytic truths for philosophers to find. He will say that it has so far been shown only that analytic truths are out of place as answers to certain questions raised in the same terminology as that occurring in the analytic truths. We have not yet shown that analytic truths lack an informative rôle of their own. After all, it is not positively inadmissible to employ reference (2). Why should not an analytic truth employ reference (2) and thereby manage to inform us about whatever falls under a certain concept?

Now we are not concerned to deny that analytic truths are about the world; we are not disputing their ontological import. We saw in chs. 2 and 3 that ontologism presents us with certain difficulties and also that its denial has difficulties of its own. These are matters to be

resolved in later chapters (chs. 6 onwards). Triviality is a different issue. But how can we suggest that analytic truths are trivial when they play such an important part in everyday inferences? Well, the sense in which we are to assert that analytic truths are trivial is not one which logically requires us to deny the importance of analytic truths in inference. This assertion may prompt the retort that we must have a trivialized sense of 'trivial' in mind. But that is not so. The sense in which we wish to claim that analytic truths are trivial is a straightforward and important one. Suppose someone published a book making an empirical case for believing that water kept at 50.33 degrees Fahrenheit in a blue jar would be wet. The book would be considered eccentric. Its finding would be adjudged trivial. Relative, that is, to what we all well know already. We should rightly say that, though nobody had even so much as considered the book's conclusion before, nevertheless that conclusion was already universally known to be true. And all this would be perfectly compatible with the usefulness of the platitude in inference. Suppose e.g. that we encounter someone sitting next to a blue jar

containing water which he knows to be at 50.33 degrees Fahrenheit, and suppose that he asks for something wet. In such a situation it would be useful to utter the platitude in question. It would act as a reminder. The situation is analogous when we correct someone who contradicts himself, speaking of men as if they were not men, by saying 'But men are men!'. We are not increasing anybody's stock of knowledge when we say that; everyone knows already that men are men.

We have seen so far that both synthetic and analytic trivialities (platitudes) have an important function. We have not yet established the triviality of analytic truths. The sense in which this is to be shown is the same as that applicable in the case of synthetic trivialities. The argument is quite simple. Everyone - certainly every philosopher - already knows that everything is what it is and not another thing, and also that everything has just those properties which it does have, and also a large number of other similarly very general necessarily true universal statements. Hence it is simply boring to be told things which are just specific instances of these truths. (In fact most of the analytic truths contained in philosophy books fall under the

two generalizations which we have just mentioned explicitly. Paradigms are 'Knowledge is true, justified belief' and 'Knowledge is always of what is true'.) When philosophers bring out their analytic truths we should say 'Well of course I agree with that!', or 'Yes, I know.'. It may not, of course, be immediately apparent whether what is said is analytically true. Then we can say: 'Well I can quite see how what you say will be analytic if you mean it thus or so, but not if you mean such-and-such.'. Or: 'You wonder whether it is analytic that if x is a physical object then so-and-so about sense-data is true. Well it is quite easy to run through the different possibilities: if the concept of a physical object involved is the phenomenalist's one then you have an analytic statement; otherwise not.'. Conveniently enough, the philosophers in question tend to run through the list of alternative possible concepts in their inquiries, so it is generally quite easy to see which are the alternative interpretations of the sentences at the centre of their concern.

Why then do philosophers advocate aiming for analytic conclusions and why do they actually publish works full of analytic truths? The

reason is, frequently, that to them these analytic truths do not seem to be trivial. And why should that be? Unfortunately it is because the analytic truths are confused with other statements which are not trivial. Unfortunately - because this means that the methods used to establish them will be inappropriate to the conclusions they are actually entertaining, so that views are held without any adequate backing. Now what are the other statements with which philosophers tend to confuse analytic truths (which may well not be materially equivalent to them)?

There are three kinds:

(a) The statement expressed by the same sentence as the analytic truth is expressed by, only with reference (1) instead of reference (2).

(b) The statement formed from the conjunction of the analytic truth with the statement that the things talked about in the analytic truth exist.

(c) The statement of meaning which is idiomatically expressible by some of the same sentences as express analytic truths.

Thus, under (a), the analytic truth that knowledge is always of the truth may be confused with the statement that what we call knowledge - knowledge in that sense - is always of the truth. Under (b), the same analytic truth might be confused with the same statement modified by the addition of the assertion that knowledge, in the sense in question, actually exists. (Such a claim would be weaker, less interesting than the claim that what we call knowledge is always of the truth, but it would not be trivial, relative to our necessarily true knowledge alone. No claim is trivial relative to absolute scepticism; but the philosopher who advances analytic truths does not mean to be enlightening only someone who doubts (instances of) the laws of logic.) Under (c), we find that sentences such as 'Bachelors are unmarried' can be used, and often are used, actually to state the meaning of the word occurring in the subject-position. The analytic truths of interest to certain groups of philosophers are generally expressed by sentences usable in this way. On the other hand, there are many analytic truths which are not like that - e.g. 'If PvQ then (PvQ) v (PvQ)', which corresponds to no statement about meaning expressible in the same words.

Thus case (c) differs from cases (a) and (b), in that only in cases (a) and (b) are alternative interpretations of a sentence expressing an analytic truth always forthcoming. That has not, however, inhibited conventionalists from claiming that s ó m e h o w all necessary truths are to be accounted for in terms of statements of meaning. This introduces complications which will not be dealt with until ch. 7. It is already clear, though, that case (c) cannot simply be equated with the analytic case. Furthermore, all the statements falling under (a) - (c) are synthetic; whilst all analytic truths are analytic. This last claim is naturally meant in the way falling under (a), and will receive abundant support during our investigation. (Actually case (a) is more complex than has so far been shown. For some terms in a sentence may refer in mode (1) whilst others in it refer in mode (2). In our investigation, the subject-term in subject-predicate statements generally has reference (1) and the predicate term reference (2); this is enough to destroy the analyticity of our statements, and so to save them from triviality. Anyone can test this for himself.)

The main fault of philosophers has been to

confuse analytic truths with statements of kinds (a), (b) or (c). This has occurred at all periods of philosophy, with more or less vitiating consequences in individual cases. The general result is a chaos in which nobody quite knows what is going on any any given time. It is perpetually unclear what sort of inquiry is being conducted at any given moment and place. One result is that it remains unclear w h a t s o r t of truths are logically necessary. But a more serious side is the way necessity is illegitimately ascribed to contingent claims. In the present chapter we shall concentrate on some recent manifestations of the sickness. We are fortunate in possessing a straightforward defence of current malpractices, and we shall examine that before passing to a consideration of a few of the immense number of instances.

Bennett has produced a theoretical defence of the doctrine that analytic truths are not trivial. The paper in question is called 'A Myth about Logical Necessity'. Its main significance is that it was published, without, apparently, drawing any refutations in reply. The paper contains (59-61) two common fallacies which need to be dealt with first of all. These fallacies are:

(i) If Q follows immediately from P, Q tells us nothing not told us by P, and 'P ⊃ Q' tells us nothing.

(ii) If Q is an immediate consequence of P, there cannot be a time reference in Q later than the latest time reference in P.

The fallaciousness of (ii) may be seen from a consideration of the deducibility of 'Frogs will eat in 1970 or 1971' from 'I predict correctly in 1968 that frogs will eat in 1970'. (ii) involves the 'containment' fallacy, being asserted with conjunctive cases of analyticity in mind, and not being valid even for them. That is to say, in connection with (ii) Bennett is thinking of analyticities in which the predicate-concept is a conjunctive constituent of the subject concept, and of the inference of a conjunct from a conjunction. 'P v Q', on the other hand, certainly has a content not entirely contained in 'P', though 'P v Q' is an immediate consequence of 'P'. Thus in moving from P to 'P v Q' one moves to a different content, and one which is not different simply by being less than P - on the contrary, it is more. On the other hand, if we move from

'P v Q' to P, we move to what is a mere part of the content of 'P v Q', though the move is in fact synthetic and not even deductive. As 'If P v Q then P' is informative, it shows that Bennett's containment ('says the same') criterion of triviality will not do.

By asserting (i) and (ii) Bennett wishes to place restrictions on the thesis that analytic truths are not trivial. In this he is unsuccessful. Of greater interest to us is his case for saying that analytic truths are in some cases non-trivial. He rests his case on the fact that not all inference is immediate. To this corresponds the fact that it is not always obvious whether a statement is analytic. Deduction can in fact lead to unexpected conclusions, he stresses (60-3); the assertion that the conclusions of all inferences are contained in their premises is true only if 'contained in' means 'implied by' (61-3). Now these points raise issues which will not be discussed until the next chapter. For now we shall content ourselves with the observation that the obscurity of the analyticity of a given statement is quite different from the triviality issue. Even immediate consequences can be hard to see, but this does not make their assertion a s

t h e s e s non-trivial. Moreover, entailment is transitive, and the work of the philosopher does make the detection of an entailment between the antecedent and consequent of his analytic truths a matter of immediate insight, once one has reached the stage of contemplating his conclusion. 'Knowledge is true, justified belief' is soon just as hackneyed and as boringly obvious as 'Bachelors are unmarried men'. To take an extreme analogy: if I find a tribe making assertions in a language I do not comprehend, this does not make their theses non-trivial - for, obviously, they might be saying anything whatever. As with the cases Bennett is thinking of, what it is unclear - a non-trivial matter - is what the thesis is, not whether that thesis, once understood, can easily be appraised as true or false. Bennett is misled by the ambiguity of 'We do not at first know what is being said'. Where Bennett is not so confused as some of his colleagues is in the matter of realizing just which conclusion he wishes to defend. Although (59-61) he calls himself a conventionalist - thinking conventionalism amounts to upholding the false claim (1) - he nevertheless begins (59) by objecting to saying that no necessary truths 'are about the world'

and ends by saying that deductive metaphysics is in order. (He says that the deductive metaphysician does not need to be 'thumped' (63).) We have seen that trivialities can be about the world, but, despite his additional error over this, it is clear that Bennett fully realizes what he is committing himself to. We shall see that he is nearer the truth than is popularly supposed when he implies that traditional metaphysics can be taken to share his methods. In scrutinizing Spinoza, for example, we shall see that what is decisive is not the issue of whether there are synthetic necessary connections, but the confusion of necessary, in fact analytic, truths with statements of kinds (a) or, less often, (b).

Another very revealing sign that analytic truths are subject to confusion with statements of kinds (a) or (b) is provided by contemporary, as well as by earlier, treatments of the ontological argument for the existence of God. It is usual to object to that argument on the ground that 'exists' is not a predicate. That is said today (passim). It was said by Kant. Meinong, even, felt obliged to agree. Even Aristotle, we saw, objected to using the term (or any from its family) in definitions, though he gave as a reason that

'existence is not a genus' (c.f. ch. 3). Neither the Kantian nor the Aristotelian claim is plausible. No account of the d i f f e r e n c e s of 'exists' from other predicates makes it reasonable to alter the usual grammatical classification. And surely 'exists' determines a genus of which temporary and permanent existence are species. Even if Kant and Aristotle were right, would it be incorrect to ban 'exists' from definitions? Is it wrong to define 'real thing' as 'thing which exists', just as we define 'chimera' as 'non-existent thing'? Some versions of the ontological argument treat 'exists' as a predicate, but others do not say anything which involves such a claim, and so would escape the usual objections. All that has to be said is that 'God' means an existent being with such-and-such properties. This is a perfectly good statement of meaning. The phrase 'an existent being with such-and-such properties' is used intensionally in it, so it cannot fail to be in order if it expresses a thought (-fragment) at all; which it does, for it is perfectly meaningful to say 'Jones is an existent being with such-and-such properties'. (C.f. ch. 1.) The definition constructed, one can announce 'God exists' as analytic.

Our account of philosophers' confusions makes it

easy to see not only why the ontological argument seems plausible to some, but also why attempts to refute it have been so inadequate. The fact that inadequate accounts of the ontological argument are so widely accepted is, moreover, an index of the e x t e n t of the confusions of which we bitterly complain. For without those confusions the argument would need no special attention, and could be brushed aside in the correct manner. Instead we find a reluctance to admit that 'God exists' can express an analytic truth and the idea that the theist has won the day if such a conclusion is admitted. The upholder of the ontological argument is left with his conclusion which he rightly believes to be necessarily true, but with nobody to point out its triviality to him. Or, rather, nobody points out that the conclusion he has established - the analytic truth - is trivial, whilst the conclusion he gets excited about is still not justified by his argument. Now we have explained 'triviality' in terms of being already known. One can imagine the retort that it is unsatisfactory to say that we already know that God exists (in the sense in which this is analytic). To some our view will seem like excessively non-chalant theism. For such people it is not enough

to distinguish analytic truths from (a) or (b) - they still do not grasp the force of analytic truths properly. The fact is that we do already know that God exists, in the sense in which this is analytic. Just as we all know already that unicorns are unicorns. In neither case is the instantiation of the subject-concept asserted. Just as 'Unicorns are unicorns' does not say that t h e r e a r e unicorns being unicorns, so 'God exists', when analytic, does not say that t h e r e i s an existent entity (of a certain sort) being existent. 'God exists', when analytic, has to be understood in the sense of 'While a thing is God it exists'. (c.f. 'While a thing is an unicorn it is an unicorn'). More will be said on these matters in the chapters on Leibniz and Spinoza.

A minor point which emerges in this connection is that it will not do to say that a statement is analytic if it is composed of a predicate which is a conjunctive constituent of the subject-concept. It will not do, that is, to say so without qualification. This is already clear from a case like 'The king is bald', which has existential commitment to a king. So too for 'God exists'; as normally understood, this asserts the existence of God. Only an overloose definition of 'analytic'

would permit one to say 'God exists' is analytic in such circumstances, even if 'God' is defined in terms of existence. The whole force of a statement has to be taken into account when it is classified as analytic, not just the way in which its concepts are functions of one another. A full treatment of these matters will be found in later chapters, beginning in ch. 8. However, we already know enough to be able to say to those who misconstrue analytic truths that they should not resort to dubious devices to avoid treating the conclusion of the ontological argument in the same way. Bennett, for example, may reject theism only if he produces the very grounds which undermine his own position. The most infuriating aspect of the whole affair is that, ever since Aristotle, philosophers have been muttering dark prohibitions on the use of 'exists', etc. in certain contexts - surely because they knew pretty well that otherwise their own practices would soon be unmasked as outrageous. For, faced with a series of conclusions of the form 'Existent x's are existent', philosophers would soon have had to face up to some distinctions which would show up their techniques for what they are. The ontological argument could have performed the service, but failed to do so.

There was too much at stake for philosophers to have allowed that. Evidently this is no less true today than at any previous time. (Defenders of the ontological argument used to say that existence is not part of the essence of non-divine objects; their opponents tended to say that existence was no part of the essence of anything. But existence i s part of every (existent) essence. The least implausible way of avoiding saying this is to say that it is ill-formed in every interpretation that would serve the ontological argument. But such interpretations are easy to find - e.g. 'it is a fact about essences that they exist.' In any case, nobody can deny that 'If x is existent and F, x is existent' is the form of a set of necessary truths. And this is the sort of thing which our analytic truths about existents mean.)

Let us now turn to a quite different example with, however, the same lessons for us. It is a favourite argument of some philosophers - including Bennett, but not in published work - to suggest that, as it is analytic that death involves an unfeeling state, it is irrational to fear death. But this is a sophistical way of comforting people. People fear w h a t w e c a l l death;

this may not be whatever falls under the concept of death employed in the analytic truth so irrelevantly brought out to meet the fear. The analytic truth needs to be supplemented by an empirical, contingent finding, that the predicate of the analytic truth applies to what we call death. Obviously an analytic truth cannot be seen a priori to be true of any actual object, in the sense of its predicate's applying to any such object. Therefore it is useless as a thesis in any useful inquiry. An analytic truth is true of everything in the sense that if anything falls under the subject concept, then it falls under the predicate. But this trivial sense in which the analytic truth is true of what we call death must not be confused with the substantial sense; that in which it is not a priori clear that the analytic truth is true of (what we call) death.

Some philosophers tell us in so many words that they wish to analyze concepts or arrive at conclusions regarding the meanings of words. They sometimes frame their conclusions in sentences which express analytic truths, but which, also, can express contingent truths about meanings. But one should not assume too easily that such philosophers are free from serious confusions. For one thing, they may say that they mean their statements in

such a way that they are analytic truths about concepts. Then the triviality issue arises again. (C.f. the next chapter and the section of ch. 10 on Lewis, whose 'explicative statements' were supposed to be analytic.) Alternatively, or additionally, the statements of kind (c) (about meanings) may be intended as mere preliminaries to the propounding of analytic truths employing the concepts in question. Then, of course, there is scope for confusion of these analytic truths with statements of kinds (a) or (b). Another possibility is that semantics will be confused with the theory of reference, so that statements of kind (c) will be supposed to lead directly to - to entail - statements of kind (a). (More will be said of this last mistake in ch. 6.)

One or other, if not both, of the last two possible errors must be instantiated in the philosophy of Ryle. Consider Penelhum's account of one of Ryle's views, in 'The Logic of Pleasure' (227):

> "...Ryle has attempted to establish the thesis that most mental-conduct words are used to refer not to private episodes, but to dispositions which manifest themselves in predominantly public performances, and that the traditional

> dualism of Mind and Body...is therefore to be rejected as leading to, and deriving its strength from, a basic mis-description of their use."

This description is supposed to be an uncontroversial characterization of Ryle's thesis. It certainly does capture Ryle's confusions faithfully. Semantics and theory of reference are quite intermingled. 'Use' is used primarily for semantical meaning (intensional meaning) - though, as we shall see, its use among recent philosophers already harbours the seeds of confusion of intensional and extensional meaning - and yet Ryle allows himself an easy transition from data about 'use' to data about the character of the entities of which the terms in question are used. Kenny, in a review of some theologians, says that Ryle "rightly or wrongly" passes from premises about what words mean to a theory of the nature of man. Kenny does not argue for or against Ryle's procedure. But to us it is clear that Ryle is moving from premises involving an intensional use of 'means' to premises involving an extensional use, without noticing the difference. Yet we proved in ch. 1 that such moves can lead from truths to falsehoods. Ryle is just performing the usual age-old conjuring trick. 'Armchair' data about meanings

in the intensional sense are confused with ontological data that Ryle would say are inaccessible to the philosopher. The clearly and distinctly perceived ideas of the philosopher are adjudged to be instantiated by actual entities. And let none object to us that in talking of 'the nature of man' Ryle does not imagine that he is bound to be talking of the creatures w h i c h w e c a l l men. Consider the following quotation from his 'The Concept of Mind' (328):

> "The Newtonian system is no longer the sole paradigm of natural science. Man need not be degraded to a machine by being denied to be a ghost in a machine. He might, after all, be a sort of animal, namely, a higher mammal. There has yet to be ventured the hazardous leap to the hypothesis that perhaps he is a man."

These sentences cannot be stretched so as to read as analytic trivialities! Why bother with passing off analytic truths as profundities, if, in the manner of Aristotle - one can move directly from facts about concepts to facts about essences, straightforwardly expressible in ordinary contingent truths! In this way Ryle surpasses those who offer an 'account of so-and-so', with respect to which it

is unclear whether it is meant to reveal the nature of w h a t w e c a l l so-and-so. Thus one cannot conclude that one who puts the word 'concept' into the title of his work is free from the confusion of ontology and semantics, and has definitely embraced the one discipline rather than the other. (We use 'ontology' in its proper sense, i.e. for the study of the general nature of reality, not for the study of our ontological commitments in thought.) One cannot even safely go by an explicit denial of ontological concerns. As a result of the 'use' theory of meaning, perhaps, a concept comes to seem like an essence correlating with a word. However, we do not simply find an illegitimate transition from concepts to essences; ontological views, such as that mental images do not exist, are translated into (false) hypotheses about what people mean when they use the vocabulary of mind. Thus few people agree with Ryle that dualism is quite absent from ordinary thought and is just 'a philosopher's myth' (16), and it is clear that Ryle was relying on his own psychical nature. (Which also goes to show how many ontological facts are more accessible in the armchair than many facts about meanings.)

Now Ryle, typically, says in the first few pages of 'The Concept of Mind' that he is exposing the

incoherence of the would-be ontological theory, dualism - a 'logical' matter. He argues that if we take mental words in their normal meanings we shall see dualism to be incoherent (a 'category mistake'). This line of argument would not, in any case, lessen the erroneousness of Ryle's method of drawing ontological (and semantical) conclusions, which is just gross confusion. But the line of argument is in itself wrongheaded. For it overlooks the fact that in ontology - and elsewhere - words are not used in their 'normal' senses, but refer in mode (1). A sentence which expresses an incoherent statement (e.g. a contradictory one) when all reference in it is reference (2), does not necessarily do so when it involves reference (1) to any extent. Linguistic philosophers overlook this. Penelhum, typically, uses the barbarism 'logic of pleasure', rather than 'logic of the concept p l e a s u r e ' or 'logic of the word "pleasure"'. But he cannot justify this practice by saying that his investigation rules out saying certain things about pleasure, and so narrows down the alternative beliefs on the subject. For such an assertion would naturally be taken as ruling out saying certain things about w h a t w e c a l l

pleasure on the basis of the content of the concept of pleasure; which would be erroneous. Logic can exclude only incoherent views; which leaves a very large number of possible ontologies to examine. And actual ones, too; for the charges of incoherence generally rest on failure to notice how the language in which the ontology is stated is being used. Dualism, for instance, is obviously coherent if it adheres to a simple inventory of kinds of entity and their identity-relationships. Whether dualism maps on to ordinary language or not is irrelevant to ontology.

Let us pause to state explicitly the inter-relations of intensions (meanings, senses, intensions, concepts, ideas) and extensions (references, denotations, extensions, meanings in the rarer sense). Reference is via intensions; in mode (2), if via 'the' sense of the terms in question, or in mode (1) via the sense 'what we call...'. That is to say, the sense determines which objects it is c o r r e c t to apply a word or concept to. But it does not determine what we a c t u a l l y apply them to - does not determine what we in fact refer to. Thus e.g. the phlogiston theorists referred to inflammable objects by using the word 'phlogiston-containing'. Perhaps it is most usual to use

'extension' of the objects which genuinely fall under a concept and 'reference' of those to which the concept is actually applied. Notice that Penelhum, in the passage quoted above, must be talking about the reference in this sense; he cannot be taken to be talking of the extension: his words admit of no such interpretation. The distinction between reference (1) and reference (2) must not be confused with the distinction between reference and extension. The former distinction concerns the senses via which reference (in a broad sense) occurs whilst the latter distinction is between different ways in which objects may relate to a given sense.

The most ironic case of the fallacies with which we are dealing is provided by the logical positivists' treatment of the issue of whether all necessary truths are analytic. Ayer, for example, insists in 'Language, Truth and Logic' that (70) philosophy is a purely logical activity, and then offers a chapter (71-87) to prove that all necessary truths are analytic. Presumably, then, he regards this conclusion as analytic. But then this entails that the conclusion does not "contain any information about any matter of fact". How then can it guide us in our decisions as to whether to study Spinoza or not? How can it help us to assess

w h a t m e t a p h y s i c i a n s - those we call by that name - a c t u a l l y d o ? Only the information that w h a t w e c a l l necessary truths are contentless could legitimately serve us here. The logical positivists made the very same grave mistake which, if they had thought and looked hard enough, they would have seen to be far more common in actual metaphysics than dubious intuitions of synthetic necessary connections. Perhaps the logical positivists were misled by their Humean terminology of 'matter of fact'. They seemed to overlook that statements about statements divide into analytic and synthetic, just as others do. Thus they overlooked the need to investigate actual cases of metaphysics, to see whether its statements are really of a kind of which it is analytic to say what they said. There can be no substitute for checking over the methodology of each philosopher, piece by piece, to assess it with respect to its acceptability. One cannot safely rule a priori the bounds of possible mental activity; and one should not mistake pointing out contradictions for a more sweeping check than it actually is. 'Synthetic necessity' is self-contradictory on some interpretations, but variations in the meanings of the

terms suffice to remove contradictoriness at no expense to the viability of metaphysics should any of the resultant concepts be practicably instantiable. (Our own criticisms of metaphysics as the pursuit of synthetic necessary truths will be chiefly expounded in ch. 11.) What we are coming to see is that philosophical inquiry has to have a complexity and lack of neatness which would be repugnant to the linguistic philosopher. He prefers to say: 'Well, you talk of necessary truths, and these are bound to be analytic, because "necessary" means...'. In doing so he overlooks the flexibility of our thinking: we are interested in possibilities not easily expressed in ordinary language, and are prepared to modify our concepts to take account of them. Furthermore, from the beginning, we time and again refer to things in ways which are neutral with respect to their character, so that one cannot intervene and say that certain characterizations of them cannot be seriously entertained. Instead of a brusque proof from 'what you must be meaning' - which is often wide of the mark in its diagnosis in any case - an exchange of the following kind is called for. "You talk of synthetic necessities. I cannot see how this can

fail to be self-contradictory." "Well, some of the things we call necessities are synthetic." "Yes, but then we are just talking of contingencies in a misguided way, are we not?" "Well no, there are certain truths which it is irrational to deny, but which are synthetic on the soundest criteria of analyticity." Only now does the proper argument begin! Partly it will be a matter of pointing out logical possibilities, but it will also be a matter of relating these to the human condition, actual and potential; if, that is, one wishes, say, to arrive at a sound appraisal of metaphysics. And the procedure sketched is typical for fruitful philosophy.

Stegmueller ('Der Begriff des Synthetischen Urteils A priori und die Moderne Logik') is one of those who has been on the scent of the logical positivists in connection with the matter of the status of their denial of the existence of a synthetic logical necessity. (He says 'synthetic a priori', but the difference is irrelevant to the present issue. One can add to his definition that the synthetic a priori truths in question are apprehended as necessarily true. We shall see later that this cannot be faulted any more than the doctrine that analytic truths are apprehended to be necessary.) Stegmueller offers the following

definition (548/9):

> "The statement Si is a synthetic a priori statement relative to the system S = Df. Si is a true, logically indeterminate, unrestricted universal statement in S, the truth-value of which is ascertainable."

(By 'ascertainable' we may understand 'conclusively, and by non-empirical methods'.) Stegmueller then points out:

> "Any objection to the above definition, unless it shows it to be contradictory, is either a mere hypothesis, and so logically irrelevant, or else contradictory, since displaying all those characteristics of which it is denied that they can belong to any statement." (549/50.)

Clearly Stegmueller is on the right track. However, what he says is not accurate. 'There are no synthetic a priori truths' cannot be defended as a synthetic a priori truth without one's contradicting the view that there are none. But Stegmueller is wrong in saying that then 'There are no synthetic a priori truths' would itself be contradictory. He accepts that it would not be formally self-contradictory, but he is just as wrong in calling it "intuitively self-contradictory" (on the

ground that the question belongs to unformalized metatheory). (550.) Nor will it do to say that contingent truths are irrelevant as objections to the definition, if one is interested in wider questions of its adequacy. But Stegmueller is really interested in the fact that the synthetic a priori is logically possible; which makes his remark less objectionable. He (562) sees that once one has seen the possibility of synthetic a priori truths, nothing can stop men gaining confidence in certain a priori methods - or just 'insights' - into such truths. Or, rather, nothing can be guaranteed to dissuade them:

> "One can avoid metaphysics only if one does not want it; one cannot argue against it without thereby becoming a metaphysician". (563)

This is correct if one adds 'with the claim to be decisive' after 'one cannot argue against it'; and one should add that certain considerations, such as those in our ch. 11, may lead one not to want to follow certain methods in metaphysics. Of course some will say that the

metaphysician's methods are unjustified or arbitrary. He may say that he is not interested in justification in their sense, but only in a sense in which his methods are paradigms of rationality (in his sense). What counts is what one finds acceptable. A child brought up by a metaphysical father and an antimetaphysical mother can say "Metaphysics is rational, justified in one sense and not in this other sense". ("According to which paradigms one takes.") But this does not settle what the child will actually come to believe - quite the reverse. Thus in doing philosophy - and at some other times - we may be continually aware that the basis of our procedure can be systematically rejected by our opponents. Ultimately it is a matter of brute force. On considering such-and-such data or arguments one finds one no longer believes that which one had believed hitherto. It is a matter of brute force, inasmuch as the forces which determine one's acceptance or refusal of any pattern of thought are non-rational, or ultimately based on non-rational commitment or assumption (almost always the latter). Such is Stegmueller's conclusion, and it is the correct standpoint to adopt, we shall find. Only, of course, we must not let such a n a l y t i c

truths as 'justification has an end' dissuade us from investigating the character of w h a t w e c a l l justification, to see whether our actual practices are touched by the slogans (as modified to be about those practices); nor should we be dissuaded from investigating the feasibility of alternatives to justification in the particular sense used in the analytic truth. (No Austinian plea of the g e n e r a l reliability of ordinary language, in marking real distinctions and being faithful to the nature of things, can absolve us from seeing whether it is so in particular cases; and it is irrelevant in connection with looking for possibilities not enshrined in ordinary concepts. A plea that ordinary language is always reliable, in the ways suggested, is well known to be false. All this obviously parallels the matter of whether confusing analytic truths with statements of kinds (a) or (b) leads to the propounding of materially equivalent theses; the confusions would not matter so much unless they sometimes led from truths to errors.)

There is an article by Johnson which covers some of the same ground as Stegmueller's. It is called 'Denial of the Synthetic A Priori', and is

not as adequate as Stegmueller's. Johnson asks what is the status of the statement that no synthetic propositions are a priori. He argues (257-61) that observation "could never" lead to the detection of a synthetic a priori proposition, on the ground that only sentences, and not propositions, are perceivable. But, as we saw in connection with Plato, we could not get by on the assumption that propositions never reveal themselves to us at all. It is an empirical matter whether certain propositions exist; in the sense that this is not ascertainable from the entertaining of the supposition alone, insofar as this is possible with, say, analytic truths. Nobody needs to identify statements (or propositions) with sentences. Perhaps Johnson is misled by the fact that we directly identify a statement (proposition) by taking (a copy of) it intensionally; this makes the hypothesizing situation unusual. Or maybe his is misled by the 'matter of fact' - 'ideas' formulation of the 'contingent' - 'necessary' distinction. So Johnson is quite wrong in concluding that 'No synthetic propositions are a priori' can only be affirmed a priori. He next infers that the claim cannot be analytic, since analytic claims are 'vacuous', which the claim is not (255-6 and 259-62). To call

analytic truths 'vacuous' is, as we shall show later, going too far, but Johnson is right in saying that no analytic truth can eliminate metaphysics (259-62), though his reasoning is inadequate. As he should have seen from his observation (263/4) that necessary truths tell us what is common to all possible worlds, which is the very reverse of saying they tell us nothing about our own. This very just remark - just if it is understood as including trivialities in what is 'told' us - this very just remark undermines Johnson's claim that analytic truths - which are necessary - possess the property of being vacuous. Thus Johnson's article is too inadequate for one to be able to agree that he has shown empiricism to be self-refuting. It is however true that there are empiricists who refute themselves; Bennett is one, for he champions rationalism as a method whereby empiricism may be established. But Johnson embraces the errors of both metaphysicians and logical positivists in expecting to be able to display empiricism in general as self-refuting. We need not repeat the arguments for saying this.

In the following chapters we shall encounter numerous further instances of the mistake of confusing analytic truths with statements of other kinds. Often, however, we shall simply pass over

the error in silence, in accordance with our method for dealing with it that was indicated in the Preface. The most fertile seed-bed of the mistake, it must be realized, is that in which conceptual (i.e. semantic) issues are thoroughly mingled with ontological ones, whether under an ontological-sounding title (e.g. 'an account of action') or not (as in Ryle's case). However under almost any circumstances there is a natural tendency to mistake contingent ontological truths for logically necessary truths, We begin to feel that it is necessarily true e.g. that w h a t w e c a l l perception involves an object that is perceived. There is a factor at work here which has yet to be brought out, and which will have to wait until chs. 8ff. Meanwhile in the intervening chapters we shall be discussing other matters which have considerable continuity with the present chapter. This is particularly true of the next chapter, in which the issue is still the triviality of necessary truths.

NOTE.

Those who, like Aune in 'Is there an Analytic Apriori?', infer from the premise that necessary truths are necessarilynecessary that necessary truths necessarily exist, make a mistake of the kind discussed in thepresent chapter (e.g. in connection with the ontological argument). They fail to appreciate that their premise lacks existential import when most plausibly interpreted, and does not then entail their conclusion. As to the question of whether their premise istrue - the reason why the question is apparently undecidable will emerge at the end of our investigation.

V

THE PARADOX OF ANALYSIS AND THE TRIVIALITY OF NECESSARY TRUTHS

In the present chapter our concern will once more be with the triviality of analytic truths, rather than with that of necessary truths in general; and this time there will not turn out to be much relevance to the status of necessary truths in general. The overall position will emerge clearly enough by the time we reach the final chapter of our investigation. 'Analytic' and 'trivial' will be used in the same ways as in ch. 4; any qualms surrounding use of the former term will be removed in the next few chapters; for the moment it is sufficient that one recognizes what the de facto reference of 'analytic truth' is. This was sketched at the beginning of the previous chapter, and many examples have already been mentioned. The present chapter will involve the material of ch. 1 a little more intensively than did ch.4. The other key ingredient will be the paradox ofanalysis. We shall be especially concerned with Pap's views, for Pap is one of the few philosophers who has studied the paradox of analysis in relation to the problem of the nature of necessary truth. (Other aspects of Pap's views on logical necessity will be discussed mainly in chs. 14 and 15.) The neglect of the interrelations

of the paradox of analysis and the problem of the nature of necessary truth has been such that the full bearing of the paradox has not always been realized.

Pap ('Semantics and Necessary Truth'; all references to Pap are to this book) - Pap takes usa little beyond the narrow concerns of the usual discussions of the paradox. The usual formulation of the paradox of analysis amounts to saying that statements of the form 'The concept A is identical with the concept B' (where 'A' and 'B' are intensionally used specifications of concepts) appear to be either trivial or false. The reasoning is that if the concept A really is identical with the concept B, then 'The concept A is the concept B' must say that the concept A is the concept A. Pap sees (275) that similar considerations arise in connection with statements of other forms. For instance, if 'pvq' and '-(-p.-q)' are synonymous, is not the assertion of the material equivalence of the two statements synonymous with the assertion that 'pvq' and 'pvq' are material equivalent? However Pap's treatment of this matter is not wholly adequate, since he wishes to generalize the original paradox of analysis into "a paradox of identity" (275):

> "a statement of identity..., it seems, cannot be both true and informative (nontrivial).".

This account is objectionable in more ways thanone.

First of all, the assertion of a material equivalence - we took the example from the exposition of Pap himself - is not a statement of identity (except of truth-values; but Pap would not want to say that the problem arose for all material equivalences). And secondly it is clear that the problems which Hume puzzled over in connection with stating identities in general are not of the same order as those besetting the paradox of analysis. The informativeness of 'He is the same man as the one you saw yesterday' does not have to be reconciled with any fact of synonymy. Anyone wishing to defend the claim that true statements like 'The concept k n o w l e d g e is identical with the concept t r u e , j u s t i f i e d b e l i e f ' are informative, by contrast, has to contend with the facts of synonymy. In short, Pap has thrown up a red herring. The paradox of analysis is generalizable so as to have a wider bearing - but not in the way Pap states. In fact the paradox can be seen to be relevant to all analytic truths. Not only does it seem provable that 'The concept k n o w l e d g e is identical with the concept t r u e , j u s t i f i e d b e l i e f ' is trivial (if true). Furthermore 'Knowledge is true justified belief' seems, analogously, to reduce to 'Knowledge is knowledge'. 'Toes are digits' seems to say that toes are toes or fingers. And so on (including

the example already drawn from Pap). It is clear that the paradox extends even beyond analytic truths in general; it extends e.g. to the conjunction of an analytic and a trivial contingent truth. But we are naturally fascinated centrally by the fact that the paradox extends to all analytic truths; or, to be quite exact, to all those analytic truths which do not seem trivial from the beginning to one familiar with logical truisms. (Even for analytic truths which all would regard as trivial, the paradox of analysis exists in reverse, so to speak, if they are expressed by a sentence synonymous with another which expresses an analytic truth which some insist is informative when expressed by the second sentence.)

Of course even the sentence 'Knowledge is knowledge' expresses an informative statement if it means that what we call knowledge really is knowledge, i.e. true, justified belief (where the latter words involve reference via their dictionary senses). Then 'knowledge is knowledge' expresses no analytic truth. One must not say that 'Knowledge is true, justified belief' is analytic and informative, whereas 'Knowledge is knowledge' is analytic and uninformative, for the bad reason that one confuses the former, but not the latter, with the non-analytic truth just mentioned. It is dangerous to speak of uses of tautologies or of analytic truths when one means to speak of the uses

of sentences which can express tautologies or analytic truths. For it fosters the illusion that we can arrive a priori at a non-trivial thesis. D. Emmet has a paper entitled '"That's that"; or Some Uses of Tautology'. She, however, is thinking of the kind of remark which is

> "vacuous in what it directly asserts"

but

> "communicative in what it indirectly conveys".
> (15.)

('Vacuous' here obviously means 'uninformative'.) So long as a tautologous remark genuinely is being indirectly communicative - and there are doubts about many of the numerous examples she takes - one can speak of the use of a tautology to convey something. Only, of course, that which it is used to convey, if a statement, needs to be ascertained independently of ascertaining the tautology. Some of her examples could more plausibly be taken to involve (reference (1) - using) synthetic statements. She does not arrive at, or discuss, the particular factors in this area which are our concern. Nor is the relevance of her article increased by the fact that some of her examples might be taken to be reminders of genuinely analytic truths - e.g. in situations where we momentarily want, and entertain the possibility of,

the impossible (in one of her examples: that 2/6 be more than 2/6). For this kind of usefulness is irrelevant to triviality in our sense - the sense in which a book's conclusions or findings are adjudged trivial or not. However D. Emmet's article does serve to remind us of two things which matter immensely. A sentence which c a n express an analytic truth need not actually be doing so, even if it is being used in a sense which is neither private nor improper. And even from the fact that an analytic truth has actually been asserted, one must not automatically gather that one is being reminded of a triviality; something else may be going on. These are the general principles which D. Emmet's examples might well remind us of, and the article explicitly reminds us of the second principle. The previous chapter made much of the first principle; the present chapter will make much of both of the principles. As was said, however, the instances of the principles with which we shall be, and have been, dealing are remote from D. Emmet's theoretical concerns, which are with the use of tautology for emphasis, to call for the exercise of common sense or in moral ways. What we shall in fact be arguing is, as may be expected from ch. 4, that it is wrong to deny the conclusion which is argued for

in the paradox of analysis; and that finding its conclusion paradoxical results from errors arising from failure to pay sufficient respect to the two general principles illustrated by D. Emmet's examples.

We are already acquainted with the background to the reluctance of philosophers to acknowledge the sorts of facts which are in question. So we shall ultimately not find it too surprising that philosophers are unimpressed by the rigour of the argument of the paradox of analysis, and are unimpressed by the obviousness of its premise. They have no hesitation in saying that the conclusion that analytic truths (or: the truths covered by the paradox in its original form) are trivial is absurd. Pap is no exception to this: he dashes straight into attempts to 'solve' the paradox (276), which, for him too, takes the form of trying to avoid having to draw the undesired conclusion; as we shall see in a moment.

Let us, like Pap, follow Lewis in using the term 'explicative statement' of statements of the form 'The concept A is identical with the concept B' (where 'A' and 'B' are intensionally used expressions). Let us use 'explicative statement (1)' in the case where reference (1) is employed (on the left-hand side of the identity-ascription); and 'explicative statement (2)' when only reference (2) is employed. For the fact

that 'A' and 'B' are used intensionally in explicative statements does not make them any different from other statements when it comes to the distinction between reference (1) and reference (2). 'What one calls the concept A' does not mean the same as 'The concept A'. Now in the present connection 'the concept A' functions analogously to 'the whale' in 'The whale is a mammal'; so that explicative statements (2) lack existential import. They are in fact analytic when true. For, when true, explicative statements have synonymous left- and right-hand sides. Pap denies this analyticity. We shall examine and reject his reasons for this denial in ch. 14. Of greater interest is the Fregean claim that the left- and right-hand sides are not synonymous. Pap does not accept the Fregean account. He rejects it on the odd ground that "the sense-denotation distinction is irrelevant to" some versions of the paradox of analysis (277). This is at best a begging of the question. He adds (277/8) that the sense of 'sense' is obscure. No doubt it is, but that is troublesome in many other areas. He would have been nearer the mark if he had said that it is completely unclear what is the sense of 'the concept A' (where 'A' is used intensionally). Then one might be on the way to seeing, as we did in ch. 1, that the search for a sense via which an intensionally

used expression denotes is misguided, if one is seeking an intension distinct from the sample of the sense denoted. Pap rejects Carnap's 'solution' of the paradox of analysis much more soundly (289-90). He sees, crucially, that Carnap's concept of intensional isomorphism yields a concept of synonymy according to which an elementary predicate can never mean the same as a compound one. And that makes it absurd to propose the concept of intensional isomorphism as a concept of synonymy.

Pap's own proposed 'solution' of the paradox of analysis is (290):

> "simply that the principle of substitutivity does not hold without restriction for analytic synonyms".

Inevitably this solution is far more counter-intuitive than the conclusion of the paradox of analysis. Pap's 'cure' is just more of the disease which the argument of the 'paradox' of analysis ought to cure. He defends it on the ground that (291)

> "it has already been recognized that substitutivity of identity must be limited in nonextensional contexts.".

The practice which Pap advocates, and the nature of which is obscured in the above formulation, is nothing less than refusal to allow 'analytic synonyms' to be sub-

stituted for one another. Now in contexts where language is used autonymously one cannot substitute words with the same meaning, but only because they are not being used in that meaning when they are being used autonymously. If one takes the meaning which the autonymously used word has in the special context - and that is obviously what counts - there is no failure of substitutivity of synonyms. So too in intensional contexts. If we have genuine synonyms, interchangeability must be total. Not surprisingly we find Pap easing away from saying that the left- and right-hand sides of explicative statements (2) are strictly synonymous. He suddenly speaks of "analytic" synonyms (c.f. the above quotation) and replaces "identity" by "L-equivalence" (291). Yet (290) he has just criticized Carnap for missing the point that explications are identity statements! (Of course Pap does not distinguish between explicative statements (1) and explicative statements (2). But - c.f. our ch. 14 - he does mean to be talking about necessary truths, though he denies their analyticity.) In short, one can scarcely throw doubt on the interchangeability of words without throwing completely justified doubt on the claim that they are functioning in the same way and are synonyms. And, as we have just seen the tension reveals itself in

Pap's own exposition. (Pap has the additional argument that his solution removes many further puzzles; such as the fact that 'I know that bachelors are bachelors' seems to entail 'I know that bachelors are unmarried men' (291). We shall see why to accept this entailment when we see (below) why to reject Pap's account.)

Philosophical perplexity over the paradox of analysis - and the errors surrounding the perplexity - spring from the philosopher's and the logician's age-old intoxication with, and tendency to the mishandling of, logical necessity. Consider the following quotations from Pap (292):

> "I do not see that the claim that the discovery of adequate analyses of meanings properly belongs within the province of empirical linguistics is any less paradoxical than would be the claim (which such a cynic would likewise have to make were he consistent) that logicians should seek the linguists' help in trying to decide which propositions entail which."
>
> "Like entailment statements, statements of analyses are, if true, necessary, and accordingly could not be invalidated by such contingent facts as changes of linguistic usage."

Thus Pap is one of those philosophers who are more

extravagant than those who simply advocate the pursuit of analytic truth. Pap wants the statements about concepts which we use to validate analytic truths also to be necessary. He, unlike Lewis, does not see these metastatements as analytic. Which is just as well, since otherwise his view would lead straight to an infinite regress: we should need an analytic meta-metastatement to validate the metastatement, and so on ad infinitum. It is less clear that this is so if a non-analytic metastatement is envisaged. (This would have been a better argument for Pap to use against Lewis than we shall see Pap using when we reach ch. 14.)

Perhaps the best way to begin clearing up the mess is to begin by considering the inference from

(i) Jane is a vixen.

to (ii) Jane is a female fox.

To justify this inference, someone might say that

(iii) A vixen is a female fox (in its analytic sense).

(iii) would be more likely to help someone who could not see the deducibility of (ii) from (i) than would

(iv) A vixen is a vixen (in its analytic sense).

What this illustrates is that during inference we rely, in fact, not only on the meaning of the necessary truths

appealed to but also on their being couched in language which reveals to us which concepts the words in the argument actually express. An old man who had not used the word 'vixen' for years would be reminded by the wording of (iii) that 'vixen' means female fox. (iii) does not s t a t e that - or else it would be contingent - but it does remind one of it, in the context of deductive inference, or merely through association of the sound of the subject-word with the meaning of the predicate. Even (iv) could serve as a reminder of word-meanings. More clearly than the sentence of (iii) alone (which, in English, is indistinguishable from a sentence only expressing synthetic statements), the sentence of (iv) hints that deduction is in progress, and prompts the disoriented to see the sentences of (i) and (ii) as synonymous. Analogous considerations apply in formal logic: it would be unnatural to justify the inference from 'pvq' to '-(-p.-q)' by reference to 'If pvq then pvq', even though 'If pvq then pvq' is synonymous with 'If pvq then -(-p.-q)'. One with a good grasp of the propositional calculus would find the reference to 'If pvq then pvq' more natural and illuminating, though, than one who had a poor grasp of the calculus. Similarly, (iv) is all that is needed to JUSTIFY the inference of the statement (ii) from the statement (i);

but (iii) is needed to FACILITATE (appreciation of the correctness of) the inference among those with a poor grasp of the terminology expressing (i) and (ii).

So we are not going to say that Pap (and others) must be confusing explicative statements (1) and explicative statements (2) simply. Still less that the paradox of analysis depends on confusion of analytic statements with statements of kind (c) (in the classification of the previous chapter) - which is what Aune says in 'Is There an Analytic A Priori' (287/8). Aune is right in saying that informative contingent truths are confused with trivial analytic truths in the case of the paradox of analysis, but he is wrong in suggesting that it is just a question of the ambiguity of sentences such as that of (iii). After all, an explicative sentence is not generally expressed by such a sentence - though even that is possible. In fact there are two main errors. One is indeed the confusion of explicative statements (1) and explicative statements (2). The other is failure to distinguish the facilitating and the justificatory functions of analytic truths; in connection with the paradox of analysis and the validation of analytic truths this second main error occurs particularly with respect to explicative statements (2).

When one makes an explicative statement (2) one states a triviality. This is useful if one wishes to remind oneself of a necessary truth on an occasion when its use is called for - chiefly in inference. Simultaneously, by the words one uses to express the triviality, one may be providing hints about the meanings of words expressing statements which one is to deal with (in inference, say). Analytic truths (when verbalized), one may say, d i s p l a y conventions - though in a much more complex sense than that in which apples are on display at the greengrocer's; for the meanings hinted at are not literally perceptible in the marks or sounds that constitute the words. (When logic is completely formalized, however, no 'hinting at meanings' is involved in the actual process of inference; for matters are organized so as to make it safe to rely on visible forms.) In everyday inference, the information about meanings which is hinted at in the uttering of an analytic truth is generally just as trivial as the analytic truth itself. For one knows the meaning, and merely needs to be reminded of it. Only if one does already know the meaning can it effectively be hinted at by the uttering of an analytic truth. If the meaning is unknown, then a (contingent) statement about meanings is called for; this may take the same verbal form as the analytic

truth. Where an inferential step is straightforward, the analytic truth may not actually be uttered, though its truth is a condition of the validity of the inference. (Conventionalists' objections to our distinctions will be dismissed in ch. 7.)

Now it is important to realize that the information about meanings, which we are describing as being hinted at during utterance of analytic - including explicative (2) - statements, is not itself necessary truth. The semantic information which (iii), for example, needs to hint at, and is meant to hint at, is semantic information about the concept vixen u s e d i n (i). And now 'the concept...' is not being used like 'the whale', in the earlier example. The explicative statement (2) that the concept vixen is identical with the concept female fox could not serve to tell me or to remind me which concepts occur in (i). But may it not, in turn hint at it? Well yes, but our point is that, whatever the vehicle, the information ultimately hinted at is of an empirical and contingent character. Trivialities remain trivialities, whatever their additional rôle. This is what Pap, and others, do not wish to face up to. Information does not become analytic or a priori simply by being hinted at by the verbalization of a truth which is analytic and a priori. Information about

meanings is ascertainable, to some extent, from the armchair; but not by a process of validating analytic truths. That is to say, one can entertain concepts and trivial analytic truths about meanings a priori, but as soon as one uses one to hint at something non-trivial, one entertains a statement which is not ascertainable with (or from) the analytic truth one has in mind, nor from any other analytic truth; although that informative statement may be verifiable by an experiment on oneself in the armchair (e.g. asking oneself 'What should I say if...)'. Pap wants to pretend that the informative contingent statement hinted at shares in all the properties of the analytic vehicle - apriority, necessity, certainty - while at the same time being free of its undesirable properties - triviality, lack of known relevance to any actual instance of the subject-concept. Just a special way of having the dangerous illusions exposed in ch. 4!

We have already noted that an explicative statement (2) - or any analytic truth - is fitted to hint only at semantic facts of which one is already aware, in a dispositional sense. The hinting is too indirect and subtle to initiate one into meaning of words one has never grasped before; since, as we have seen, analytic truths do not always correspond closely to semantic

truths in their verbal expression. This suggests that not only do philosophers confuse what is stated and what is conveyed in a hint; furthermore they will be confusing explicative statements (2) with explicative statements (1). Unless one takes it that linguistic philosophers really are just issuing reminders of facts about meanings that we all know already. For then an explicative statement (2) would suffice to convey the hint. Only that would be a very bizarre way of conveying the contingent information outside a context of inference, for, once the relevance of the analytic truth to inference is not involved, it is more natural to state the contingent information directly. As is clear from what we have seen in this chapter and from what we shall be seeing in ch. 14, Pap has the conveniently naïve notion that all statements about concepts, as opposed to words, are a priori and necessary; (c.f. especially the two previous quotations from p. 292 of 'Semantics and Necessary Truth.') But obviously statements to the effect that o u r concept of so-and-so is such-and-such are contingent; and such statements are at issue in ordinary language philosophy. We, on the other hand, wish to reach a d e q u a t e concepts; and it is clear that adequacy is contingent on the nature of things. Others seek 'fruitful' concepts - again

scarcely an a priori matter. (One must not get confused when the 'things' in question are themselves thoughts. They are accessible from the armchair; but not in analytic truths.) Of course one can just set out the analysis of a concept and say 'here it is'; but that is not an explicative statement. Nor are answers to our questions, about which concepts are adequate to their objects, explicative statements. With us, the statements are about the concepts extensionally - of so-and-so. And the linguistic philosopher should resist begging questions by saying 'our concept extensionally - of so-and-so' (where there is an extension) or else 'the concept expressed by the word....'. One c a n just say 'I hereby specify the concept of so-and-so...' to introduce a concept to be talked about. Only, one will utter trivialities if one does not relate the concept to something else, in contingent statements. For nobody wants to disagree with explicative statements (2) once they have been understood. And what is unknown prior to understanding is a set of contingent facts about what is being asserted. We should never disagree with an analysis of a concept which is neither self-contradictory nor a contingent claim; though we may have difficulty in seeing which analytic claim is being made. All the things we said in the previous chapter apply again here. Pap himself, we shall see in ch. 14, is caught

in confusion between our type of inquiry and the linguistic philosopher's. One thing he never does is analyze a concept without any concern for relevance to actualities. That is a purely theoretical nonsense of his.

The following also needs to be said in reply to Pap (c.f. the above quotations). Logicians save themselves from triviality in a variety of ways, involving a relevance of what they do to actualities. We cannot always appreciate at once even the force of the most commonplace sentence. Logic emphasizes the forms to look for when we are interested in logical relations, tries to develop general rules which will serve to remind us of what we need to apply in almost any context, and develops formalized languages which can demonstrably be safely used in inference when operations are performed solely on the basis of perceptible features of the symbolism. All these functions of logic involve a catering to the difficulty that men have in seeing w h i c h statements sentences express. If one asks why logicians work with the usual symbolism of the propositional calculus, rather than with Sheffer's stroke alone, the answer lies in the area of practical facility. In a formalization of some logic hitherto finding expression only in ordinary language, the difficulty will be in seeing whether one has captured the sense

of the sentences of ordinary language adequately. (Of course, one may not wish to do so exactly. Then the enterprise must justify itself in some other practical way unless only aesthetic satisfaction is the aim. E.g. one might be developing a less vague and more perspicuous language, or one in which inferences can safely be drawn on the basis of the perceptible features of the symbols alone.) Another possibility is that the logician presents his system and says 'This exhibits the logic of such-and-such an area of ordinary language' - a contingent claim. Or he may claim 'Here is a more economical way of systematizing such-and-such a part of logic.'. It is again a contingent matter whether w h a t h e o f f e r s is related as he says to w h a t a l r e a d y e x i s t s - one has to look at the systems, not entertain a set of analytic trivialities. (c.f. the remarks just about to be made on metalogic and metamathematics.) The logician may just offer a system without making any of the claims for it which we have considered. But then the system will be of interest only if it nonetheless initiates us into a language which will be useful to us in some way (e.g. we may discover a way of thinking which enables us to think more adequately about a certain subject-matter).

In short, the view of logic as a set of necessary theses is just as misleading as thinking that a psychologist is putting forward necessary truths when

he publishes a list of analytic truths under the title 'Analytic truths appealed to by ten-year-olds.' The logician who claims to capture an area of ordinary discourse is very close indeed to the activity of the psychologist.

Metalogic and metamathematics are of particular interest in the present connection. The importance of the results in these subjects does not lie in the necessary truths in which the results are misleadingly embedded. One cannot point to metalogic or metamathematics and say 'Do you still say that necessary truths are trivial?' The mistake of one who issues this challenge is just the same as the mistakes outlined in the previous chapter - only the field is different. Some of the factors mentioned in the previous paragraph are relevant in the case of metalogic and metamathematics as well. But the key point is as follows. Suppose that the theorem proved has the form 'Such-and-such a calculus has the property of being so-and-so'. (Analogousconsiderations apply to theorems of other forms.) Then the theorem lacks triviality, as a thesis, only on the assumption that w h a t w e c a l l such-and-such a calculus has the property of being so-and-so; a contingent matter. The necessarily true theorem does not itself suffice to justify regarding, say, the system of 'Principia Mathematica' - the system in that book - in a certain

way; one requires the additional assumption that the system in the book falls under the concept of it employed in the metatheory. (We are not of course saying that there need be any doubt about the truth of such an assumption.) When I think a theorem of metalogic I d o n o t thereby immediately survey the system of logic to which I later take the theorem to be relevant. My concept of the first-order system stands in a mere representative relation to (instances of) the first-order system itself. I may be supposed to be working from an exact copy of (the instances of) it, but I may not be doing so. If I say that I am talking about any systems which would fall under my concept, I relapse into triviality; (though it may be difficult to grasp w h i c h triviality). To escape these conclusions one has to be an Idealist of Plato's kind, just as for any other field that necessary truths may be about (c.f. chs. 2 and 11). But we have seen what is wrong with Plato's escape route; it is the same defect as besets any reductionist's attempt to overcome difficulties arising from transcendence of data by an object of belief. Apart from this complication, our argument works for all the ways of construing the nature of logical systems and of our thoughts about them, whether nominalist or platonist - as can readily be seen.

The position is somewhat complicated by the fact that one may be discovering e.g. that one had an aim which it is logically impossible to achieve. 'I want a system combining such-and-such properties', one may declare. Suppose one is hereby wishing for the impossible. One may not realize it. Expressing the aim in a more complicated, synonymous sentence may enable one to realize it. (But this revelation is different from, and does not entail, the information that the system we refer to as having such-and-such a property (e.g. as being such-and-such a calculus) lacks the other property in the combination of properties we were aiming for.) Wittgenstein used to say (c.f. e.g. Moore's account of his 1930-3 lectures) that when we say we want to perform a geometrical construction later judged to be logically impossible, we did not really originally have the impossible aim. But why say that? Why not say that at first we did not realize that we were entertaining the impossible? The situation is really analogous to that in which we are given a long list of statements and are asked to say which imply which. The real difficulty is in grasping their force in the right combinations. There is no need to say that we are at first ignorant of certain analytic truths which logic later reveals.

In fact some of the logical relationships might

be so simple that nobody would be tempted to say that we did not already know them to hold; it would be clear that the failure was to see what was being said by the sentences at any given moment - a contingent matter, and the one that logic actually helps us with; in ways already mentioned.

It is clear that the logical positivists had some insight when it comes to the question of the rôle of logic. They saw the importance of such matters as the particular verbal dress into which trivial analytic truths are put. We may agree with some of the views which led them to say such things as that

> "A being whose intellect was infinitely powerful would take no interest in logic".

(This quotation is from Ayer's 'Language, Truth and Logic' (85/6), and, as he acknowledges, closely follows earlier pronouncements of logical positivism.) Hahn ('Logik, Mathematik und Naturerkennen') clearly saw that logic often involves an inference from one statement to another identical with it except in respect of its verbal expression, and that in other cases the step guaranteed as necessary is trivial, and the value of it, except qua reminder, is in revealing certain contingent matters of the kinds we have spoken of. (The logical positivists did not however appreciate the special points about metalogic

and metamathematics.) In a sense, then, the instinct of the logical positivists, that the business of logic is language, was quite sound. Only we shall disagree with their view that the trivial analytic truths, which logic actually states, completely drop out of the picture. They remain conditions of the validity of inference, and they remain truths which do not treat of language (only). (c.f. ch. 7.) The logical positivists thus missed the important point that importance never attaches to the necessary truths themselves, which logic and philosophy are apparently the affirmation of.

Perhaps at this stage we scarcely need to point out further how insensitivity to the intensional use of language can obscure the truth in the matters which we have been discussing. The expression 'the concept of so-and-so' can be taken in so many different ways when the alternatives described in ch. 1 are combined with possibilities of interpretation noted since then in connection with reference (1) and reference (2). So too with the expression 'propositions (statements) about so-and-so'. It would take us too far afield to draw out in full detail the metaphilosophical relevance of our findings. Let us content ourselves with a few suggestive examples.

How for instance can the Wisdomian diagnosis of metaphysics seem so complete and decisive to some?

A. Wisdom shows us (passim) a series of p o s s i b l e mistakes in the conception of the logical relationships of data to ordinary beliefs, such that making these mistakes could lead to illfounded scepticism, transcendentalism, postulation of intuitions, and so forth. We may take the case of perception. If one mistakes the logical relationship of statements about sense-data to statements about physical objects, then one may erroneously embrace scepticism by failing to appreciate the evidential relationships properly - may one not? Yes, anybody m a y make such a mistake. But notice how certain confusions, that we have been concerned to expose, make it seem more certain that the Wisdomian diagnosis of metaphysics is correct than is in fact justified. Any metaphysician with any soundness and seriousness of purpose in him will try to illuminate the human condition. That is, in the case of perception, he will try to determine whether w h a t w e c a l l sense-data (experience) has a character such that our beliefs in physical objects can be justified by reference to actual empirical data - or can be shown to be compatible with actual empirical data. Thus if the metaphysician says "The data of experience do not justify belief in physical objects", he will mean that the character of w h a t w e c a l l sense-data is such that adequate reports about them do

not justify belief in physical objects. No metaphysician worthy of the name casts doubt on (or, alternatively, certifies as adequate) premises which are not grounded in the situation as it is; to do so would be trivial. Thus Wisdom, too, must, to be relevant, aim to discuss the logic of premises extensionally - about w h a t w e c a l l sense-data; and not the logic of

(1) premises extensionally-about sense-data,

or (2) premises intensionally-about what we call sense-data,

or (3) premises intensionally-about sense-data;

- except that formulations (1), (2) or (3) become appropriate on condition that the adequacy of the premises to w h a t w e c a l l sense-data has been established. This ontological step is already mentioned in the formulation which we have approved as being of a methodology relevant to a diagnosis of serious metaphysics. For to discover whether one is discussing the relevant premises one has to know how things are. The senses in which it is a matter of course that premises about sense-data are under discussion are not ones in which the premises are known to be relevant. Thus the plan to circumvent metaphysics by pure logic, or by logic plus semantics, fails, and we are left only with a catalogue of

possible errors in inference. (Our argument is obviously independent of what these possible errors are stated to be. Note also that we have been indicating reference (2) simply by the omission of the prefix, 'what we call'.)

In the preceding paragraph we alluded to "the plan of circumventing metaphysics by pure logic, or by logic plus semantics". For, of course, the plan might be either to discuss the logic of whatever statement is before one's mind when one says such-and-such a sentence, or else to discuss statements k n o w n to have a certain currency (e.g. known to be the ones ordinary people rely on). If the plan involves pushing back apriority to the point of working with explicative statements (2) (only about propositions instead of concepts), then, of course, as we have seen, the plan reaches a new height of fatuousness. It is indeed not without interest to discuss the logic of ordinary statements - empirically known to be such - and it only becomes improper when pursued as a method of diagnosing metaphysics (in the sense of ontology). Actually, as in the case of Ryle and others, one may doubt how far Wisdom really chooses the statements he discusses without an eye on their adequacy to the facts. For some of the concepts said to occur in them - 'sense-datum' for

example - seem too refined to be ascribable to non-philosophical discourse. Thus there is a tacit reliance on the conceptualizing achievements of the very discipline supposed to be shown to be confused and wrong. As usual, we have in Wisdom an ambivalence which freezes ontological reflection and enables the 'common sense' outlook, which is favoured, to be passed off as somehow necessarily, inescapably, correct. We have wished to show the method by which such confusion regarding the true character of necessary truths is achieved. Once the confusion is dispersed, anybody can see the importance of work which checks, and improves on, the usual ways of conceptualizing the facts of perception (to take our present example). Particularly as it is, in fact, the case that concepts introduced by earlier philosophers are needed before one can frame the statements needed for any kind of philosopher's inquiry. (For e.g. the general concept of the sense-datum is, to this day, not a concept employed by the plain man.) Some philosophers would laugh at the idea of our conceptualizations of reality being astray. But they forget how vast changes have occurred and are occurring and - like Ryle on the concept of mind - they deviate from ordinary conceptions themselves; and give false accounts of them. We shall discover an interesting case of these phenomena in ch.

6, in connection with the idea of meaning.

Let us next note another telling network of confusions in Pap. We shall see a confusion underlying the confusion of explicative statements (1) and explicative statements (2), a confusion about conventionalism, a confusion about the way we validate analytic statements, and associated confusions.

Pap follows C.I. Lewis in introducing an 'explicative' statement as a definition mentioning concepts only and symbols not at all. It thus stands in contrast to syntactic as well as to semantic definitions. Now Pap works with the Frege-Quine definition of analyticity, and he identifies the class of statements determined by the definition of 'explicative' with the class of statements used in the reduction of 'extensional' analytic truths to identities. Thus we should note how acceptance of the Frege-Quine definition determines what rôle is assigned to definitions (namely, transformation into an identity or some other logical truth); and we should note also Pap's acceptance of C.I. Lewis's contention that the necessary transformational definitions are neither syntactic nor semantic, but explicative.

Unfortunately, Pap leans so heavily on C.I. Lewis that he imports several of his muddles into the text. The first sentence of section B of his ch. 5 reads:

"In criticizing what he calls the 'conventionalist' theory of analytic truth, Lewis emphasizes that the d e f i n i t i o n s which give rise to analytic truth in the epistemologically important sense are not arbitrary stipulations but explications of meanings." ('Epistemologically important' analytic truths are ones using ordinary meanings.) Here we have an illicit play on the ambiguity of 'explicative', which is introduced to name a kind of definition, but which is also associated with the analysis of ordinary meanings. Philosophical explication deals with ordinary rather than with stipulated meanings; but there was nothing in C.I. Lewis's definition of 'explicative definition' to restrict it to statements about (ordinary) concepts as tied to their ordinary (or usual) symbols. In fact, both arbitrary stipulations and explications of meanings 'give rise to' e a c h analytic truth - though in different senses. Arbitrary stipulations bring it about that certain marks express analytic truths and certain marks express synthetic truths. The arbitrary stipulation may occur now or in the past - this is not as fundamental a difference as linguistic philosophers like to pretend. In some cases, perhaps, one may wish to speak of shifts and growths rather than of stipulation; but many an 'ordinary meaning' is one that h a s b e e n stipulated in the past; and many a stipulated meaning is one that w i l l

b e 'ordinary' in the future. Explications of meaning 'give rise to' analyticity in the sense that their truth is a necessary condition of it; but it needs only the bare mention for it to be seen that one can make a statement purely about the concepts involved - i.e. which is explicative - when the concepts have been connected with their symbols by stipulation now or in the past, by gradual shifts or in any other way, and hence whether the meanings are in any sense 'ordinary' or not. Thus Pap's first sentence is dangerously confused: 'true by arbitrary stipulations' and 'true by explications of meanings' do not determine mutually exclusive classes of analytic truths. To make them do so, we have to give them meanings having nothing to do with C.I. Lewis's classification of definitions.

Pap says that C.I. Lewis concludes from the (muddled) considerations we have just criticized that analytic truth in virtue of explications is "not relative to linguistic rules at all". But this conclusion is founded on what we saw to be an ill-conceived notion that 'epistemologically important' analytic truths 'arise from' facts about concepts rather than facts involving language. To repeat, in all cases of analyticity both kinds of fact enter the picture; if Lewis wishes to say that the language is only a device for putting us in touch with the fundamentally important

facts concerning concepts, then this is true of a l l analytic truths, including those arising from on-the-spot stipulation; for, once the equivocation over 'explication' is exposed we see that precisely similar senses of 'relative to language' apply to all analytic truths. Not surprisingly, in these circumstances Pap cannot make much sense of Lewis's 'anticonventionalism'; "It appears, then, that Lewis' thesis of the nonlinguistic character of analytic truth is merely a corollary of the truism that the truth-value of a statement S does not depend on the existence or nonexistence of state of affairs p unless S asserts the existence or nonexistence of p." In a footnote Pap adds: "This reductio ad trivialitatem should be regarded as a critique of the 'conventionalists' (be they strawmen or real) rather than a critique of Lewis". Certainly conventionalism is ridiculous (because trivially true) when it is made equivalent to the doctrine that the meanings used in analytic truths are conventionally attached to their symbols; for this doctrine is equally acceptable for any meaningful utterance whatsoever and is thus easily seen to constitute no formidable theory of analyticity. However, Pap is too extreme in his claim, as 'conventionalism' might consist in holding that necessary truths a r e conventions or to be explained solely in terms of conventions.

That is why Lewis's 'anticonventionalist' slogan is somewhat odd. He explains logical necessity purely in terms of meanings, which one might hold to be conventions. No-one with sanity would claim that relations holding among meanings, conventionally assigned to symbols, are themselves conventional, in the sense of their failing to subsist till created in addition to the meanings.[1] Of course the existence of these relations depends on meanings' having been conventionally framed; it is this fact which makes one suspect that Lewis's difference from at least some conventionalists is not really great and that his 'anticonventionalist' label is misleading. What Pap and Lewis do not l i k e is the fact that one relies on empirical information about meanings in arriving at the conclusion that an analytic truth is being uttered. Their antipathy leads them into the tangle of errors which we have been noticing. By the time an explicative statement (2) can be seen to be extensionally-about the analytic statement to be validated, its analytic character must already be apparent (possibly from what the explicative statement (2) has hinted at - we do not say the explicative statement (2) will be useless in this way). And not only does the explicative statement (2) come to be seen to apply too late; furthermore, what it says is of no help any way. What I need to know

in validating an analytic truth is that this first concept is such-and-such a function of this second. (I also need to know additional facts about the statement - as became clear after our discussion of the ontological argument in ch. 4.) I do not need to know the self-identity of a concept. Or, rather, I take it for granted, along with all the other infinitely many necessary conditions of the obtaining of a state of affairs. (Just as I take for granted that if p, then it is true that p, and it is true that it is true that p, and so on ad infinitum.)

In one sense of the words which follow it is analytic that it is analytic that vixens are female foxes. For analyticity is a feature of the proposition given by 'that vixens are female foxes', so that it is as if the concept of analyticity were a conjunctive constituent of an ordinary concept. But the fact that it is analytic that it is analytic that vixens are female fóxes does not help me, even when called to mind, if I want to discover whether what we call the proposition that vixens are female foxes is analytic. And that is the only sense in which it is not trivial to say that it is analytic that vixens are female foxes. (Notice that if necessity is not a feature wholly inherent in - given with - propositions, then it is not, on any interpretation of the words, analytic that it is necessary

that vixens are female foxes. We are talking, here, of the case where 'that vixens are female foxes' gives a proposition rather than specifies a fact. But no statement that a state of affairs is necessary will be analytic either, for to mention a state of affairs is not to mention its necessity; unless, of course, the state of affairs is not merely said to be necessary in the predication but is also specified as necessary by the subject-term - in that case an analytic truth would sometimes occur.)

It is interesting that Pap (270-5) equates explicative and real definitions with one another, claiming that

> "These sentences are used to assert n e c e s s a r y c o n n e c t i o n s of attributes, not empirical generalizations about particulars characterized by the attributes." (272).

Note the use of 'attributes', ideal for equivocating between 'essence' and 'concept'. An example of a real definition offered by Pap is (271):

> "'to be a circle is to be the locus of all points equidistant from a given point'".

Now this can be interpreted either as an explicative statement (about concepts) or as a statement about essences. It is usual to restrict 'real definition' to statements which adequately record the nature of

what we call so-and-so. As we saw, it is true that the Ancients confused real definition with explication (1), explication (2) and semantics, but we now have other terms to describe definitions belonging to these other disciplines (explication (2) is of course a pseudo-discipline). Pap is simply repeating the errors of the Ancients in equating real definitions and explicative statements (2). As to the illusion that real definitions (of essences) are logically necessary - that will be dealt with in ch. 8 of our investigation.

It should now be abundantly clear how we are to unmask the errors contained in such passages as the following (273/4):

> "A type of question characteristic of analytic philosophy is the following: which of a specified set of terms are d e f i n a b l e in terms of which? Or, which is the smallest subset of a given set of terms that is sufficient to define all the other terms in the set? Or, is 'A', within a specified logical system, definable in terms of 'B', or 'B' in terms of 'A', or perhaps both? These questions pre-suppose, to be sure, that the relevant terms have fairly fixed meanings in their everyday or scientific usage." (273)

A red herring! The words have to have meanings, but it

does not matter how long this lasts. More importantly, the logician has to k n o w the meanings - know which meanings go with which signs, and vice versa (contingent matters). Pap continues (273/4):

> "But given these empirical presuppositions, the questions of definability are to be answered a p r i o r i , not by any sort of interviewing of people with representative speech habits."

A false dichotomy! The logician relies on his own knowledge of the language a n d s u p e r i o r s k i l l i n s e e i n g w h i c h c o m b - i n a t i o n s o f w o r d s e x p r e s s t r i v i a l i t i e s (in the present case, identities). For what do we ask of the logician? Will it do if he says 'The way I grasp these words makes my result necessarily true'? No, he must get things right relative to the way the words are actually meant. The logician's skill - the skill of those we call by that name - depends partly on the fact that not all synonymous expressions are verbally introduced as synonyms. That is to say, if people hear 'bachelor' defined in terms of 'unmarried man' it will be easy for them to grasp completely and confidently when a triviality is being expressed by the words. But 'bachelor' could be introduced in such a way that it

came to mean the same as 'unmarried man', but without this equivalence's having been verbally established (e.g. a mixture of vague explanation and ostension might be used). Then, in practice, the plain man will have difficulty in spotting the synonymy of the expressions. Hardly anyone learns 'brother' by hearing 'male sibling' in the teaching process; but it comes to mean the same as 'male sibling'. That is why interviews are not advisable; (and also why some investigators who rely on interviews can be said to have a misplaced faith in their efficacy in revealing the truth about meanings). Inadvisability of interviews does not entail apriority!

We have still not finished noticing Pap's confusions. A very telling passage is the following (274):

> "Now, the central difficulty with the concept of real definition is how we can maintain b o t h that the definition expresses a n e c e s s a r y proposition and that definiendum and definiens stand for d i s t i n c t attributes."

We might well ask how a real definition could be t r u e if it asserts the identity of two different entities. But Pap avoids this paradox by switching to the claim that only a logical equivalence is asserted (274). How misleading to use the term 'real

definition' in such a connection! But the truth is, of course, that Pap is simply radically confused. A difference in the words expressing a given concept is mistaken for a difference in the concepts, and, as such an upshot is absurd where the very assumption is that the concepts are identical, we find Pap taking refuge in the word 'attribute'. (We have already noticed that a confusion of essence and concept is also at work in Pap's mind.) A further result of Pap's confusions is that he rejects the sharp 'analytic' - 'synthetic' dichotomy in a thoroughly misguided way:

> "the view that synonymy is graduated entails that analyticity is graduated....since we have seen that solution of the paradox of analysis requires abandonment of i d e n t i t y of analysandum and analysans in favour of s i m i l a r i t y of varying degrees, we implicitly already assented to this consequence" (298/9).

Well if the concepts are not really identical you do not have an analyticity! And does Pap mean to say that a word might not have been defined by some complex expression centuries ago, have retained its meaning till now, and so have been able to enter into the expression of an explicative statement (2), thus giving rise to all the problems which Pap now seems to wish to say are to

be eliminated by a denial of the existence of strict synonymy? Of course Pap could not seriously wish to exclude such a possibility. The truth is that he wants to affirm and deny strict synonymy in the same situation. No 'paradox' of analysis arises till we a s s u m e strict synonymy of diverse expressions, so that to say that i n t h e s e p r o b l e m a t i c c a s e s we do not have strict synonymy at all really is hopeless, unless one is prepared to exclude strict synonymy of diverse expressions in principle. And if one did, one would exclude nearly all analyticity, for any concept of analyticity is constructed on the basis of strict synonymy. Of course, one can talk of statements which are 'nearly analytic', in the sense of involving concepts - in an appropriate syntactical setting - which are nearly synonymous. But that is not a controversial form of gradualism. And Pap's controversial gradualism is just a product of errors, culminating in the absurd view that accurate abbreviation is impossible!

This is still not the end of Pap's errors resulting from failure to appreciate the truth of the matters surrounding the paradox of analysis. Consider the following remark of Pap's:

> "we must take sharp issue with an unwarranted assumption...that what holds for the analytic-synthetic

distinction also holds for the necessary-contingent distinction" (299).

Thus we have a typical m i s g u i d e d reason for embracing the idea of synthetic - not strictly analytic - necessary connection: namely, an instance of the confusion of a contingent statement with an analytic one, very close to it in verbal expression. (In the present case, the contingent statement may actually be hinted at by the very words used to express an analytic statement.) Instead of sorting out the analytic from the synthetic statement, Pap tries to bundle them together into one, ending up with a formula capable of many different interpretations, but held by people like Pap to express just one statement that is at once necessary, a priori, certain and informative. The Ancients said they were doing ontology but in fact did a confused mixture of semantics and ontology. The neopositivists tend to say they are doing semantics, but do the same confused mixture of semantics and ontology as the Ancients. Let us just distinguish different kinds of formulae that might be called 'definitions' or 'explications', etc.

(i) Explicative statements (1).

(ii) Explicative statements (2).

(iii) As (i), but about propositions instead of concepts.

(iv) As (ii), but about propositions instead of concepts.

(v)-(viii) As (iii),or (iv), but involving strict equivalence or one way entailment instead of identity.

(ix) Semantic statements.

(x) Syntactic statements.

(xi) Real definitions.

These kinds subdivide in the ways we have noticed (E.g. one should ask 'Do you aim to explicate the ordinary concept, or the one specified as being adequate to that to which it is in fact (or else: properly) applied?') To explicate a concept shown to be adequate to its field of application is more or less to give a real definition - the difference is only in whether a certain concept is mentioned or used. That is why it is so important to differentiate the species falling under the kinds numbered above: the species often differ more importantly among themselves than they do from species of other kinds. Note that it is not entirely a matter of course if one wants to provide the real definition of an essence specified by reference (2). For reflection on the nature of that essence might lead one to conclude that a concept different from the specifying one captured the chief features of the essence better. That would not make the original specification a wrong real

definition, of course; there can be many different real definitions of the same essence.

Castañeda ('Analytische Urteile, Definitionen und das A Priori') remarks (73/4) that Pap violates his own solution of the paradox of analysis. Pap condemns opponents for asserting trivialities when they say e.g. that it is analytic that logical truths are analytic. Yet here we have someone - the opponent - uttering a sentence involving a synonymy which is concealed by the wording, so that Pap is committed to denying triviality - and strict analyticity - of the opponent's claim. But in pointing out all this, Castañeda has only pointed out the symptoms of Pap's disease, without offering a cure. As we shall see in ch. 15, when we return to Castañeda's paper, Castañeda shares the disease. We shall see there that Castañeda thinks conventionalistically of analytic truths, and so himself wants to regard them as informative. If one's real interest is semantics, then one may be confusing assertion of an analytic truth with the assertion 'The meanings of the words in this sentence are such as to make it analytic'. This helps to explain why philosophers, when pressed, sometimes say that analytic truths are informative if framed with ordinary meanings, though one achieves nothing by coming out with analytic truths based on arbitrarily stipulated meanings. What such talk really reveals is that ordinary

meanings are what are actually sought after. Why then speak obliquely via the advancing of analytic truths at all? Because of the simultaneous desire to pass them off as ontological information; and that seems much less outrageous - to many - if ordinary meanings are involved than if arbitrarily stipulated ones are. Nobody would be taken in by the assertion 'All Tories are liars' if it were based on a spontaneous stipulation of the meaning of 'Tory' which made the sentence express an analytic truth. But - to many - it all seems so much more impressive if the stipulations of meaning that are invoked occurred many years previously! How odd, too, if a philosophical truth could be profound only if framed on the basis of forgotten conventions! Profundity contingent on a lack of grasp of what we mean!

VI

WITTGENSTEIN AND THE THEORY OF MEANING

Theories of logical necessity make reference, in wrong ways and right ways, to meanings. Thus it will be helpful if we clarify our thinking about meaning before we go any further in our investigation of logical necessity. We shall be concerned chiefly with the question of the adequacy of various concepts of meaning to the underlying facts which they are supposed to be fit to represent. But we shall also be concerned a little with question of the meaning of 'meaning', for it throws much light on the general issue of how to discover what words mean. We shall see that the later Wittgenstein himself often conceives himself to be engaged in the former kind of enquiry (regarding adequacy of concepts of meaning), but he confuses it with the latter kind (concerning the meaning of 'meaning'). Thus we shall be exhibiting a further instance of the muddles which have already preoccupied us. For it is with the thought of Wittgenstein that we shall largely be concerned; he is largely responsible for the recent break away from platonism. We shall be criticizing the way in which he achieved the break away.

The key term in Wittgenstein's theory is 'use'. It is well-known that we can in no way merely equate

'use' and 'meaning'. If I use a text to kill a fly, this obviously cannot be said to exhibit the meaning of the text. It would be not only circular but inadequate to qualify 'use' by 'cognitive', for there are non-cognitive meaningful uses of language. 'Cognitive' will have to give way to something even more obviously connected with 'meaning'. It is significant that in the early pages of P.I. it is an imperatival use of language that is brought to our attention as being (P.I. I.5) one of those "primitive kinds of application in which one can command a clear view of the aim and functioning of the words." For in the imperatival case one can say that the 'use', 'purpose', 'aim', 'function' of the words is to get the agent to do so-and-so. But now consider the parallel in the case of language used purely to give information, with cognition as an end in itself. Here the 'use', 'purpose', 'aim', 'function' is, in the parallel sense, t o c o n v e y t h a t s o - a n d - s o is the case. And of course this statement does not at all tempt us to say that we have an intelligible 'use' theory of meaning which enables us to do away with any hypothesis of intensional acts (in the phenomenologists' sense). It reminds us that imparting meanings is merely one 'use', 'purpose', 'aim',

'function' among many, hinting that Wittgenstein has really only diverted our attention from meanings to other factors; to which other factors is left unclear, but we gather that they supposed to be 'public' and, of course, in some sense connected with our words.

Let us examine P.I. I.1. a little more closely. Wittgenstein gives for the 'use' of 'five red apples', a description of what the agent does on seeing the words. As we have pointed out already, a parallel description of what one does in reading a book about otters - assume one does nothing afterwards as a result - scarcely seems to support Wittgenstein's approach: obviously we should have to look elsewhere to find out the 'uses' of the sentences involved, and 'use' would have quite a different sense. But notice, too, that there is a difficulty, even in the imperatival case, over selection of aspects of the situation to count as the 'use'. The agent selects five apples; but his body also satisfies countless further descriptions. What is the principle of selection? Wittgenstein speaks of 'actions', 'purposes'. Not all behaviour is action. This offers a basis for eliminating certain aspects. But only at the cost of circularity, for it is only on the assumption of the operation of certain intensional factors that such a differentiation

can proceed. Since e.g. 'reason' will be involved in defining 'action'.) Here we are nearing an appreciation of Wittgenstein's most fundamental error in the 'use' theory; but before tackling it, let us complete our examination of P.I. I.1. It is, naturally, quite correct to say that my aim in giving an order is to get the agent to do so-and-so - and generally not, as Wittgenstein notes in P.I. I.6, to induce a mental state in him. But this only points to the gulf between the purpose and the meaning. We shall want to distinguish between cases where the agent obeys because he understands and where he acts for some other reason. We shall notice that my purpose in giving an order will sometimes correspond to its meaning, but occasionally not, as when one says 'do X!' to get a disobedient agent to refrain from doing X. So the formula which gives the purpose does not always give the meaning. (And synonymous words may not always be fitted to serve the same purposes; e.g. a tribe might go mad at the sight of red ink, so that orders written in red ink were not obeyed.)

Actually, at the end of P.I. I.1. we read

"- But what is the meaning of the word 'five'?
- No such thing was in question here, only how the word 'five' is used."

P.I. I.1. goes on:

> "That philosophical concept of meaning has its place in a primitive idea of the way language functions. But one can also say that it is the idea of a language more primitive than ours."

Here Wittgenstein is criticizing Augustine's concept of meaning as being inadequate to the facts of our language as it is. The implication seems to be that the question 'What is the meaning?' is unsatisfactory unless it means 'What is the use?'. And it is important to note that Wittgenstein is here showing an interest in obtaining an a d e q u a t e concept of meaning - not just 'the ordinary' concept. On this matter c.f. P.I. I.3:

> "Augustine, we might say, does describe a system of communication; only not everything that we call language is this system."

(c.f. the statement that not everything we call heroic is really heroic.) Unfortunately, 'use' does not have the independence which Wittgenstein's attitude requires. On the contrary, aspects are picked out as constituting the 'use' only on the basis of the meaning of the utterance. 'Do X' means that X is to be done, and the doing of X - in Wittgenstein's examples this conveniently occurs -

is seized upon as the 'use'. It might seem that Wittgenstein's examples would have been as telling if the utterances and writings had been imagined as being in some unknown language. But there remains the rest of the description of what went on: this seizes on quite particular aspects of the situation; - suppose a much fuller description had been offered. Then how is the selection made? (Till we are told how to narrow it down, 'the situation' includes the total universe.)

P.I. I.1. contains a clear hint that the 'five red apples' 'game' is supposed to be a language 'game' in which it would be a mistake to look for an o b j e c t as the meaning of the phrase. However, in P.I. I.2 Wittgenstein writes "Let us imagine a language game for which the description given by Augustine is right." Yet what we are given is yet another imperatival language game. 'Five', it is true, does not denote an object in the sense in which 'slab' does (in our language), but this may not be the point of Wittgenstein's remarks. Does he not, rather, describe the purpose in the 'five red apples' language game and the objects denoted in the 'slab' game, without noticing that he has merely selected an aspect in the first case and overlooked

its presence in the second (and vice versa)? This shows how loose the use of 'use' is; all that emerges clearly is a bias towards 'public' aspects. (The position for 'image' is not quite clear even in this respect, though; in criticizing dualists, he must be using it to mean something private; yet he seems to think, also, that 'image' has a 'public use' 'bound up with' 'behavioural criteria'. C.f. our quotations later on.)

Nowlet us deal with what has already been alluded to as Wittgenstein's fundamental mistake; and this is his failure to guard against the fact that in philosophizing about meaning, in asking 'How do we verify that X means so-and-so?', we are ourselves using language meaningfully, and so perhaps permitting ourselves the reliance on those very factors which Wittgenstein's theory is supposed to eliminate. This we shall indeed now see to be the case.

Where language is used purely to give information, Wittgenstein's theory is particularly obscure, as we have seen already. Presumably (c.f. the quotations) we shall have to invoke the 'applications' of the words or (when these are defined separately) sentences involved. 'Green', it may accurately be said, is applied to green things. But we must question this use of 'applied' - for does it not involve an intensional factor, the behavioural character of which

has not been demonstrated? Clearly 'uttering in the presence of' is not a good translation for 'applying'. Further, 'green' is n o t always applied to green things, either in its usual or in its other possible senses. Wittgenstein would reply that the conditions are indeed very complex, but nevertheless all behavioural. This reply is radically unsatisfactory, since until all the complexities are elaborated there is no reason to take the assumption on trust. But, for the sake of a decisive refutation, let us grant the possibility of a behavioural account of application, and of the qualifications required to rule out misapplication and the like.

The difficulty would then remain that, although 'green' applies to green things, these things to which 'green' applies will also satisfy an infinity of further descriptions, so that 'green' would have an infinity of meanings or uses. To see this, consider taking each green area in turn and selecting some further description applying to it, such as 'near something soft'. Then all we need to do is form the disjunction of all similarly selected properties. By contrast an intensional act would enable me to use a word to pick out this aspect rather than that. (One assumes, of course, that it is the occurrence of this intensional act which Wittgenstein's use of 'use'

is meant to exclude: otherwise the theory becomes trivial, and the argumentation unintelligible.)

It might be thought that our conclusion could be avoided by making the intensional act an act of perceptual attention, which is much less objectionable to Wittgenstein than other intensional acts. But such acts will not do for all terms: consider 'Arabian'; how do we get from the 'simple'terms to which the account would apply (we do attend perceptually to these properties) to the more complex ones? In any case, the possibility of alternative specifications of the objects of attention again arises.

Until the present century, the identification of meaning with intensional acts was hardly questioned. This is in itself an indication that the role of the word 'meaning' has been to express these acts. Despite the claims of neopositivists, the plain man gives every sign of regarding such locutions as 'imageless thought' as self-contradictory. But we are not concerned merely with what we mean. If some-one said that only maps, not the landscapes they depicted, were real, we could still transfer his talk of 'A is to the west of B' from the one field of reference to the other. Our point is that no such transference is possible in the case of the behavioural

theory of meaning: we can find no behavioural, 'public' basis for saying 'green' means green and not infinitely many other things as well. Presumably Wittgenstein thought precisely the reverse; he does not so much question the existence of intensional acts as dispute their adequacy to support our talk about meanings. We shall examine his counter-arguments presently.

What are we to make of P.I. I.5? There Wittgenstein writes:

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

This is surely implicitly an advocating of the traditional aim of philosophy: to command a clear m e n t a l view. For, of course, it is not the actual workings of language which the philosopher could be thought literally to put a haze around. Rather it is a question of achieving intensional

acts adequate to the facts. Thus in his very dismissal of them, Wittgenstein is employing intensional acts. Surely it would be paradoxical to look elsewhere for the meanings of his words! And, surely, in this case, a case of pure theory, the production of intensional acts is also the 'aim', 'function'. What becomes clear to us is that Wittgenstein wishes to dwell on the 'functions' of language in a sense wider than that traditionally covered by 'meaning'. But, because of his erroneous methodological conceptions, he is forced to confuse matters by pretending that this is what we always meant, at least in non-philosophical moments, by 'meaning'. As Wittgenstein is newly introducing his concept of use, it is open to him to give 'use' a meaning such that the use not only of 'use' but also of 'meaning' is something behavioural and public. But he fails to introduce his concept satisfactorily, particularly insofar as he thinks it can supplant our concept of meaning. To return to the imperatival examples once more, it is no good Wittgensteins saying that Augustine overlooked the variety of ways in which language functions, since we have no reason to look to all these functions under the description 'meaning'. Wittgenstein hence continually directs our attention to factors which are not the essences denoted by 'meaning'. We should need better

evidence than he is able to offer to dissuade us from concluding that he has simply been unable to locate the factors to which we actually refer in talk of meaning. He seems to be telling us about hares when we expected to be told about rabbits.

Let us notice how Wittgenstein avoids facing the difficulties so far mentioned. Sometimes he is evasive:

> P.I. I.6.: "Well, it can mean various things"... (in reply to the question what is meant by "an association between the word and the thing").

Sometimes he gives some simple, but inadequate, formula:

> P.I. I.7.: "...the learner n a m e s the objects; that is, he utters the word when the teacher points to the stone."

(What makes it the stone that is being pointed to?)

Sometimes he hides intensional factors by metaphor:

> P.I. I.8.: "...language and the actions into which it is woven."

In fact the position is even more difficult than we have so far shown. We can ask the following awkward questions too. How do we select among the possibilities that a statement is being made, an order given, a wish expressed, ...etc.? What does application to past, and other inaccessible objects, consist in? How do we know

which entities are words, which entities are the same words? (Already we recognize gesture-languages.) How do we deal with the possibility that our speaker is deceiving us? (Imagine a gang who use ordinary vocabulary with extraordinary meanings, but engaging in all the behaviour typically associated with the ordinary meanings and their expression. This problem reduces to that of how we can use a word without conforming to usage, a distinction Wittgenstein fails to draw in his theory. No doubt the solution will invoke a decision to deviate taken in words used in their ordinary meanings.)

A further fundamental objection to Wittgenstein's theory of meaningis that it is - to put it briefly - too extensionalistic. When he talks of 'a language for which the description given by Augustine is right' (P.I. I.2.) and says 'naming something is like attaching a label to a thing' (P.I. I.15), Wittgenstein is accepting the denotational theory of meaning as a correct partial account. It is true that denotation is reckoned as a mode of meaning - for intensions are required to single out this rather than that as the denotation! - but it is scarcely sufficient merely to supplement it by additional 'public' factors. For surely we need a sense of meaning in which 'green' would still mean green even

if my body had been uttering green in a world in which there were no green things, or apparently applying the word to red objects. If a Martian tells me he has subjected me to a prolonged hallucination, should I accept his verdict as to what I meant during it, on the assumption that my thoughts diverse from my behaviour? These remarks will not alone convince the confirmed behaviourist, but he should at least realize that he makes the establishment of what we mean much more difficult than it seems. (Neopositivists are fond of arguments against scepticism which proceed from an examination of the conditions of meaningfulness of what the sceptic says. In this they rely on the old assumption of the security of knowledge of what one means. But their arguments rest on the Wittgensteinian extensionalistic conception of meaning, for which this no longer holds, so that their 'refutation' of scepticism rests on more readily dubitable premises.)

Insofar as Wittgenstein's philosophy is an examination of what the correlates of our utterances really are, his method - though not his results - cannot be faulted. The investigation is an investigation of the nature the world happens to have, only with the requirement that the findings

are to be correlated with our vocabulary. Passages abound in which just this tendency finds expression. Consider R.F.M. I.6, for example:

> "We must get clear what inferring really consists in....Misled by the special use of the verb 'infer' we readily imagine that inferring is a peculiar activity, a process in the medium of the understanding, as it were a brewing of the vapour out of which the deduction arises. But let's look at what happens here...."

Or else P.I. I.66:

> "Consider for example the proceedings we call 'games'....What is common to them all? ...don't think, but look!..."

There are, of course, two ways of taking 'what inferring really consists in' (and similar phrases). Wittgenstein might mean that we are to examine whatever conforms to the concept of inferring, or else he might mean that we are to examine what we actually do so call. If he means the first, and also that we are to mention only those features represented in the concept, then we are landed in the problem of triviality, and the surrounding confusions, which we have already discussed. But this is not the natural way of taking all of Wittgenstein's remarks. And in the second of the above extracts he

actually moves the ambiguity by using the phrase 'the proceedings we call 'games'.

Sometimes, then, Wittgenstein is thinking ontologically, not conceptually, as we might put it. True it is, according to R.F.M. I.6, and many other passage, language that misleads us - but regarding what is the case in the field of reference, not about 'what we always ordinarily mean. However, Wittgenstein unfortunately just fails to distinguish ontological and conceptual preoccupations: sometimes he seems definitely to have the one concern rather than the other, but overall he like Aristotle conflates the two, with the disastrous results we have noted already. In fact, we need to distinguish e.g. the family resemblance doctrine as applied to concepts and as applied to things, however unlikely it is in practice that the doctrine should not apply in both fields simultaneously if at all. Through his conflation, Wittgenstein thinks it acceptable to give a conceptual truth by way of reply to questions of the form 'What are X's really?'; whereas in fact this is not at all how they are meant, so that a triviality becomes confused with a profundity. Or, rather, Wittgenstein becomes increasingly inclined to give a definitely conceptual reply - and this is the turn which his thought has decisively taken in the hands of followers.

At R.F.M. I. 141 we read

"What we are supplying are really remarks on the natural history of man: not curiosities, however, but rather observations on facts which no one has doubted and which have only gone unremarked because they are always before our eyes." A similar remark is made at P.I. I. 415. On the other hand, at P.I. II. (xii), p. 230, Wittgenstein writes:

"...we are not doing natural science; nor yet natural history - since we can also invent fictitious natural history for our purposes."

The ambivalence is heartening inasmuch as it shows that Wittgenstein's writings, especially R.F.M., did not arise purely as a result of applying what, we have argued, are disastrously erroneous methodological principles. They are as much metatheory as plan, so that the opportunity for alternative interpretations is manifest. On the other hand, the ambivalence hides the errors of linguistic philosophy,creating the confusions on which it feeds.

Let us turn the discussion back to the ambivalence within the use theory of meaning. We have so far dwelt on its extensionalistic, denotational pole. But now just consider the ambiguity of the question, central to

linguistic philosophy's methodology, "What would you say if...?". Taken in one way, this question asks for the establishment of a correlation between actual or possible events in the world, occurrences of certain states of affairs, and the use of certain words. Taken in quite another way, the question elicits the linguistic response to a linguistic stimulus, without there being any commitment in the reply to the facts actually underlying our use of language to talk about them. Rather, the question is as to the speaker's intentions - his intended use of language.
Wittgenstein fails, also, to distinguish statements that a concept is a function of certain constituent concepts from statements of non-conceptual conditions obtaining in the world when I talk about them. Surely a theory is defective if it does not distinguish use and usage, and intension and extension as well. A follower of Wittgenstein might toy with the idea of repudiating intensional aspects of meaning completely. But would any of them seriously consider denying that in Mediaeval times people meant something by 'witch' which corresponded to nothing in the objects so called? Actually the use theory does lead to this result, but this is a fault, in that it only reveals how far removed from being a genuine theory of meaning the theory is. We say that 'witch' applies to women who merely seem to

have magical powers; but this misses the meaning which, by ordinary procedures, we attribute to our predecessors. Followers of Wittgenstein do not embrace the denotational pole of the 'use' theory in philosophizing - they do not investigate extensions - but they fall into confusion, failing to notice that their own data is that which the 'use' theory most obviously fails to cover. For whereas there are difficulties in its account of applying language to things, there is not even the semblance of a non-circular account of intending to apply language to things.

At P.I. I.19, Wittgenstein writes "And to imagine a language means to imagine a form of life." This seems plausible when one is under the spell of the extensionalistic pole - the pole which alone receives theoretical elaboration. For by 'form of life' Wittgenstein does not merely mean behaviour involved in using any language. The form of life is conceived as varying with the subject-matter and general nature of the 'language game'. We shall not add to previous criticisms of this, except to note that Wittgenstein is not inclined to dwell on cases such as that of a man who spends all his time reading or thinking, without acting as a result. On the other hand, there is nothing wrong in dwelling on practical accompaniments of using language, where these occur; and if we call

this 'imagining a language', then indeed we shall find ourselves imagining forms of life under this description.

P.I. I.40, where the bearer of a name is distinguished from its meaning, shows that the later Wittgenstein was, of course, perfectly well aware that an over-extensionalistic conception of meaning is inadequate. Our criticisms are directed at the fact that the details of Wittgenstein'saccount of meaning fail to do justice to principles he himself acknowledges. At P.I. I.44 we read:

> "We said that the sentence 'Excalibur has a sharp blade' made sense even when Excalibur was broken in pieces. Now this is so because in this language-game a name is also used in the absence of its bearer."

What we fail to find is an account of what such a 'use' might consist in. And how is 'unicorn' supposed to get its meaning? What we are demanding, of course, is an account free from circularity (use of intensional terminology), vagueness and concealing metaphor. We do not demand a completely general account - just an account adequate for a particular case or two. The 'simple' language-games at the beginning of P.I. seem to be meant to satisfy our requirements but, for the reasons we have given, must be rejected as failing to do so.

Wittgenstein's views on meaning constitute a facet of his general approach to the topic of other minds, and certain of our criticisms of the 'use' theory can profitably be deployed at the more general level. This we shall next do, killing the bigger bird with the same sized stone.

At P.I. I.36 Wittgenstein writes:

"Where our language suggests a body and
there is none: there, we should like to say,
is a s p i r i t."

This is an instance of the alleged fundamental error of "looking for a 'thing corresponding to a substantive'" (B.B.,p.5). Philosophers are supposed to have failed to appreciate the complexities of our 'use' of certain nouns, thereby feeling obliged to postulate "queer" mental acts." (It was in fact just the occult character of the mental process which you needed for your purposes.) (B.B., p.5). More will be said of this later; at the moment we shall concentrate on the fact that Wittgenstein's remarks will not do as an account of the reasons why philosophers have linked meaning and intensional acts as a matter of general theory, however greattheir force against belief in particular kinds of intensional acts argued for in particular ways. If we interpret our talk in the normal way, it is obvious that people incorporate intensional acts into their

concept of meaning, so that to say that our talk suggests a body (via the noun) is absurd. By taking meaning as 'use' - impicitly something public - Wittgenstein is able, momentarily, to make it seem as if we perhaps 'ordinarily' always mean something public by 'meaning'. But that this is by no means so is seen if we adopt the quite o r d i n a r y p r o c e d u r e s of asking people, directly or indirectly, what they mean by 'meaning'. Wittgenstein does not wish to challenge these ordinary procedures - quite the reverse; and if we abandon them, we have nothing to put in their place (certainly not the 'use' theory).

On what grounds, then, are private mental acts, generally believed to have something to do with meaning in the most various cultures, denied all connection with meaning? Given the vagueness of the use theory, what could sever the relationship, apart from idle linguistic legislation? There are two main forces at work: the problem set by the privacy of intensional acts and the problem of seeing how intensional acts can have the properties we think meanings have. The former force will be considered next.

Wittgenstein exploits illicitly, and to the full, an ambiguity of 'criterion', which may mean either a feature instantiating a concept or that by which we judge a thing to have a certain property (including

e.g. inductive cases). It is in the latter sense that we 'go by' behaviour in judging what is meant, and other facts about other minds, and this does not show that we mean, in either the intensional or the extensional sense, behaviour when we talk of psychological matters. Behaviour may well be only the occasion of making a psychological assumption; though once we have general principles for connecting the behavioural and the psychological, there will be a less questionable element present in particular judgments, viz. the subsumption under the general case. The Wittgensteinian dialogue 'You say you mean something private, but look at the criterion you actually use' is an outrageous attempt to confuse, via equivocation or plain vagueness. Taken definitely one way, the argument merely denies the opponent's premise, taken definitely the other it is irrelevant, given the situation which we all know about.

The argument confuses questions of meaning and questions of evidence, in a broad sense. And probably the latter with questions of what would 'in principle' count as evidence. Privacy prevents our o b s e r v i n g events in other minds - in this sense, these events are not our evidence - but they certainly count as evidence 'in principle' for psychological statements. Some (e.g. Scheler) have held that events generally regarded as

private are in fact public. This view is hard to refute in the case of thoughts - difficult phenomenological investigations are involved. Wittgenstein never considers the view. Perhaps this is because he thinks of privacy as being built into 'the' concept of the intensional act (or the image). But, it follows from our earlier discussion, this is irrelevant to any non-trivial inquiry; we wish to know the nature of what exists to be referred to, so that content of concepts is irrelevant. (Actually, of course, neopositivists want to deal with the de facto problem of privacy, and invent the idea of "'the' concept of the necessarily private" in order to pretend the problem is conceptual.)

Wittgenstein, one might thus say, is determined to have a problem about other minds. Scepticism concerning induction (P.I. 481) is supposed to be refuted by pointing to it as a paradigm of rationality. so that questioning its rationality is supposed to be a self-contradiction. This is not an adequate reply, as can be seen from the fact that we could establish all sorts of strange inference patterns, and then with, equal right, point to them as paradigms of rationality. But, from his own standpoint, why does Wittgenstein refrain from an analogous move in the case of 'other minds' inferences? They do constitute

an established category, so why not say that questioning their validity is necessarily wrong? (These matters were further discussed earlier on.)

There are a few passages in Wittgenstein's writings which might prompt a condemnation of the interpretation of the use theory we have been examining. These, again, concern the problem of other minds in general, but exploitation of the vagueness of 'use' would be involved as well. It might be objected that our interpretation has been, in a word, over-behaviouristic. We need to consider several different lines of thought in this connection.

Some will say that in talking of other minds (e.g. saying some-one means something by some words) we do not merely repeat our behavioural data but do make an assertion for which the data is necessarily, or necessarily generally, good evidence. This hypothesis is obviously an attempt to move away from pure behaviourism, which, even with all the sophistry in the word, so manifestly falls short of constituting an alternative to scepticism. The hypothesis is vague and obscure, yet it seems to constitute the conclusion of A. Wisdom's philosophy, and furthermore to satisfy

him and several followers completely. We shall be dealing with the matter in greater detail later - for the position offers obvious scope for talk of a new synthetic a priori, and this has occurred in some articles to be discussed - but certain things need to be stated at once. Either the meaning of the psychological statements will be the same as in dualism, only the mode of inference being different, or else it will not. In the former case, we have the idea of the special mode of inference, of which there appears to be no trace in Wittgenstein himself, and the 'use' theory would be redundant. In the latter case, the content of the psychological statements has not been explained; (if it is just a question of disjoining the behavioural data with some extra content, the move is farcical, all too clearly like saying we can verify statements about God when there are statements about God as disjuncts in complex verifiable statements). For us, it is especially significant that Wittgenstein denies not only that the evidence we have justifies certain assumptions about following a rule, but that this applies even when one is concerned with one's own present state of mind; and he never appeals to any psychological statement, different from, but based on, the behavioural data. Thus in the detail of

the use theory, and its application in the areas we shall be concerned with, behaviourism seems to be Wittgenstein's position. There are pronouncements to the contrary, and these will be considered next.

The main section of P.I. that is relevant here is I.281-317. Detailed examination of all the points involved, which of course include aspects of the private language argument, would take us too far afield, but it is possible to add some words of justification to the stand to be taken in the face of what Wittgenstein says. He claims (P.I. I.283): "Only of what behaves like a human being can one say that it h a s pains. For one has to say it of a body, or, if you like of a soul which some body h a s." On the other hand, he says, with respect to the difficulty of ascribing sensations to things: "And now look at a wriggling fly and at once these difficulties vanish and pain seems able to get a foothold here..." (P.I. I.284.). He explicitly maintains (P.I. I.284/5) that there is more to b e h a v i o u r than physics measures. This looks like behaviourism ("It's all there in the behaviour") tempered by a Husserlian distinction between the world of daily life - and the world of science, which makes the philosopher think aspects to be absent which are in fact present. Whatever we say to this for the

case of pain, it scarcely seems plausible for the cases of thinking, or of what others mean which are much more complex. Who will maintain that there is after all something manifest in behaviour which enables us to distinguish the aspect of the world to which a speaker's words apply?

But within the same sections - in P.I. I.284 in fact - Wittgenstein says "Our attitude to what is alive and to what is dead, is not the same." This is discouraging on two counts. Having an attitude is itself something psychological, so that we get into a circle in trying to understand. It is also non-cognitive. N.B. P.I. II.(iv),p.178: "My attitude towards him is an attitude towards a soul. I am not of the o p i n i o n that he has a soul." It looks as if Wittgenstein is indulging in the neopositivist's favourite trick of reinterpreting a thesis open to sceptical doubts. This is childish: if the dualist is barred from holding his belief, so are we all. The formula 'If you mean that, you will find yourself open to scepticism' suggests that the discussion is not really being taken seriously; the neopositivist seems content if his s e n t e n c e s are free of trouble - never mind how eroded their sense. Compare the results of the paradigm case arguments: we are given the at first exciting conclusion that we are

free, but on asking 'In what sense' receive either no answer or one which merely reveals the bankruptcy of the thought leading to it - 'In whatever sense the paradigms instantiate'. Wittgenstein really outdoes the sceptic if when he says that there is no difficulty in justifying our beliefs about other minds because there are no beliefs - only attitudes - in question. And once again we must point out the particular implausibility attaching to the case of what other people m e a n.

This is not to say that we must ignore the thesis that we <u>never meant</u> that, which causes sceptical difficulties, for it would be misleading to ascribe a problem to all mankind when in fact the <u>interest</u> - in the private states of others - is confined to oneself. Prima facie, then, the following could have a restricted validity:

> "The paradox disappears only if we make a radical break with the idea that language always functions in one way, always serves the same purpose: to convey thoughts - which may be about houses, pains, good and evil, or anything else you please." (P.I. I.304.)

But Wittgenstein, like other neopositivists, grossly misrepresents the plain man. By ordinary procedures, it emerges that they are steeped in dualism. They

will often appeal to the argument from analogy spontaneously, and without ever having studied any philosophy. The neopositivists' cynical division, by a sharp line, between the philosophical - in the approved and disapproved senses - and the vulgar is a fiction. The best argument for attributing a dualistic content to ordinary people's beliefs is that for centuries the sharpest minds have come up against sceptical challenges when arguing from ordinary beliefs. Wittgenstein's thought is encumbered by two disastrous requirements:

(1) The Moore-type phobia for scepticism - "Better say there is no belief than that it is there but not justified" is the result in the present context.

(2) The policy of linguisticism - which here prevents any solid grappling with the problems thrown up by the conflict between the worlds of science and everyday life (instead we have uselessly vague talk of "the transition 'from quantity to quality'" [in behaviour], in P.I. I.284 on the wriggling fly).

In the sections on 'seeing as', it emerges that we can see a drawing as a s m i l i n g face (P.I. II xi, p. 194). According to P.I. II xi, p. 197, "'Seeing

as...' is not part of perception". Now what of seeing a m a n as smiling or - if there is such a thing - seeing a man as using a word for this aspect rather than that? What becomes of the account presented in P.I. I. 281-317? It seems that the smile is no more in the physical man than in the physical drawing (- and no less, of course). Hence, perhaps, the talk of attitudes in the rejection of (crude) behaviourism: from the beginning, non-cognitivism is definitely introduced. Yet there are many passages where 'reformed behaviourism' is strongly suggested. Wittgenstein is impressed by the fact that we cannot imagine, except in a strained way, that normally behaving people around us, say, lack consciousness (P.I. I.420). Yet we might accept such a conclusion, given evidence. This indicates that what we have here is a spontaneous disposition, to believe, (and to react). It does not show w h a t we believe.

P.I. I. 350/1 seem unsatisfactory for reasons that may be briefly sketched. In these sections, Wittgenstein says it "gets us no further" to say that if I suppose someone has a pain, I simply suppose he has the same as I have so often had. In support, he draws an analogy with saying 'It's 5 o'clock on the sun'. But, after all, it could not be maintained that we can extend our predications to futher objects

in no case at all. Furthermore, according to Wittgenstein communication and what people mean are supposed to be publicly ascertainable. So, for him, there should be no sceptical troubles at all in extending the application of ordinary universal concepts from the public to the private sphere. Thus I should be able to tell you without any trouble that I am acquainted with a private object sharing such-and-such features with well-known public objects.

P.I. I. 423/4 require comment:

"C e r t a i n l y all these things happen in you. - And now all I ask is to understand the expression we use. - The picture is there. And I am not disputing its validity in any particular case. - Only I also want to understand the application of the picture" (423).

Such remarks suggest an interpretation of Wittgenstein under which his theses would be strikingly trivial. We gather that by 'application' is meant a complex of 'public' factors (involving our behaviour in relation to our environment). The results, insofar as the vague instructions permit any, could only seem enlightening if confused with statements of criteria in the strict sense, or of meaning in the intensional

sense, if the neopositivist programme is adhered to. For others there is nothing particularly enlightening even then. It follows from our account that what Wittgenstein is doing is by-passing the problems set by the real content of our beliefs - which he dismisses and oversimplifies under the name 'picture' or 'image' - by trying, in vain, to identify the content with something that would remove the difficulties, namely 'use'. His policy is to accept as the meaning whatever we find in the public field 'correlating' with the utterance. Hence the absurd idea that 'ordinary', 'established' language games are bound to be 'in order'! There they all are, performing whatever functions they do perform! The recurrent phrase 'Nothing is hidden' (for an instance see P.I. I.435) is a requirement in disguise; one we have seen cannot be met.

Once the now obviously required changes are made, Wittgenstein's theses become clearly ontological: we think and mean (intensionally) that x, but in reality the objects we are referring to (extensionally meaning) are otherwise. I need to remember the truth (c.f. P.I. I.60). One is coming close to Husserl 'to the phenomena as they really are.' At P.I. I. 34-6, Wittgenstein is leaning on the family resemblance doctrine (and there are numerous other passages on the

use theory in similar vein). Because we find no o n e bodily action, we invent o n e queer mental act. In fact, he says, the uniformity is a fiction. But this sort of point does not tell against the dualist as such, even insofar as it is correct, for he is at liberty to adopt a family resemblance account for the inner life. That he uses expressions like 'the mental act of meaning' no more exposes him as ignoring the facts of family resemblance than the ordinary use of 'the game of chess' does us all. Similarly, when Wittgenstein says (as at P.I. I. 153) of the constantly accompanying mental act "why should i t be the understanding?" we may retort that though the subjective event which always occurs may nevertheless not be what is meant, still it may be.

At P.I. I. 42/3, Wittgenstein says:

> "But has for instance a name which has n e v e r been used for a tool also got a meaning in that game?... For a l a r g e class of cases - though not for all - in which we employ the word 'meaning' it can be defined thus: the meaning of a word is its use in the language."

This is a strange, if self-confident, way of treating a counter-instance, which should surely arouse our suspicions, at least to the extent of making us aware of the fact that the use theory is over-extensionalistic.

When Wittgenstein tries to grapple with the kind of account of meaning which he wishes to reject, he oversimplifies the nature of the inner life disastrously - and, indeed, ludicrously, for any-one who is prepared to spend time becoming successively aware of its real nature, or who can represent to himself that variety at a single moment. It emerges that Wittgenstein continually thinks of private mental acts as a having of images or pictures - he uses the word 'Bild'. This is a sign that the facts of the inner life are being oversimplified (c.f. our ch. 2). (c.f. our later references). This is, of course, the traditional empiricist error. Of course there is some point to classifying all the activities as experience, namely the fact of conscious awareness. But, as we shall be seeing, in Wittgenstein it is a case of being in error; a quite natural one, indeed, for if one's mind is filled with thoughts of behaviour, it is by no means simple to command an adequate conception of other matters. One is aware of the complexities of one's inner life as they occur (though not always by thinking them), but this unfortunately does not guarantee that one can "command a clear view" of them (to use an expression of Wittgenstein's) when one's chief pre-occupations lie elsewhere. In other words, it may take considerable timeand energy to build

up an a d e q u a t e idea of thought, meaning, or anything else; and we can easily lose it again. (The purpose of these remarks is to render intelligible mutual puzzlement of the behaviourist and the phenomenologist - to take extremes - when confronted with one another's beliefs and disbeliefs.)

Wittgenstein recognizes that the dualist will object that intensional acts do occur, and that when one, say, grasps in a flash what is meant, the whole use of a word, which is extended in time, does not come before one's mind. The objections of the dualist may be much harsher than those mentioned by Wittgenstein. On his account, paradoxically enough, the way to become aware of a meaning is to use one's eyes; so that when I sit thinking of otters, as far as my awareness of the content of my thoughts goes, the only difference from thinking of apples will lie in the difference of the sounds or marks I am aware of - and this is not a difference of content at all, properly speaking. At this point images would no doubt be invoked. But as these are supposed inadequate to constitute meaning or use, presumably s u b j e c t i v e l y - i.e. as far as what I am immediately aware of goes - there will, say, be no difference between thinking of freedom and thinking of some event in a story, such as being released from

chains, supposing this is also my picture of freedom. (At any rate, some such state of affairs will obtain on Wittgenstein's account, as is indicated by P.I. I. 139, which we are about to consider.) Surely enjoyment and satisfaction can derive only from that of which we are aware; and if reading a work of philosophy or history is supposed to offer no more than reading a telephone directory or, scarcely better, a crude story, then these enjoyments will be of the same order. Who accepts that? It would be a revolution - and a repugnant one - if we really divorced the meaning of our words from what we are psychically aware of when we utter them, at least in many contexts.
Note P.B. I.5 - "Certainly the thinking of ordinary people occurs in a mixture of symbols, in which perhaps the genuinely linguistic form only a small part."

So what am I supposed to be doing if I think without using words? One can conjure up the most alarming pictures of what men really are and pictures of pictures as divorced from, and misleading with respect to, what we mean, but the incipient horror vanishes when we become aware of the state of mind which is alarming us, and that it is a <u>given</u> content that is alarming us (albeit only insofar as we are tempted to believe in its truth to reality).

Part of Wittgenstein's argument in P.I. I.139 -

to which we shall be recurring in section (B) - is that since we can find a method of projection whereby a mental picture of a cube would 'fit' a triangular prism, the mental state does not give the meaning of 'cube'. "The picture of the cube did indeed s u g g e s t a certain use to us, butit was possible for me to use it differently." Well, I can use a twig to represent trees, but that does not show anything further about the twig. In particular, it does not show that if I hold up a twig and say 'I mean things like this'(without pre-arranged conventions), then I mean nothing. I can, if I try, have an image of a cube and mean a prism, but this only shows that the image is not all that occurs.

In any case, from the fact that by incorporating a mental state into a more complex one I can alter what is meant, it does not follow that the original mental state has the indeterminacy Wittgenstein claims it to have. 'Use' is s u p p o s e d t o b e something quite distinct from our mental states, and we can agree that if there was such a thing it w o u l d not be 'guaranteed' by them. In note (b) underneath P.I. I. 139, Wittgenstein writes

> "I see a picture, it represents an old man walking up a steep path leaning on a stick.
> - How? Might it not have looked just the

same if he had been sliding downhill in that position?"

The context, and such passages as R.F.M.I. 129:

"How do I know that this picture is my image of the s u n ? - I c a l l it an image of the sun. I u s e it as a picture of the s u n ." suggest that, at least until he later developed his thoughts on seeing as, hewould appeal to 'use' as the factor to be appealed to in answering the questions in P.I.I. 139. But we have seen that this is n o t the way to get the determinacy lacking in the mere picture. About the core image or picture, in the mind or in the art-gallery, we supply supplementary intensional acts of great complexity. However, when we say and mean 'the world', we certainly do not have a picture which is an exact replica of the world. We tend to think we must do because we think that otherwise there would be some indeterminacy in what is meant. But this confuses intensional and extensional meaning. Many different objects would indeed conform to our intensional acts, though only a more limited number in fact do so. Many men might conform to my ideas of Wittgenstein (though, of course, I have the idea of there being just one such person); but why should this be any more worrying than the fact that the segment of Wittgenstein some-one s e e s coming down the street might, for all

that is given me, belong to some other person of identical appearance?

We now know the retort to Wittgenstein's conclusion, which he draws in P.I.I. 140:

> "What is essential is to see that the same thing can come before our minds when we hear the word and the application still be different. Has it the s a m e meaning both times? I think we shall say not."

The first sentence expresses a truth, whatever it is that comes before my mind. The answer to the question is correct only for the extensional sense of 'meaning'. Of course, it must not be thought that anything and everything in the mind during speech is the meaning.

Wittgenstein rightly imagines that one will feel that his account will make signs seem "dead", but he insists that in fact use is what "brings them alive" (as he suggests at P.I.I. 432). Consider this passage from B.B., p. 5:

> "If the meaning of the sign (roughly, that which is of importance about the sign) is an image built up in our minds when we see or hear the sign, then first let us adopt the method we just described of replacing this mental image by some outward object seen, e.g. a painted or

> modelled image. Then why should the written sign plus this painted image be alive if the written sign alone was dead? - In fact, as soon as you think of replacing the mental image by, say, a painted one, and as soon as the image thereby loses its occult character, it ceases to impart any life to the sentence at all."

Given that Wittgenstein insists that the image could be replaced by some outward object, we can see he is not doing justice to the intensional acts which are claimed to "bring words alive", for these are decidedly not all so replaceable. Apart from that, the object used as a replacement can vanish from our field of awareness, and this is why it no longer seems to "impart life" to the words. This brings us up to the real motive for the talk of Wittgenstein's theory's making our signs dead: our intensional acts have self-given properties; we are immediately aware Wittgenstein reduces thinking to something of which the enjoyment would be enjoyment of organic sensations plus crude images, which would not vary with fantasy, belief, hypothesis, etc. "Use" is supposed to be something which would supply none of these deficiencies, being accessible to the senses, and then only fragmentarily. Similarly unsatisfactory is the reply "As a part of the system of language, one may say, the

sentence has life" (B.B.,p.5).

The view that Wittgenstein is criticizing is contained in these words from B.B.,p.3

"It seems that there are c e r t a i n d e f i n i t e mental processes bound up with the working of language, processes through which alone language can function."

We should agree with Wittgenstein on two matters. There is a mistake of postulating uniformities in intensional acts (which would e.g. invent a standard intensional act for each non-ambiguous word); thus a description of a particular burglary might be accompanied in one by quite detailed representations of what occurred if I, unlike others, fill in details from background knowledge of the premises concerned, for example. It is also a mistake to suppose that whenever a word is "functioning" intensional acts are mediating, but this might only be to say that language's functioning is a wider matter than its meaning.

Thinking, unless very simple, takes time and effort. This is why it is correct of Wittgenstein to say (P.I. II.(ii),p.176) that it sounds odd to remark "The whole scheme presented itself to my mind in a flash and stayed there like that for five minutes." Only a picture could remain, he claims. But this does

not show meanings cannot come before my mind at all in such a case. They do so over a period; and, by greater effort, more or less simultaneously. On the same page Wittgenstein concedes there is such a thing as a forced 'parade of meanings', but says it is abnormal! It is, and sometimes no intensional acts occur. At P.I. II. (xi), p.216, Wittgenstein notices that we do indeed use the very word 'meaning' to talk of what comes before the mind when we speak. He insists this is a 'secondary' use of the word 'meaning'. "Call it a dream. It does not change anything." On p. 215 he says "...the figurative employment of the word can't get into conflict with the original one." This would all be satisfactory only if a primary sense of meaning had been made out, in which the 'pictures' would be mere illustrations.

Thus we may conclude that the way of thinking about meaning which the later Wittgenstein initiated is radically defective. Let us now pass on to some more constructive considerations.

Just as Quine ('Word and Object') shows that there are difficulties in judging from behaviour which essence a word is being applied to, we have, additionally, seen that even if such difficulties are waived there remains the problem that infinitely many different descriptions apply to any one essence. It is instructive to notice

how platonism avoids the problem. Let us next do so. One conveys meanings by using intensionally an expression (E) which has the same meaning as the word of which the meaning is to be given (W). If one says that E and W have to have application in common, one finds an embarrassing infinity of alternatives to E. Platonism says that E and W have to g i v e the same intensional act. There are many alternative ways of specifying the same idea. But only synonymous words actually g i v e the same idea. 'Green' gives the idea which 'the idea of X at time ' specifies (we assume) by giving ideas other than that given by 'green'. This suggests that platonism has a solid core of truth to it somewhere. Only, as was anticipated in ch. 2, phenomenology reveals that platonism will not do as a comprehensive theory of meaning. Wittgenstein's arguments against platonism are not valid. The fact that x can function as many alternative conventional symbols does not show that x cannot function as a non-conventional symbol, in a suitable intensional act. (c.f. the twig example above.) In fact, it is quite clear that private contents can serve just as well as public objects in determining a subject-matter ('things like this') - in fact private contents, in virtue of their complexity, etc., can serve better than public ones. However, phenomenological investigation reveals that we do not always talk about meaning in ways which

pure platonism would make correct. We often say things do not fall under concepts when they do fall under our mental contents. Sometimes, as Husserl himself noted in his first book, there seems to be no mental content; not only is it missing on some occasions of speaking or writing; furthermore no adequate content can be achieved if we try. This was a commonplace among phenomenologists, but some, unlike Husserl in his first book, took the unfortunate step of postulating non-given platonic ideas. We condemned this move in ch. 2. One might conclude that ordinary talk about meaning is in error when it postulates a meaning where there is no mental content. Certainly ordinary people tend to insist on a psychical content when they explain how they think about meaning. But the phenomenological investigation creates other problems for us too. We find that in much of our thinking on many topics the mental content is absent, inadequate or partly only conventionally related to our subject-matter. It thus becomes a general matter of urgency to find a non-platonist account of mental activity. So finding an alternative ordinary meaning and reference for 'meaning' comes to appear as just one part of the reconstruction of our view of the nature of thinking which is called for. (Let it be stressed, though, that platonism i s true of some thinking. For example, if I ask for "an apple" and

am brought a rotten one, I get annoyed; here we can see at work a distinction between the mental content and the concept in some wider sense - both called 'the meaning'. Often our thinking i s the mental content - that is what we identify ourselves with, what determines our wish or our field of reference, etc. At least, there is nothing wrong with viewing the matter that way. One might postulate a non-platonic contextual factor which restricted the meaning of 'apple' in our example; but such an account could at best only be complementary - it could not cancel the facts to which the platonist points.)

What, then, do words have in common when they are synonymous, though not platonically synonymous? One cannot say "everything", for then either all words or no words would be synonymous. All words, if it is meant that words are synonymous by being in the same total situation - for all words are in the same universe. No words, if it is meant that synonyms have all their properties in common - for e.g. 'bachelor' and 'unmarried man' are of different lengths, occur at different places, and so forth. Nor do synonyms bear the same relations to behaviour: e.g. the police arrest Jones when he is pointed out as X's brother, not when he is pointed out as a male sibling of X (for he is not so pointed out). Nor could one be sure that the police

would have arrested Jones if he had been pointed out as a male sibling of X - perhaps the use of the particular word 'brother' constitutes a clue to complicity in the particular situation. One should not be fooled by behaviourists who postulate all manner of non-existent dispositions and tendencies. Even W. Sellars is guilty on this charge: c.f. his talk, in his book 'Science, Perception and Reality', e.g. p. 316, of our tendency to say 'red' on seeing red objects. Generally we speak of things in their absence. Furthermore I can talk about red things at any place in the universe. Consider in the same connection the following case. A and B both know two men each called 'John'; A encounters B and asks 'How is John?', B replying 'I have not seen him today'; suppose that A and B had seen both Johns the day before and that both Johns had had a sore throat. B might have asked A 'Which John do you mean?' but, as frequently happens in daily life, he does not - he takes A to mean one particular John who occurs to him when A asks the question. The point we need to make is that it is unsatisfactory to say that this meaning of a particular John consists in dispositions or tendencies. Tendencies are ruled out ex hypothesi, as is quite reasonable for the kind of case we have in mind. But need A or B have any relevant dispositions either? Surely none that could be gleaned

from a knowledge of their behaviour. Even if one said that they have a disposition to make certain elucidatory remarks on being questioned, this claim is not dubious in respect of behavioural basis alone. For the remarks would not help unless taken to mean this rather than that (which yields a circularity), and as assumption of honesty would also be required - this presumably would have to rest on a general knowledge of their (meaningful) talk.

One could, naturally, take all the behavioural facts about 'bachelor' and all the behavioural facts about 'unmarried man', disjoin the two bodies of information and say that that is the common factor which makes 'bachelor' and 'unmarried man' synonymous. But that would be desperately unilluminating. It would not help us to understand synonymy in other cases, or to find out the meaning of any word. And one comes up against the question: why include only behavioural data here? If we had disjoined bodies of psychical data instead, would not we still have obtained data applying only to 'bachelor' and 'unmarried man'? Of course we should. Furthermore, we could do the same sort of job in connection with the correlations of parrots' squawks and their behaviour. Why not assign meanings to these squawks? Do we try as hard to do so as in the case of a primitive tribe? Our own words bear such a varying

and variable relationship to our behaviour and surroundings, and we permit ourselves such an array of possibilities like prolonged deception, concealment, private conventions, different kinds of utterance - surely we could find excuses to endow parrots' noises with meanings if we tried hard enough, and explained away any apparently refuting instances that might arise in their behaviour. After all, when a man says words which seem to express a falsehood, we can assume that he is lying, mistaken, joking, testing us,.... etc. We decide which on the basis of the rest of his behaviour, but then it is a question of deciding what each piece of this other behaviour indicates this is in turn dependent on all sorts of intensional factors, such as his beliefs; and so on ad infinitum. Imagine also a lazy anthropologist who quickly assumes that every utterance of the tribe means 'Long live the chief!'. After all, it is clear that the chief requires an immense amount of deference; it seems that the least talkative who sit morosely in their huts are killed after a short period of such behaviour. It is true that a few sentence-types correlate spatio-temporally quite frequently with types of activity, but that just shows that, as in English, different ways of saying the same thing are preferred on different occasions. If we gagged people, do doubt the village routine would go on much as before. Any confusion could be attributed to a

secret fear of the chief's reaction to no longer being publicly revered. It is no good saying that the lazy anthropologist is not taking account ofsufficiently complex correlations. Sufficiently complex correlations begin to bite away alternative interpretations only when they involve further intensional factors which run into the same problems. Even what we take to be drawing water might in fact be a piece of physical training; the subsequent use of the water might be an endurance test because of the way it behaves in the tribe's stomachs; (suppose they drink enough milk to be able to do without water in addition). Similarly, one must not be overhasty in ascribing confusion to the tribe - perhaps we just misunderstand them. It is interesting and instructive to play the game of defending alternative interpretations of behaviour. The game never ends. One never rules out all alternatives without the aid of a non-deductive leap. This is not for some trivial reason such as family resemblances. That factor only stops deduction in the opposite direction. Thus e.g. a full description of a chair (including its use) DOES entail that it is a chair, though the converse entailment does not hold. By contrast, no obviously behavioural data, however full, entails anything about what is meant - one can always find alternatives, one finds.

Next imagine a tribe which does nothing but

philosophize. Clearly no behavioural basis exists for ascribing meaningfulness to their words. Wittgenstein would have been delighted with the implication that, on his principles, it would be improper to describe the tribe as engaged in philosophy. However that is just how we should describe them if we found that their noises could be correlated with our words in such a wayas to express, say, a detailed refutation of Wittgenstein's philosophy; particularly if the correlation maintained itself as illuminating after it had initially been set up. Of course there is no need to place any weight on the fact that w e s h o u l d s a y that the tribe was philosophizing! (Undoubtedly a 'secondary use', the linguistic philosophers would no doubt retort.) The case does remind us that each man feels he knows what others mean if he can successfully match their words with hiw own, which he 'feels he understands'. We learn our language at a time when we can ask no awkward questions, and the anthropologist finds that he achieves a successful matching when he asks himself 'What would I be meaning in that situation?'. But that does not help us to achieve an adequate theory of meaning (as opposed to a confidence that we understand others). However these are not the main considerations to which we

have been steering in the present paragraph. We need to ask ourselves whether our own society is not drifting in the direction of the condition of our hypothetical philosophizing tribe. When, in the remote future, all our talk is divorced from the practicalities taken care of by automata, shall we wish to say that the meaningfulness of our conversations depends entirely on the fact that our remote ancestors had to perform practical tasks correlating with their utterances? Perhaps we shall wish to say so; but there would be more objections to saying so than have so far been made against the behavioural theory of meaning. Languages normally develop - largely through the exigencies of discussion. As the original dispositions (postulated by the behaviourist) no longer apply to the developing discourse of the future, does it become gibberish? (Let us assume that we have attained immortality, and that there are no children to be taught to speak.)
It should not be thought that language develops by a process of explicit explanation of innovations, such that one could trace the changes via the explanations and the explanations, ultimately, via the behaviour of practical ancestors. On the contrary, real innovation proceeds via a 'catching on' of the speakers - c.f. e.g. Wittgenstein's term 'language game'. The course of innovations could surely not be inferred deductively from present-day behaviour plus the history of the

language to the point of innovation and beyond. If the matter were otherwise, there would be no room for 'catching on'. In fact, it is even particularly implausible to suppose that, even today, anything behavioural is constitutive of the meaning of a numeral never uttered before, and now uttered outside any practical context. For there need be no explicit, overt general rule linking actual cases of meaningful numerals used in a practical context with the new use. (Even if there were such a rule, similar problems might arise regarding it.) Once again we have a case of 'catching on'; though, one would like to think, a rule-governed case.

The behaviourist does not neglect only the psychical aspect of man. He neglects also the physiological dimension. Both neglects result from an empiricist-reductionist drive. We saw how Wittgenstein embraces a sui generis account of inductive inference, but is unwilling wholeheartedly to do the same sort of thing in connection with the gap between data and field of reference in connection with other minds. The neurological gets thrown out with the psychical here; for, prima facie, the plain man is unacquainted even with one case of the workings of a nervous system. The fact that brains can be investigated publicly, whilst psychical states cannot,

does not alter the abhorrence with which the behaviourist views the gap between data and field of reference, if it is suggested that ordinary people converse about their nervous systems in the vocabulary of mind. (The 'can' in this last sentence is the 'can' of physical possibility. - It is logically impossible to make a private psychical or private physiological state public; it is logically possible to make what we call a private psychical or private physiological state public; it is logically possible to make both psychical and physiological states public (privacy built into no concept in this last claim). The psychical and the physiological march hand in hand in these respects.)

If the linguistic philosopher could shake off his odd state of mind on the question of other minds, he would be able to see from our investigation so far that two theses are well worth consideration:

(1) That talk of other minds is partly of others' nervous systems; i.e. extensionally-of them; just as Mediaeval people spoke extensionally-of women who merely seemed to have magical powers, whether their concept of these women fitted them or not.

(2) That talk of other minds is partly meant (in the intensional sense of 'mean') in such a way as to be translatable into physiological terms; e.g. 'meaning', 'thinking', etc. should be translatable into physiological terms.

Any observer may notice that ordinary people often manifestly take themselves to be talking of the brain when they use 'mental' vocabulary, just as they often explain themselves in psychical terms. Furthermore, biological thought makes it compelling to regard language as parasitic upon, and a public manifestation of, the neurological. The average man does not regard any animal as a mobile piece of flesh and fur encasing a Lockean substance. The average man attaches great importance to what is contained inside, and to what happens inside, any animal. People w o u l d feel alienated if a look into the mouth of a man of or an animal revealed an empty cavity within. One might go on ascribing meaningfulness to the words of a hollow man. But we have already seen that we should be prepared to do the same in the absence of a behavioural basis, given the possibility of mapping the sounds made on to our own vocabulary. No doubt the arrangement would continue to appeal to us even in the absence of both a physiological and a behavioural basis. (The

reason for this was indicated above.) Surely it is clear, though, that absence of a nervous system would create bigger qualms in us than absence of behaviour; in fact the latter would probably cause no qualms at all. We are more impressed by the fact that the empty talking body and the gramophone record have in common the absence of a nervous system, able to perform the difficult task of processing data from the world, in ways finding expression in the sounds emitted.

Surely the plain man would find rather fatuous a purely behavioural approach to the grading of various animals with respect to their levels of intelligence. He would take exception to Bennett's question ('Rationality', p. 6):

> "what is it about human talk which marks it off so sharply and deeply in our minds from any behaviour of other terrestrial creatures?"

The plain man would take exception to the restriction to behavioural factors. After all, the wisest man in the world may sit still all his life, thinking, without there being any overt manifestations. The plain man knows that it might be intelligent not to display one's intelligence. Bennett does not go as far as those extremists who (p.2)

> "swallow in such a greedy and undigested lump

> the Kant-Wittgenstein stress upon language that one sees it as just obvious that there cannot be judgments where there is no language."

As he says (p.2),

> "this is not obvious at all, and those who say it is are merely substituting intellectual fashions for arguments."

However, as our first quotation from 'Rationality' emphasizes, Bennett still insists on a restriction to the behavioural. Yet one might object to Bennett as well as to the extremists that the elements of the nervous system might well themselves be regarded as a language - a private one, in the sense that the symbols are private, but one which is surely at least as important as language in the ordinary sense could be on a behaviourist account. Surely what is all along not far from the plain man's mind is that behaviour is a mere reflection of internal controls. These controls may be of a more or less 'mechanical' or adaptive character. 'Thinking' will be non-routine processing of data provided by the senses. There is a clear distinction between neural computations which help one to keep one's balance and neural computations stimulated by a situation giving rise to problems requiring effort to solve them. In the former case,

the process is not voluntary, cannot be verbalized by normal efforts and is tied to a particular way of feeding in data (which, again, is not a verbal one). In the second case, by contrast, the process is more flexible in every way. The plain man wishes to know how different organisms compare in these sorts of respects. He is quite prepared to find the most difficult and successful thinking not issuing in any action whatsoever. He is, in principle, quite prepared for physiologists' finding an organism able tocompute what is to its own advantage and so being led into a way of life that gave no overt sign of being rationally based. By contrast, apparently intelligent behaviour may reveal itself physiologically as 'just a coincidence', or as the result of crude mechanisms with no adaptive possibilities. (There is a slight connection here with the example of drawing water which we discussed earlier. We assume that animals seek to preserve themselves, so that the devices they resort to to subserve that end are regarded as clues to intelligence. A need for water is biological, not behavioural. Thus even the usual data for conclusions to rationality may include non-behavioural beliefs.)

Let us return to the specific topic of meaning. Why not say that the intensionally used language which

reports on meanings gives - initiates one into - the neural state conventionally tied to the expression in question? (c.f. thesis (1) above.) Why not add that something of this physiological character is just (part of) what we all mean (in the intensional sense) by 'meaning'? (c.f. thesis (2) above.) It is no use the behaviourists' complaining that such theses are counterintuitive. The behaviourists' theses seemed nonsensical when first put forward. Before the ontological difficulties are pointed out in pure platonism, people have no hesitation in declaring behaviour to be i r r e l e v a n t to meaning, in every way. People are much less sceptical about the relevance of the neural. To be in business at all, the linguistic philosopher has to deny that it is quite clear to everybody what any ordinary expression means. He has to deny that all synonymies are recorded in dictionaries. He has to induce massive scepticism on such matters to win an initial acceptance of the idea that the sense of 'meaning' is behavioural. Therefore he cannot brush aside on intuitive grounds a thesis of type (2). Nor should we be impressed by his complaint that statements about meanings are thereby made too difficult to verify. We point to a special procedure analogous to induction or inference to others' psychical states, if justification is in question; and

to the facts of dogmatic teaching, and acceptance by the pupil, if learning is in question.

Once the linguistic philosopher had said that we do not yet know the meaning of 'meaning', he had opened floodgates. The physiologist identifies something neural that he wants to call meaning, and then he can say that the behaviourist too always means this by meaning. If the behaviourist says 'No', the physiologist says 'But you do! - Look!' - and he points to the physiological facts. 'But I don't want to call that "meaning"', the behaviourist may reply. The physiologist may reply that the behaviourist just does call that 'meaning', like everybody else; and the physiologist may add that the tests of meaning proposed by the behaviourist are not genuinely relevant: 'Why say t h a t shows what the m e a n i n g of meaning is?'. To doubt what is the content of the concept of meaning is to throw doubt on what is proper evidence for statements containing the concept.

The behaviourist may object that it is absurd to attribute physiological beliefs to ordinary people. 'Do we already know how the nervous system works?' he may ask sarcastically. After all, we do believe, and even know, some statements of meaning to be true. Is this physiological knowledge and belief? Is the

lexicographer a species of physiologist? - Such attempts of the behaviourist to involve us in paradox can easily be brushed aside once we recall the findings of ch. 1. The plain man, the philosopher and the lexicographer specify meanings with the aid of intensionally used language. The physiologist, by contrast, seeks an extensional specification of the same facts that others are able to specify only intensionally. Our intensional specifications give us models of thought (-fragments), without mentioning the character of those models. Thus intensional specifications leave open the question of the character of meanings. Except, that is, when an intensional specification of the sense of 'meaning' itself is called for (or when some other word in the vocabulary of meaning is to be defined). In such a case one is called upon to give the content of the concept of meaning; whereas '"Bachelor" means u n m a r r i e d m a n ' gives the content of the concept b a c h e l o r. We must wait for physiology to give us not only an extensional specification of the meaning of 'meaning', but also to reveal the data needed to frame an ordinary intensional specification of the concept of meaning. There is no paradox in this: the linguistic philosopher has conceded that we do not know the meaning of 'meaning' (unless we accept

some behaviourist's account, which hardly any men do). Because intuition fails us, only physiology can tell us which more complex expressions initiate us into the relevantly same neural state as 'meaning'. No doubt the same will apply to some words outside the vocabulary of meaning. Neurology may replace intuitive lexicography.

We are proposing physiologism as a partial account only, to be supplemented by a theory of intensional acts. (c.f. our remarks above about the degree to which platonism must be abandoned.) By combining the two theories, we overcome some perplexities. The philosopher asks what 'means' means. Does he not know that 'means' means m e a n s? Of course he does, or else he could not raise his question by using 'means'. So a (behavioural or) neural specification of the concept of meaning could only tell us what we all know already. Why bother with philosophical analysis when one only obtains a further expression which, at best, gives the same concept as the original? We need not multiply the difficulties facing a single-level theory of meaning and thinking. But all the difficulties vanish when it is realized that we may know neurally that of which we are psychically ignorant. We saw how Wittgenstein allowed himself to express a desire for a clear p s y c h i c a l

view of matters of which he may have had a perfect grasp in another sense - the neural, we suggest. Neurally I know very well what 'means' means - but I want an intensional act which represents to me the same facts in its own way. Philosophy raises matters to the level of conscious awareness. If we do not admit that, then all the linguistic philosopher can do is find an expression which means m e a n s but which he is at first unaware does so; the linguistic philosopher cannot deny he knows the meaning of 'means' without conceding either that he is an ignoramus speaking nonsense or else that he is in search of a different level (kind) of awareness.

The behaviourist is likely to charge us with having achieved nothing by making language parasitic on the nervous system. He will argue that analogous philosophical problems arise in connection with the functioning of the nervous system. But it is clear that the nervous system is much more than just another language. The nervous system plays a part in volition, perception, verification, etc. Thus language may be held to connect via neural dispositions with all such neural activities. E.g. the word 'man' will be neurally connected in some complex way with the having of such-and-such experiences (the receipt of such-and-such data). It is a very different kettle of fish from uttered sounds or written marks. Of course all the

details remain to be worked out. The philosopher cannot do that, because he lacks the data, though he may have a contribution to make once the basic data have been gathered. This is one of the few areas in which all the facts are not yet 'open to view', to use a phrase of Wittgenstein's (c.f. e.g. the last few pages of Moore's account of his 1930-3 lectures). As far as the question of the sense of 'meaning' is concerned, the philosopher might try sketching alternative neural set-ups and seeing whether we should be prepared to apply the word 'meaning' to them. This would gradually come to seem as natural as the current equivalent activity in respect of behavioural set-ups now seems. But the complexities would be immense, so that it is best to await empirical guidance on the question of relevant factors. (Current behaviourists undoubtedly draw inspiration from empirical facts when building formulae to test as synonyms for 'meaning' - it is just a question of thinking of things to include.) (Note that verification is not a piece of behaviour; my behaviour may be the same when, in the course of a day, I verify that the pond is frozen or that the world exists - my behaviour does not reveal what I am verifying. Furthermore only certain descriptions even of the conclusively verifying state of affairs

could be said to give the meaning of the statement in question (c.f. the objection to the application theory). Thus restrictedness of scope is not the only objection to verificationism.)

Once we accept that meaning is a matter of the connection of words with particular complex neural states of affairs, we shall be prepared to agree that two different expressions can be strictly synonymous. For they can connect with the same neural state of affairs. In the following chapters use will be made of this and other results of the present chapter.

VII

WITTGENSTEIN AND CONVENTIONALISM

This chapter deals chiefly with the later Wittgenstein's writings on logical necessity (section C); but we begin by examining the pronouncements of the early (A) and transitional periods (B), so that not all of our attention will be to Wittgenstein the conventionalist. Furthermore, section C deals with conventionalism in general, not just with Wittgenstein.

A

Because of their confusions in connection with such expressions as 'tautology' and 'says nothing', many philosophers have failed to appreciate that the early Wittgenstein was not embracing conventionalism when he used just such expressions in connection with logical necessity. In fact the early Wittgenstein was a kind of essentialist. His early commitment to ontologism seems to emerge in this passage from RFM 8:

> "Here what is before our minds in a vague way is that this reality is something very abstract, very general, and very rigid. Logic is a kind of ultra-physics, the description of the 'logical structure' of the world, which we perceive through a kind of ultra-

experience (with the understanding e.g.)."
This, in the circumstances, reads like a confession of error, comparable to the better-known ones at the beginning of P.I. The way in which Wittgenstein rejects essentialism after his early phase will come under critical scrutiny after the present section of this chapter. Our task in the present section is to investigate Wittgenstein's first theory of logical necessity independently of his own later, largely inadequate criticisms.

The early Wittgenstein connects the truthsof logic with the nature of the substance of which the world is composed: logical truths are true because the basic constituents of all possible facts (the objects, 'Gegenstaende') are (necessarily) as they are, in certain respects. For example, it is a logical truth that ~(p.~p) because it is not in the nature of any objects to enter into a configuration correctly described by 'p.~p'. This emerges clearly at the beginning of T, in the treatment of (logical) possibility:

"2.014 The objects contain the possibility of all facts.

2.0141 The possibility of its occurrence in states of affairs is the form of the object."

In the same connection consider also, from T 6.124:

> "The propositions of logic describe the scaffolding of the world, or rather they portray it."

With these thoughts in mind, consider now:

> "2.022 It is evident that any world we conceive, however different from the real world, must have something - a form - in common with the real world."

Now if we abandon all strict picture theories of thinking - according to which it would be impossible to think the logically impossible - then clearly we can be said to possess the ability to envisage impossible worlds. T 2.022 is wrong in suggesting the contrary. But our goal is not this relatively minor point. We are to consider the question of whether we can be quite sure that the world will not one day begin to defy the laws of logic. But that is logically impossible, will come the reply. Well, now the question is: how does that logical impossibility relate to our expectation that the world will never begin to run counter to the laws of logic? More particularly, how should that relationship be viewed by one committed to such statements as T 2.014, 2.0141 and 6.124 (c.f. the above quotations)? If what is

necessarily true depends on the nature of the substance of the world, then our belief that the world will never begin to run counter to the laws of logic will be justified only if we are justified in believing that the substance of the world will not alter or be replaced by another kind of substance of which logic is not true. We tend to feel dissatisfied with the view that what is necessarily true depends on the nature of substance, precisely because it has the implication just mentioned. We extrapolate our principles of necessity beyond actual conditions and beyond conditions which could be formed from the actual basic constituents of the world (whatever these are) - and we tend to dislike the idea that we are only extrapolating from the nature of things which exist merely contingently. Dissatisfaction and dislike do not establish the falsehood of the viewpoints disapproved of. We are not on the point of demolishing those viewpoints. We need to criticize Wittgenstein not because of his adherence to those viewpoints, but because he simultaneously, in T, yields to the temptation to evade the repugnant consequences by resorting to vague and obscure formulations.

If the substance determining principles of necessity necessarily existed and necessarily could not relevantly alter, then our extrapolations of principles of necessity

would seem more secure. It is obvious from the rest of T that Wittgenstein does not seriously entertain such a move, yet we find him saying:

"2.024 Substance is that which remains independently of what is the case."

This suggests much more than that different states of affairs arise from recombinations of the same objects, though this latter is no doubt all that Wittgenstein would have wished seriously to maintain. The effect of such statemments as T 2.024 is to cloud our mind dangerously - as is hinted in RFM 8 (c.f. the above quotation therefrom). There is another way of hiding the, to many, repugnant consequences of connecting necessities with the nature of actual substance. This consists in aetherealizing the substance, to the point where it ceases to exist, yet somehow is immanent in any world. This is, of course, nonsensical, but, unless guarded against, it is a way of thinking which T engenders and which, again, obscures the facts of our extrapolation from what is necessary in the actual world. The tendency of the early Wittgenstein to write in this objectionable way is exhibited in T 6.124 (c.f. the above quotation), where talk of objects is replaced by the 'scaffolding' metaphor, so that logic comes to be seen as dealing with states of affairs which sustain worlds but exist apart from them.

To restore a sound grip on the situation, we need to ask ourselves: are necessary truths true of ordinary things, of separate entities or of nothing? We must fight the formulations which blind us to the need to ask such questions. Foremost among the objectionable obscurities are those arising from the use of 'about nothing'. In T 6.124 it is said of logical truths that

> "They are 'about' nothing."

Yet this claim follows immediately on the claim that

> "The propositions of logic describe the scaffolding of the world, or rather they portray it." (T 6.124).

Thus 'They are "about" nothing' must be taken to be making a point about the w a y in which logical truths represent their facts. Unfortunately the sentence also suggests that there can be no problems arising from the relationship of logical truths to the facts which make them true - since the sentence suggests, contrary to the doctrine of the early pages of T, that somehow logical truths have no relationship to facts, as truth-conditions, at all. In fact, whether necessary truths 'show' (c.f. T 4.121) or 'state' something about the world makes no difference to the problems arising over the relationship of necessary truths to facts. This can readily be seen

if the necessary substitutions are made in the statements of the problems. Wittgenstein obscures them with his way of thinking.

One might almost say that in T Wittgenstein is complacent about the difficulties. He says:

> "4.0312 The possibility of propositions rests on the principle of signs standing for objects.
> My fundamental thought is that the 'logical constants' do not stand for anything. That nothing can stand for the l o g i c of facts."

One wonders just why one should conclude that 'and' stands for nothing, given that the word is used (e.g.) to state that b o t h of two statements a r e t r u e . Again, it is conceded here that logic concerns facts, so presumably logical truths are made true by those facts, so that it is completely unclear what could be meant by saying that logical truths do not 'stand for' those facts. We can say, then, that the early Wittgenstein shows us no way of coherently thinking about necessary truth which frees it from a relationship to factual truth conditions, but rather initiates us into an incoherent way of thinking which might provide the illusion of such an independence.

(of course one solves nothing by the Humean device of restricting 'fact' to contingent facts.)

A more familiar criticism of T is that it assumes that all logic reduces to the propositional calculus. This is simply wrong, and there is no need to labour the matter, given that Wittgenstein's error arose from a crude and wrong theory of meaning, the true quality of which is revealed in passages such as the following:

> "4.411 It is probable from the beginning that the introduction of elementary propositions is fundamental for the understanding of all other kinds of proposition. Indeed, the understanding of universal propositions depends p a l p a b l y on the understanding of elementary propositions."

(For a few additional remarks on the thesis of extensionality, see the section on Pap. For a treatment of Wittgenstein's views on colour incompatibilities, etc., see ch. 15.)

> "That logic is a priori consists in the fact that we c a n not think illogically."

says Wittgenstein at T 5.4731. Now this latter is true of picture-thinking; but we need to protest that even if the early Wittgenstein's theory of thinking were

correct, it would not solve those problems about the apriority of necessary truth which we first noticed in connection with Plato. For one would need logic itself in order to work out that if thought is so-and-so then whatever one thought would be logically possible. There would also be the difficulty of knowing that all thinking would be picture-thinking; here, too, one would find the difficulty that one cannot survey all thought to verify this. Needless to say, it could not be analytically guaranteed: not only would that be circular - furthermore, no analytic truth could have the requisite force: we should need to know about the character of t h a t w h i c h w e c a l l 'thinking'. Thus there is a way of taking 'One cannot think illogically' which makes it necessarily true, but one can squeeze no more philosophical juice out of this than from any other necessary truth. And further criticisms need to be made in this area. If we granted that our thinking is such that all our thoughts are of logical possibilities, this premise would still not sanction facile inferences from the structure of necessarily true thoughts to the structure of facts; for this one would need some such premise as that we cannot help making some correct models of reality. Such a strong premise is not available, and would rest on a crude

and mistaken view of the relationship of thoughts to facts. The early Wittgenstein also seems to assume that in thinking a thought we eo ipso think all that necessarily follows from it. (Otherwise why would he assume that the apriority of a l l logic consists in our being unable to think illogically?) Here Wittgenstein is dogged by the old fallacy that

> "If p follows from q, the sense of 'p' is contained in the sense of 'q'." (T 5.122).

As a counter-example we need only to take the result of substituting 'pvq' for 'p' in the above.

In oracular fashion Wittgenstein says the following:

> "5.13 That the truth of a proposition follows from the truth of other propositions we see from the structure of the propositions."

We have just noticed the confusions which lead to the view that no ontological guarantee is needed when we make a necessarily true claim. Theconfusions either conceal the ontological commitment in a haze, or else claim to establish a harmony between thoughts and facts. It is clear that in T Wittgenstein has no adequate answer to the question 'How do we verify necessary truths'. Given also his dissatisfaction with making necessity a property of facts involving

contingently existing objects, it is scarcely surprising that the later Wittgenstein embraces conventionalism, for, as we shall see, conventionalism is designed to exclude troublesome factors in a more drastic, wholehearted and straightforward way. In T, on the other hand, we find a series of requirements set out - another example, from T 6.1222, is this:

> "Not only must it be impossible for a proposition of logic to be refuted by experience, but also it may not be so confirmable either.".

And these requirements, which have since become widespread dogmas, are in the sharpest possible conflict with the cognitivism of the early Wittgenstein's theory of logical necessity. The effortlessness with which requirements of a preferred way of thinking are translated into claims about the nature of things is reminiscent of ordinary rationalism. But it was to be these requirements which triumphed over the common-sense cognitivism which, despite its incompatibility with the requirements, the early Wittgenstein did not fail also to embrace. And what is the source of those 'requirements' which are to push Wittgenstein into conventionalism? It is an intoxication with those 'purely mechanical' procedures which he had discovered!

Noticing that we in practice ascertain tautologousness by attention to 'mere symbolic rules' (T 6.126), Wittgenstein neglects increasingly to inquire whether we are not in fact committing ourselves to much more than facts about signs, and whether ontological assumptions are not required to validate our procedure. It is as if someone were to begin by acknowledging the factual character of certain truths, only to go back on this when satisfied that they were distinguishable on the basis of the colour of the ink in which they were written. Would Wittgenstein really be happy to say that we can come to know logical truths by looking at their symbols, given that the procedure might come to be extended to non-logical truths? This could happen with 'God exists' - without any preliminary resort to fallacies like those of the ontological argument; without any preliminaries at all. Seen in this light, the talk of logical truths 'showing themselves' is not merely pseudo-explanatory but also a dangerous precedent.

There is one further error which needs to be exposed here; it occurs in the early Wittgenstein at T 4.461-2 (the 'It is raining or it is not' case). He thinks as follows: tautologies are true under all circumstances; therefore they have no informative content; therefore they require no empirical verifi-

cation. This argument confuses epistemic and logical possibility. Tautologies are true under all logically - but not all epistemically - possible circumstances. The premise of the argument is hence true only if 'all circumstances' means all logically possible circumstances; whilst the conclusions follow only if epistemic possibility is understood. 'Pv-p' tells one who does not know that pv-p that pv-p; it would be false if '-(pv-p)' were true; and if one wishes to ascertain the truth of the matter, then experience suggests itself - for the statements are meant to be true of the empirical world. It would be odd to d e n y that empirical cases are confirmatory; though one might hope, given the usual assumptions about apriority, to overcome the n e e d to resort to empirical confirmation. Any such account will have to be superior to such claims as 'It shows itself', which is really only a reflection of a failure to come to grips with the problems originally emerging from Plato. However, in his failure Wittgenstein was not alone, and, moreover, he gave himself a second chance to make amends. This we shall duly examine.

B

We next examine PB, leaving aside till ch. 15, however, those parts of the book which deal with statements like 'Nothing can be red and green all over

at once'. All the same, our first quotations come from a part of PB which deals with just such statements; only they seem to be intended to be true of logical necessity in general.

> "If I could describe the purpose of grammatical conventions by saying I had to lay them down because, say, colours have certain characteristics, then these conventions would be superfluous, for then I could say just that which the conventions precisely exclude. Equally, if the conventions were necessary, i.e. certain combinations of words had to be excluded as nonsense, then just on this account I cannot specify a quality of the colours making the conventions necessary, for then it would be conceivable that colours should lack this characteristic, and that could only be expressed by defying the conventions." (PB.I.4.)

Presumably Wittgenstein does not here mean by 'conventions' such conventions as that which specifies the meaning of 'red' as red. Such an interpretation would make nonsense of the passage. We do need to make the conventions we do because of the way the world is, and it is not the case that we are prevented from saying certain things by the fact of our having

made certain conventions. Knowing the course which philosophy has taken, it is not difficult for us to work out what Wittgenstein must in fact mean by 'conventions' in the above passage. The main clue is the very fact that, in this sense, 'conventions' are supposed to exclude our saying certain things. In PB.I.4 Wittgenstein proceeds to talk of the alleged fact

> "That it is senseless to say of a colour that it is a third higher than another".

Fairly clearly, then, we are already at the stage where Wittgenstein equates necessary truths and conventions, though not in the straightforward manner of conventionalism, but rather in such a way that he can write (PB.I.4) 'phenomenology, i.e. grammar', as if the two were identical subjects.

Leaving aside the question of whether necessary truths are conventions, we may say at once that it is wildly implausible to postulate conventions which prohibit utterance of logically impossible statements. One cannot even say that there is a factor analogous to the arbitrariness of a word's meaning this rather than that, which one can point to in connection with talk of conventional assignments of meanings. So one would have to retreat into claiming that sentences which we say express logically impossible statements

are meaningless because we have given them no meaning. This is true only in the sense in which we also have given no sense to 'The egg is boiled', but only to the individual words. Now admittedly not all combinations of meaningful words are meaningful sentences;how can we decide the issue in the case of contradictions? That contradictions are meaningful can be seen from their grammatical normality, and the fact that we can specify ostensively what the truth-conditions are (e.g. 'The colour of this object' (green) 'and also not the colour of that other object' (also green) for 'green and not green'). Note that the verbal element in the ostensive definition is not itself a contradiction, so that no charge of circularity may be made against us.

Let us now try understanding our main quotation from PB. I.4. Given that 'conventions' are said to exclude our saying certain things, it seems best to suppose that necessities and impossibilities are what are really being talked about. If so, then the point of the passage under examination must be that necessary truths do not admit of an ontological justification. The argument seems to be that if an ontological justification were possible, then one could think the logically impossible. Wittgenstein ismaking twomistakes here. One is to assume without argument - and in fact

wrongly - that any matter of fact could be otherwise (so that if necessary truths had ontological import they would not really be necessary at all). His other error is the supposition that we cannot think the logically impossible. As was already the case in T, Wittgenstein registers his unwillingness to allow that necessary truths refer to the world, whilst at the same time maintaining that they do (as emerges from the equation of 'grammar' and 'phenomenology' which we have already noticed). No wonder the movement is towards ordinary conventionalism; for the earlier views are fairly obviously self-contradictory. They result, as in T, from an uninhibited transition from 'bright ideas', prejudices, the content of favourite ideas, etc. to alleged facts. Just as in T, the text of PB abounds in such phrases as 'How strange it would be if...' (I.3), 'Can anyone believe...?' (I.8), 'I do not believe...' (II.18). One further point remains to be made about PB.I.4. Since he is wrong in thinking impossible statements to be meaningless, Wittgenstein is also wrong in thinking that anyone who understands a sentence normally expressing an impossibility must be interpreting the sentence in an abnormal way. For a contradiction is itself perfectly intelligible.

At PB.I.7 we find some further argumentation on similar themes:

> "The conventions of grammar cannot be justified by a description of what is represented. Any such description already presupposes the grammatical rules. I.e. that which counts as nonsense in the grammar to be justified cannot count as sense in the grammar of the justificatory sentences."

It is clear that this passage rests on the same mistakes and confusions as the previous one. And the charge of circularity is as odd in this case as it would be if one were to say that it is circular to justify saying that the sky is blue by pointing (perhaps in those very words) to the fact that the sky is blue. For what is in question is not a deductive proof but an indication of the ground, basis and function of certain utterances. Again, it is just not true that an ontological justification treats nonsense as sense; for the impossible is not nonsense, and so one can treat it as sense without ceasing to treat it as impossible.

Having exhausted the relevant passages of PB, we pass on to consider Moore's account of Wittgenstein's Lectures in 1930-3'; which followed immediately on the writing of PB, and immediately preceded BB, the earliest work of the late period. In the 1930-3

Lectures Wittgenstein still has not wholeheartedly embraced conventionalism. Moore reports Wittgenstein as teaching that necessary truths

(a) "are 'without sense' and 'say nothing'";

(b) "are, in a certain sense 'true', though he made it plain, in these lectures, that he thought that the sense in which they are 'true' was very different from that in which experiential propositions may be 'true'";

(c) "are related in a certain way to 'rules of grammar'".

In his exposition (267/8) Moore states that the nature of the relation mentioned in (c) was left obscure. The same could be said of the kind of truth alluded to in (b); no dictionary will help us to find this extra-ordinary sense of 'true', quite divorced from any notion of correspondence. The terms in (a) are certainly intelligible; yet in their normal sense they make (a) very implausible. (We saw the error, in T, which leads to (a) at the end of section (A).)

Not surprisingly, Moore is puzzled. He is able to point to occasions when Wittgenstein implied that grammatical rules are meaningful (268), thereby excluding the view that the rules are identical with necessary truths - given (a), that is. On the other hand, Moore

reports him as saying of a necessary truth

> "'if it is to have any meaning, it must be a mere rule of a game'" (268).

Here (a) is denied, the identity of rules and necessary truths affirmed. Moore also points out that Wittgenstein failed to distinguish rules, which are neither true nor false, from statements that such-and-such a combination of expressions is allowed or forbidden, which obviously do possess truth-values, and in the ordinary sense at that (268/9). As Moore says (269/70), in neither case do we get a special kind of truth as specified in (b), so that we have a further consideration which tells against assuming an identity in connection with (c) - given (b), that is; or, as Moore might have added, given (a), for both kinds of rule are meaningful. An additional paradox inherent in Wittgenstein's teaching is pointed out by Moore when he notices (270-2) that, since necessary truths are grammatically correct, a sentence combining meaningful words can be grammatically correct yet, given (a), meaningless. Moore also (272-6) notes the implausibility of (a), arguing that necessary truths differ from one another in meaning, and so must have meaning (273); but he fails to see the mistakes and requirements which lead to the claim - they are buried in T. Moore infers that Wittgenstein must have meant

something unusual by 'without sense', though he has no idea what; it is clear to us that (a) uses 'without sense' normally and that (a), like (b), is more in the nature of a desperate expedient to avoid ontologism.

Moore makes it clear (278) that Wittgenstein was still repeating the arguments in PB which were criticized in the previous section. Obviously there is no need to go into these matters again. On the other hand, it is advisable to study now some material which recurs in RFM, since Moore has some valuable comments to make in the course of his exposition.

At issue is Wittgenstein's comparison of rules of deduction with the fixing of a unit of length. Moore says (280/1) that there is nothing objectionable in a denial that '3 + 3 = 6' lacks a truth-value, so long as '3 + 3 = 6'

> "is merely used to specify a possible way of speaking and writing".

Moore suspects, however, (281) that Wittgenstein wishes to follow the analogy even for the case where one would normally say that a necessary truth is being expressed. There would certainly be little point to the discussion otherwise, and it is certainly the case in RFM. Moore objects (281/2) that Wittgenstein fails to distinguish:

(1) You can imagine putting two groups of 3

there, and then finding only 5.

(2) When you have had the two experiences of counting up to 3 in the case of each of two groups of apples which you certainly have put on the mantlepiece, you will also have the third experience of finding that there are 6 there, when you come to count a l l the apples that are there.

(3) If, on having put two groups of 3 on the mantlepiece, and finding that there were only 5 there, you were to say 'one must have vanished', this latter statement o n l y m e a n s 'If you keep to the arithmetical rule "3 + 3 = 6" you h a v e t o s a y "One must have vanished"'.

Wittgenstein affirms all of these statements. Moore objects (282) as follows:

"it is this assertion of his that, under the supposed circumstances, 'One must have vanished' o n l y m e a n s that, if you keep to a certain rule, you must s a y s o , which seems to me questionable and not to follow from"

propositions (1) and (2).

Now it is pretty obvious that Moore is here mis-

interpreting (3), as well as being pretty wild in saying that Wittgenstein failed to distinguish (1) - (3), or inferred (3) from (1) and (2). Wittgenstein's errors lie elsewhere. And later in his exposition Moore himself begins to catch sight of the target. He suggests (284) as a proper interpretation of (3) the claims that '3 + 3 = 6' specifies what it is correct and incorrect to say in the counting situation, i.e. what one must say t o c o n f o r m t o o n e ' s r u l e s when one speaks. Subsequently (287) Moore mentions that Wittgenstein held:

> "that the expression '3 + 3 = 6' is n e v e r used in Arithmetic, not therefore even when it would commonly be held to express a necessary proposition, to express a proposition from which it follows that if I put 3 + 3, I necessarily put 6".

Moore further says that this follows from Wittgenstein's view that arithmetical formulae are rules of grammar, which 'treat only of the symbolism' (287). Then (289) we reach the heart of the matter. Moore no longer says (1) and (2) were confused by Wittgenstein with (3), but that he confused them with

> (4) If I put 3 + 3, I necessarily put 6.

Moore (289) simply declares that (4), contrary to Wittgenstein, seems to be both necessary and true.

We now have most of the pieces before us.

It follows from Moore's account that Wittgenstein considered (what we call) the necessary truth '3 + 3 = 6' to be relevant to the situations alluded to in (1) and (2). Wittgenstein believed that '3 + 3 = 6' has the function of determining how we are to describe such situations, though only by way of being an arbitrary rule to which we happen to cling. Now if in deciding to infer that one has vanished we were only following an arbitrary rule, it would follow that we could say that none had vanished and that (4) is false. Our criticism of Wittgenstein must be that he fails to meet the criticism that this is wildly implausible because, as Moore says, he confuses (4) with (1) and (2). Wittgenstein seems to have seen that '3 + 3 = 6' does not describe the situations alluded to in (1) and (2), and then to have concluded that it is entirely lacking in ontological import, since he overlooked (4), and so could see no basis for attributing ontological import left over. We receive the impression that, taken with ontological import '3 + 3 = 6' is actually false, so that upholding the corresponding arithmetical formula actually leads to our invoking ad hoc hypotheses ('one must have vanished') to explain away what would otherwise be counterinstances to (4).

A fuller investigation of Wittgenstein's errors and

confusions is better left till the next section, where they can be discussed in the wider context of RFM, in which work Wittgenstein's teaching can, moreover, be studied at first hand. Meanwhile we may note writers whose account of logical necessity is vitiated by one of the errors just noted in Wittgenstein, namely the confusion of (1) or (2) with (4). The erring writers are those believing they can defeat ontologism by reference to coalescing raindrops, reproducing animals and other relevantly similar phenomena. Hempel ('On the Nature of Mathematical Truth') cites the case of multiplying microbes against Mill's view of arithmetic (223). He introduces the case by saying (223)

> "If any disconfirming evidence...can be thought of, the following illustration might well be typical of it".

In fact, however, Hempel has picked a clearly i r r e l e v a n t case. Instead of saying that irrelevance is the reason why the microbes do not falsify arithmetic, he says that the reason is that it

> "asserts nothing whatever about the behaviour of microbes" (223/4).

Hempel could not have thought that he had shown Mill's position "open to serious objections" (223) if he had

noticed that nobody should think that the microbes would be disconfirming evidence on Mill's view. Hirst (in 'Mathematics and Truth', which will be considered further later in the section) cites such phenomena as failure to obtain 4 gills of liquid from 3 gills of water added to 1 gill of alcohol (217), wrongly supposing that ontologism would require one to declare that this phenomenon falsified '3 + 1 = 4'. In fact that necessary truth commits one only to the belief that there are 3 + 1 gills w h i l e there are 4 gills.

Before we continue the discussion of matters connecting with with (1) - (4) in section C, we need to complete the presentsection with an examination of the remaining topics in Moore's article on Wittgenstein's 1930-3 Lectures. The main bone of contention is Wittgenstein's view that rules of grammar 'treat only of the symbolism'. Moore assumes, fruitfully, that Wittgenstein was really talking about necessary truths themselves. Certainly by RFM this was the case, and it is clear that Wittgenstein's failure to specify finally the relationship of rules to necessary truths, in 1930-3, sprang only from hesitation in embracing conventionalism, not because he had possible alternatives in mind. Moore complains (289) that Wittgenstein failed to specify w h i c h symbolic rule he thought '3 + 3 = 6' (say) expresses. Moore himself distinguishes

three possibilities (289). There are many more possibilities if we consider not the class of symbolic rules but the class of 'grammatical' rules in general, as we shall do in section (C). In RFM we do not encounter the insistence that only 'the symbolism' is the subject matter. By widening the class of possible interpretations of his conventionalism, Wittgenstein avoids in RFM some of the more obvious grounds for criticism to which Moore is able to point.

Apparently in 1930-3 Wittgenstein was simply confused on the issues which would have enabled him to discriminate which symbolic rule he thought '3 + 3 = 6' expresses. According to Moore (290), Wittgenstein was insensitive to the distinction between the autonymous and intensional uses of language, and said things which entailed that words occur autonymously in necessary truths - even that '=' and '=Def.' are synonyms. This error is even wilder than that of supposing that necessary truths are always intensional. (c.f. ch. 1.) Naturally Moore is able to object (291) that if Wittgenstein were right, then translations of necessary truths into foreign languages would have to retain some of the symbols of the originals. Wittgenstein, in reply, would have had to deny that 'Rot ist eine Farbe' is a synonym - in that sense a translation - of 'Red is a colour'. To counter this

reply one would need to fall back on the independent criticisms of conventionalism set out in the next section. In fact, of course, the tendency is for conventionalists not to make this reply but to claim instead that necessary truths are rules about concepts. By claiming this, the conventionalist escapes from the translation test objection of Moore's which has just been mentioned: 'Rot ist eine Farbe' would undoubtedly be about the same concepts as 'Red is a colour'. If, that is, it were about concepts at all; a different translation test (c.f. ch. I) would reveal the implausibility of such a suggestion: for how can 'red' or 'colour' specify a concept unless they are being used intensionally? Yet 'Red is a colour' is not intensional. (c.f. section C for a fuller treatment.)

C

Before embarking on an investigation of the later Wittgenstein's very words on the subject, we shall do well to conduct a preliminary survey of the varieties of conventionalism. We construct a priori a classification of kinds of conventionalism -

(a) C o n v e n t i o n a l i s m r e g a r d i n g S c i e n t i f i c L a w s .

This is the view that, to some extent at least, we are free to maintain whichever scientific

hypotheses we please - that experience cannot authoritatively determine which laws to uphold and which to reject. The view would find widespread support in the stock instance of the geometry of the universe. Example: H. Dingler.

(b) T h e V i e w t h a t o n e i s a b l e t o ' C o n s t i t u t e ' A n y W o r l d o n e P l e a s e s.

This kind of view may be seen as an extension of (a). When philosophers of science suggest that empirical findings leave us with a choice of theoretical structures, they do not normally mean to admit the propriety of envisaging a similar choice in respect of empirical findings - provided, at least, that these are described without 'theoretical terms'. In other words, a 'given' element is assumed, which makes some descriptions of the situation false. Such considerations lead, of course, to the p r o b l e m of what is given, to the temptation to turn to phenomenology to secure an ultimately certain basis; andso on. There is room for many d e g r e e s of (b) - conventionalism. One might reject the hypothesis that one is now in pain, though seemingly not,

because of hypnosis, as obviously gratuitous, yet decide that one 'constituted' an objective world from one's sense-impressions and memories in a conventional way (i.e. that one could 'choose' to inhabit a quite different world from that which one has in fact chosen to inhabit). Additionally one has to bear in mind the influence of what one thinks on what one perceives. We must distinguish two kinds of (b) - conventionalism:

(b.i) No alteration to experience (the given) involved in choosing (or drifting into) our beliefs.

(b.ii) Our beliefs affect our experience.

An adherent of (b.ii) might well protest against (b.i) that once we had chosen e.g. to be sad, it would not be open to us to choose whether to regard ourselves as sad. On the other hand, an adherent of (b.i) might increase his scope for invention by postulating a non-empirical world to be filled by his own fancy. Examples: some things in Existentialists, Phenomenologists and (respecting the last point) Plato. (There is a further distinction to be drawn. Somebody might hold that although I cannot in practice stop ordering my experiences as I do (say: in the kind of space I construct), nevertheless the objective ordering is something I impose - it does not exist independently

of my thinking. This view would deserve the name 'subjectivism' - but scarcely the name 'conventionalism', since the will is conceived of as being totally powerless in the matter.)

(c) The View that Necessary Truths are statements that we Refuse to Abandon, Come What May.

Again it is necessary to distinguish two types:

(c.i) No change of meaning envisaged during the time of retention of the sentence.

(c.ii) Adjustment to meanings occurs.

(c.i) obviously connects with (a) and (b). (c) assumes that, given a choice of beliefs, we do in fact decide to adhere to some rather than others. Some will see 'necessary truths' as an indistinguishable subdass of the truths talked about in (a) or (b). Others will reject (a) or (b) for 'empirical truths', and use the same sort of conventionalism to mark off 'necessary truths' from them.

(d) The View that the only possible justification for accepting Necessary Truths (and perhaps others)

is Pragmatic, by Criteria which are Conventional, Arbitrary or Freely chosen. Instances of this view, which we shall encounter later on, are: the opinion that all we can say about our laws of logic is that they facilitate communication and the advance of knowledge, that they are 'found to work' in this sense; or the opinion that we can contradict ourselves if we please, make up inconsistent formal systems if we wish, etc., and that all one can say against such enterprises is that they prevent certain social purposes being fulfilled.

(e) The View that Necessary Truths 'Channel' Experience.

The view would differ from (b) in that one would be aware of a certain objective basis for one's beliefs, but also of one's perceiving things in patterns set by one's concepts. It might be held that this had some connection with the logical necessity of certain truths; presumably it would be a matter of our being guided to a particular set of data as being relevant to these truths, in such a way that no falsification occurs.

(f) The View that Conventions are not/cannot be 'Directly

read off the Nature of the World'.

Only given the correctness of accounting for necessary truths by reference to conventions (c.f. (j)) is the view relevant to a theory of logical necessity.

(g) The View that the connection between a sign and its Meaning is arbitrary.

(h) The View that we can construct complex from simple concepts arbitrarily.

(i) The View that syntactical rules are arbitrary.

As with (f), it should be said that (g) - (i) are relevant to a theory of logical necessity only given the correctness of (j) - conventionalism. If (j) - conventionalism were correct, then one or more of (f) - (i) would be needed to block the objection that so-called linguistic conventions are not really conventional at all.

(j) Theories which explain logical necessity by reference to Linguistic (or Conceptual) Conventions.

Discounting the weak thesis that accounts of

logical necessity will make s o m e reference to linguistic conventions, we distinguish:

(j.i) The view that logical necessity is to be explained solely by reference to linguistic conventions.

(j.ii) The view that necessary truths a r e linguistic conventions.

(j.iii) The view that necessary truths f o l l o w f r o m linguistic conventions.

(j.iv) The view that necessary truths are c o m m a n d s t o o b e y linguistic conventions.

(j.v) The view that necessary truths are expressions of a d h e r e n c e to certain linguistic conventions.

(j.vi) The view that necessary truths d i s p l a y linguistic conventions.

(j.vii) The view that necessary truths have meaningless negations.

We do not need to add a 'view' framed in time-honoured, but perniciously vague, phraseology such as 'true in virtue of meanings' or 'true independently of fact'. Such words must either merely abbreviate others used already in formulating theories, or they are too feeble to permit or merit serious consideration, except in

respect of their pernicious consequences. On the other hand, there do remain complexities which remain to be set out:

- In (j.iv) 'command' might be replaced by alternatives like 'request' to generate different views.
- The expression 'linguistic convention' covers many different possibilities.

(*) Any of the following might be in question:

(A) Statement ('W means M').

(B) Rule ('Use W to mean M!').

(C) Fact (That W means M).

(**) Any of the following might be in question:

[Semantic]	(1) the relation of expression to meaning.
[Explicative]	(2) the relation of one meaning to another.
[Syntactic]	(3) the relation of one expression to another.
[Theory of Reference]	(4) the relation of an expression to the world ('Use W to talk about that object')
[Theory of Application of Concepts]	(5) the relation of a meaning to the world (e.g. there is room for conventions regarding which concepts to employ to talk about some set of objects).

The way in which this table can be used to specify a wide

range of different views will be obvious. Thus e.g. the view (j.iv.B.3) is the view that necessary truths are commands to obey rules relating one expression to another. Not all permutations yield views that anyone would ever take seriously: e.g. (j.iv.C.3) talks nonsensically of 'obedience to facts'. Some permutations yield views which, while not being nonsense, are certainly not as difficult to refute as the most plausible kinds of conventionalism. '(j.iv.B)' = Df. '(j.iv.B.1) - (j.iv.B.5)'

The main obstacle to assessing both conventionalists' and anticonventionalists' writings is their failure to achieve sufficient precision in their statements of conventionalism. Not only are (j) - conventionalisms not distinguished from oneanother - furthermore, (j) - conventionalisms are confused, or commingled, with (a) - (i), and (a) - (i) are not properly discriminated. This will become apparent in our subsequent examinations of writings relevant to conventionalism. Meanwhile, an independent critical survey of conventionalist theories is called for, since no adequate framework for discussion permeates the critiques which we shall eventually be discussing. Our independent critical survey follows immediately.

(a) - conventionalism regarding scientific laws - would be relevant to logical necessity only if (what

we call) necessary truths had already been shown to be like scientific laws in relevant aspects. Foremost among these respects would be that of referring to the way the world is - a characteristic which most conventionalisms are concerned to deny necessary truths have. A great deal would need to be said to induce acceptance of the equation of necessary truths with scientific laws. One this was effected, the position for necessary truths would still not seem like the situation in which the physical geometer finds himself; for experience seems to support ordinary logic and refute incompatible logics unambiguously, with no room for choice. It is not relevant that we can have merely d i f f e r e n t logics from the usual one; for conventionalism is not the weak, uncontroversial thesis that for any supportable claim another equally supportable one is discoverable. The alternative claim needs to be incompatible with the original. As we shall see, many an appeal to theexample of three-valued logic comes to grief through failing to distinguish the different from the incompatible. (And we shall encounter the same mistake in other areas as well.) We have been assuming that the physical geometer really is faced with a choice among incompatible, but equally supported, alternatives. But this might be denied, on the ground that sameness of empirical basis guarantees sameness of

(meaning of the) overall theory, or on the ground that apparently incompatible individual statements of the theories are not really incompatible, owing to differences in their meanings.

Similar counter-arguments are certainly to the point against the conventionalist who refers us to three-valued logic, without realizing that it is acceptable only if it uses the usual signs with systematically different meanings, and in such a way that no incompatibility with ordinary logic arises. Those who fail to see this are like those who fail to see that the nearest word-for-word equivalent in German of 'Plums are more frequent than damsons' is not true, on account of a slight difference in drawing the 'plum' - 'damson' boundary. 'Pflaumen sind nicht haeufiger als Zwetschgen' does not contradict 'Plums are more frequent than damsons', even though casual attention to the wording suggests the reverse. So too with three-and two-valued logic. But, of this, more later, when individual writings on the subject are examined.

One way of countering objections to (a) would be to dispute the reliability of experience, which seems to belie (a). This would amount to some form of transcendentalism. And of course one could indeed postulate the existence of impossible worlds, and

establish procedures for arriving at conclusions regarding the way it was stocked. This would be a procedure which fell under (b); it seems improbable that it would ever become as popular as theology, still less transcendentalism regarding other minds. Nor do we seem to be able to alter the character of our experience so as to falsify logical laws - to mention another possible (b)-type claim. Nor do we seem to have c h o s e n to constitute experience in conformity to the laws of logic. Much more remains to be said in connection with (b), however, and those items will be drawn together in our concluding chapter.

Now what of (c), the view that necessary truths are those that we refuse to abandon, come what may? Notice the implication of 'come what may'; that experience may from time to time tell against (what we call) necessary truths, but that we discount this, refusing to regard it as counter-evidence. (This is what connects (c) with (b) and (a). Convention does not, on these views, displace ontological commitment in necessary truths; rather, convention operates in the adjustment of the ontological content to reality.) It is certainly true that we do not abandon necessary truths in the light of experience, but of course this is not denied by, and isn't incompatible with, any serious theory of logical necessity whatever. (c) is

controversial only if it is meant as an exhaustive characterization of necessary truth; which is how it frequently is meant, and, also, how we are now going to take it. Suppose, for instance, that Jones decides to uphold the statement 'Grass is red', come what may. Does this make it necessarily true? One would clearly be forced into a series of ad hoc hypotheses to explain away counter-instances - and this is something which does not seem to be necessary in the case of statements generally called necessary truths. Furthermore, compulsive - in fact, irrational - attachment to certain beliefs is a poor substitute for the aura of necessity which we find attached to statements generally regarded as necessary. It will not do to equate the two in the clumsy fashion of (c). Our first objection could be removed by restricting the scope of (c) to truths: only truths to which one adhered, come what may, would be necessary. But it would remain the case that some further account of necessity itself would be required, since the suggested equation of it with tenacity is too crude. So far we have been considering (c.i). But another way of avoiding the objection that there would be counter-instances to some tenaciously held beliefs is to switch to (c.ii), according to which counter-instances are accommodated by revision of the meaning of the statement in question. (c.ii) is open

to the second of our objections still, and also to the objection that all statements are subject to adjustment of meaning to save them from odd counter-instances, should this prove convenient. This latter objection is made by Pap, and is examined in context in our section on Pap in ch. 14. One might suspect that (c) would never have been argued for if it was not for the 'raindrops' confusion mentioned in the previous section of the present chapter; only that sort of confusion makes it look as if an a r b i t r a r y adherence to necessary truths is called for. We shall get clearer about the relation of logical necessity to confidence in upholding necessary truths in our concluding chapter.

One can easily imagine someone justifying the odd procedure that (c) says we indulge in by appealing to (d), i.e. by claiming that the procedure is a success. For not only does the procedure mentioned in (c) seem odd and hazardous - it also seems to be such that no ontological justification for it would be possible, as facts are not used as evidence or counter-evidence. Let it be said that the possibility of an ontological justification would not render a pragmatic justification null and void. For in their weakness men could misapply truth, so that it is always in order to justify reliance on truth by reference to the safety of doing so. But is it correct to say, as (d) does, that only a pragmatic

justification of necessary truth is possible? We have already seen that reference to coalescing raindrops and the like cannot prove that an ontological justification would be out of place. Admittedly we have also noticed difficulties in saying how we know necessary truths; but these arise from trying to satisfy popular prejudices on the subject. We have noticed nothing to rule out an inductive justification, for example. But, of this, more in the concluding chapter.

The idea behind (c) seems to be that analytic truths owe their necessity to an immunity from falsification which arises from their guiding our verification procedures in such a way that only confirming instances are relevant. For example, if we sought to verify 'Wives are married', the conventions operating in connection with this statement, correctly followed, would lead us to select only married women for testing as to whether they were married. When we notice this, we feel inclined to say 'No wonder no counter-instance could ever present itself!'. Thus those who uphold (e) are inclined to feel that they have provided a 'natural' account of logical necessity, one which fully satisfies them. However, one must not be side-tracked by the ordinary feeling that thetruth of an analytic statement is 'a matter of course'. This feeling is always liable to supervene during the handlingof a necessary truth, but it must not uncritically be allowed to overflow into

an aura surrounding a philosophical account of the situation. Such feelings - especially the assiduously cultivated one that ontologism is 'absurd' - need to be disregarded in favour of a rational appraisal of the factors, if any can be found, on which the feelings are based. Now does (e) justifiably claim to exclude ontological factors from an account of logical necessity - do the factors which it is content to mention suffice? The correctness of a reply in the negative is easily seen from the following considerations, provided that no irrational, whimsical rejection of them occurs. (e) claims to show us how analytic truths will never be falsified, but it does not claim to show how they will never be false. (e) does not claim that there are no unmarried wives. But if the (ontological) step of ruling out this (epistemic) possibility has not been taken, how can (e) claim that verification procedures can never let us stumble upon an unmarried wife? Surely, if that possibility were realized, then, on the contrary, the unmarried wife would be revealed as a counter-instance. Besides, what is one to make of a 'logical necessity' which is compatible with the existence of counter-instances? (e) certainly cannot be passed off as being faithful to ordinary convictions, though that seems to be the intention behind the view. The simple fact is that the procedures described in (e) as never leading

to the discovery of a counter-instance will possess this desired characteristic only if such-and-such facts obtain. One cannot admit that analytic truths are susceptible of verification and then deny that the factual component in the operation can affect the outcome. That is why so many kinds of conventionalist are at pains to deny that there can be any question of verifying a necessary truth!

In the face of the objections, one can imagine someone moving from (e) to the view that the content of an analytic truth ensures that no counter-instances exist, or to the view that the verification procedure ensures this. This would, indeed, be one way of interpreting the talk of 'truth in virtue of meanings'. However, such a view is scarcely acceptable. It amounts to the acceptance of ontologism together with the claim that meanings or verification procedures somehow dictate the facts which make ontologism true. That is obviously a very unpromising theory. At least (e) is an attempt to state what is constitutive of necessary truth, whereas the theory now under consideration merely suggests some extraneous 'source'. The suggestion would not enlighten us on the question of the nature of logical necessity even if it were acceptable. And it is not acceptable because ontologism, which the theory accepts, makes necessity independent of cognitive processes -

necessary facts, according to ontologism, would exist in the absence of cognitive processes from the universe. With this reflection we virtually reach the end of our survey of conventionalisms other than (j) - conventionalisms; for, as was noted during our classification, (f) - (i) could become relevant to logical necessity only given the correctness of some theory falling under (j), and we shall see that no theory falling under (j) is in fact correct. Next, then, we examine (j) - conventionalisms, which are the theories most frequently involved when 'conventionalism' is spoken of.

(j.i), the view that logical necessity is to be explained solely by reference to linguistic conventions, has a vagueness which makes it strong in one way but weak in another. (j.i) is difficult to refute outright, but also unsatisfying, in the absence of a precise account of the way in which logical necessity would be explained in terms of linguistic conventions. Clearly any way of meeting this deficiency in (j.i) would be highly likely to yield some other form of (j) - conventionalism; for these other forms are more specific versions of (j.i), and they more than cover the varieties of conventionalism which would be likely to find defenders. Hence every refutation of a view falling under (j.ii) - (j.vii) tends to undermine (j.i),

and once all of (j.ii) - (j.vii) have been eliminated (j.i) seems very implausible, and all the more so when it is realized that some anticonventionalist arguments show (j) - conventionalism to be f u n d a m e n t a l l y wrong and the result of mistakes and confusions in thinking. Prima facie, most necessary truths are not about conventions or meanings, and all are truths. To contradict this assumption any adherent of (j.i) will surely have to embrace one of the other forms of conventionalism that we have listed.

In ch. 1 we noticed that whereas most necessary truths are not intensional, all statements of meaning (sense) are intensional. (And of course (j) - conventionalism talks of senses, not of references.) Lt us now list those forms of (j) - conventionalism which are eliminable on the basis of the findings of ch. 1.

(j.ii.A.1), discrepancies in respect of intensional, extensional and autonymous occurrences of terms.

(j.ii.A.2), discrepancies in respect of intensional and extensional occurrences of terms.

(j.ii.A.3), discrepancies in respect of extensional and autonymous occurrences of terms.

(j.ii.A.4), discrepancies in respect of extensional and autonymous

occurrences of terms.

(j.ii.A.5), discrepancies in respect of intensional and extensional occurrences of terms.

(j.ii.B),as for (j.ii.A): substitution yields a turth from most necessary truths, and if necessary truth is equated with the validity of a rule (or something of the sort), we find that substitution does not result in another (valid rule or) a truth in the same cases as with necessary truths proper.

(j.ii.C) is an absurd view which says that truths are facts (as opposed to descriptions of facts), and so is a non-starter.

(j.iv.A) and (j.iv.C) are readily seen to be non-starters.

(j.iv.B),as for (j.ii.A); inasmuch as the various commands, requests, etc. do not become truths when the relevant substitutions are made.

on the same occasions as do
necessary truths proper.

All the theories falling under (j.ii) and (j.iv) thus stand eliminated. The same sort of treatment could be given to (j.v) and (j.vi) if the characterizations they comprise were said to apply to necessary truths as such, rather than to features extraneous to the necessarily true claim which is made by the necessary truth. In avoiding one source of objection, however, the upholder of (j.v) and (j.vi) lays himself open to another. For he has to admit that he has failed to characterize necessary truth as such - he leaves open all possibilities, including ontologism. (Obviously a similar reply would have to be made if the upholder of (j.iv) retreated to the view that it is only a secondary function of necessary truths to express certain commands or requests, etc.) Thus after application of the material of ch. 1, only (j.i), (j.iii) and (j.vii) remain undented.

How might the conventionalist react to our onslaught? Let us take (j.ii.A.1) as an example - it will be clear that the argument would proceed analogously in the other cases. The upholder of (j.ii.A.1) might reply to us as follows. He might say that e.g. 'Bachelors are unmarried men', w h e n n e c e s s a r i l y t r u e , behaves just like

'"Bachelor" means unmarried man' with respect to substitutivity. One cannot put 'unmarried, male, adult featherless biped' in place of the subject-term of either statement, he may say, without destroying its truth; for, when it is necessarily true, 'Bachelors are unmarried men' is about a word, so that one must construe the statement resulting from substitution also as being about a word. Then the truth-value does change. After all, the sentence 'Bachelors are unmarried men' c a n be used to give linguistic information - everyone admits that - and it would be absurd to say that on these occasions all the words in the sentence occur extensionally; though a mechanical application of the substitutivity test would give that result.

But now the conventionalist has let the cat out of the bag. Just as 'Unmarried, male, adult featherless bipeds are unmarried men' need not be taken as a false material mode linguistic statement, but can be taken as a true statement about certain bipeds, so too 'Bachelors are unmarried men' need not be taken as a true material mode linguistic statement, but can be taken as a true statement about bachelors. Only when taken in the latter way does 'Bachelors are unmarried men' express a necessary truth, and it is when it is taken that way that our objections based on the material

of ch. 1 palpably have great force against the conventionalist. One slight qualification is required in connection with (j.ii.A.2). On this view all necessary truths are explicative statements (2), which are of course necessary, so that we cannot fault this conventionalist for replacing a necessary truth by a contingent one, or a truth by a rule. We can however insist that there is a way of taking 'Bachelors are unmarried men' such that it expresses a necessary truth, is not altered to a falsehood by the relevant substitutions and does not involve any intensional use of language, thus differing from explicative statements (2) in the last two respects. What the arguments from the material of ch. 1 really come to, then, is as follows. If the conventionalists in question were in the right, necessary truths would involve the autonymous and/or intensional use of terms which we in fact see to be extensionally used; and, moreover, generally speaking, we obtain necessary truths precisely in those cases where we have only extensional occurrences, whilst their alteration to autonymous and/or intensional occurrences destroys the necessity of the utterances in question. To escape from the net, the conventionalists in question will have to deny that there can be necessary truths framed in extensional language. This move would be least paradoxical in the case where the

conventionalist's candidates for necessary truth are neither contingent nor rules, commands, requests, etc. That case is, as we saw, (j.ii.A.2).

We shall have more to say about the motives for adopting (j.ii.A.2) in ch. 8, and we have already said much about explicative statements (2) in ch. 5. We should note here that whereas the other forms of (j) - conventionalism so far considered paradoxically try to identify necessary truths with quite different utterances, (j.ii.A.2) avoids their paradox by identifying all necessary truths with a small subset of necessary truths. That in itself makes (j.ii.A.2) paradoxical in its own way, of course; and the explanatory power of the theory is reduced. We are told simply, in effect, that only statements about meanings (concepts) can be necessary, but no hint as to the character of logical necessity is offered. Now is it plausible to say that there can be no necessary truths not about concepts? How can the conventionalist believe that 'Bachelors are unmarried men' does not express a necessary truth if its terms are taken extensionally (using reference (2) of course)? Does he really wish to say that the sentence can express only a contingent truth when all its terms are taken extensionally? That would be an intuitively very implausible position, to begin with. The truth expressed by 'Bachelors are unmarried men' when all its terms are

taken extensionally - and, as we constantly assume in the present context, when they simultaneously involve reference (2) - the truth then expressed seems just as necessary, a priori certain, analytic, etc. as does an explicative statement (2). In fact it certainly is analytic, however hard it may be to counter the objection that it is not really necessary. And do any conventionalists really want to say that most analytic statements are not necessary? Perhaps they will reply that, when its terms are used extensionally, 'Bachelors are unmarried men' no more expresses an analytic truth than does 'Those bachelors are unmarried men'. After all, we ourselves have warned (ch. 4) against attributing analyticity purely on the basis of the functional relationships of a statement's concepts. But this fight, the misguidedness of which will be clear by the end of our investigation, would not, even if sound, suffice to save from defeat the upholder of (j.ii.A.2) - or any upholders of (j.ii), (j.iv), (j.v) or (j.vi). For there is a still more powerful argument against the view that 'Bachelors are unmarried men' does not express a necessary truth when all its terms occur extensionally. The fact is that if it did not express a necessary truth, then there would be something amiss with deductive inference. For if logic cannot guarantee the truth of that statement, then it cannot properly claim to guarantee the truth-

preservingness of the inference from 'John is a bachelor' to 'John is an unmarried man'. In that inference 'bachelor' and 'unmarried man' occur extensionally. It is quite clear that the inference would fail to be necessarily truth-preserving if 'Bachelors are unmarried men', taken extensionally, failed to express a necessary truth, i.e. left open the logical possibility of bachelors' not being unmarried men. Once this is pointed out we see that it is precisely the required extensional statement that we ordinarily take to be necessary, a priori certain and analytic, and on which we normally rely with as great an assurance as on any other candidate that might - inadequately - be proposed. If we cannot trust our conviction that the extensional statement is necessarily true, why trust any conviction of necessary truth? Certainly no alternative candidate could perform that task of necessary truths of which we first became aware in ch. 2.

Two questions emerge when we consider what reply the conventionalist might make to our argument hitherto. Do extensional necessary statements really exist? Are they really needed in inference - could one get by without them? We do not wish to rest our case for saying that extensional necessary statements exist on the dire consequences of the denial that they exist. Only at the

end of our investigation shall we be in a position to deal adequately with the question of whether the extensional statements in question are 'really' necessary. We shall see that extensional statements are as good candidates as any others. Meanwhile we certainly wish to establish beyond reasonable doubt that 'Bachelors are unmarried men' - which of course we are just taking as an example - can express an extensional truth (about bachelors), and that its truth is required if logic is not to be made nonsense of.

In the present chapter we have already argued against Wittgenstein that analytic truths and contradictions are perfectly meaningful. We need to proceed analogously against those who would deny that 'Bachelors are unmarried men' can express an extensional statement. (Once statementhood is granted, it will readily be granted that a truth is expressed.) What can stop 'Bachelors are unmarried men' expressing an extensional statement? Its terms are defined for extensional use: they occur in contingent extensional statements; and (a definition for) extensional use is needed before intensional use is possible (c.f. ch.1). Furthermore it would accord with the usual general rules of syntax to use 'Bachelors are unmarried men' to express an extensional statement. One certainly could

not be accused of a category mistake, even if such an accusation were ever an argument against the supposition that certain words comprised a meaningless combination. I can verify that bachelors are unmarried men, or, if that sounds objectionable, one can investigate bachelors to see whether they are unmarried men; the fact that they are specified by reference (2) certainly does not hinder me in this exploration: I can see whether bachelors, as specified by reference (2), are healthy, wealthy or wise. It is a fact about bachelors that they are unmarried men - why should I not be able to report it, with the aid of suitable conventions. Surely it would be very odd for a conventionalist, of all people, to deny that I could achieve this? What could prevent me? Mere physical impossibility would not suffice to safeguard logic: if it were logically possible to say something that could be used against conventionalism, then conventionalism is as good as beaten. And surely no sort of convention could prevent me from framing and following the conventions I require. If some convention did that, it could surely be over-ridden, as a mere convention. (If it were an explicative statement (2), it would,we have seen, lack all force against a project of framing the conventions needed to express an extensional statement in certain words.) And would any conventionalist really be prepared to argue

either that it is meaningless or that it is self-contradictory to talk of so meaning words that one says of bachelors as specified by reference (2) that they are unmarried men? I can specify things by using 'bachelors' with reference (2). I can use 'are unmarried men' in predication. How odd it would be if these two possibilities could not meet in the very statement which seems to incorporate them in the most secure way! The best the conventionalist could do would be to postulate ad hoc a prohibitory rule; but, as was said, I could simply refuse to acknowledge it. As long as I positively explain what I am about, no harm can come to me: I shall talk sense. One might just as well propose or postulate a rule prohibiting the juxtaposition of the words needed to say that bachelors are healthy. Finally let us remember that one can indicate the truth-conditions of a necessary extensional statement partially by ostension, with the aid only of words which nobody could afford to call self-contradictory. One could draw attention to one set of properties constitutive of bachelorhood, and then do the same with a second set, saying: things like that have to be things like those others if the statement is to be true. (c.f. the earlier argument in section (A)).

Now what of the suggestion that we need not appeal

to extensional principles in deductive inference? The idea would presumably be that in inference it is quite sufficient to point to the conventions operating in connection with the premises and putative conclusion. To see the validity of inferring 'pvq' from 'p', it might be said, one only has to notice certain facts about the meanings of the sentences expressing these statements. Why bother with any talk of entities beyond the statements? Why, there may not even be any such entities - suppose the inference concerns fictitious properties of unicorns! The correct reply to all this is as follows. We do not deny that all sorts of different procedures could be followed which, in fact, would lead to the adoption of no false conclusions on the basis of true premises. We do not deny that we ascertain what premises and conclusion mean when we make an inference. Both of these points apply equally to (e.g.) inductive inferences. We do say, however - and have shown it to be true - that extensional necessary statements have to be true if deductive inferences are to be truth-preserving. It has also become clear to us that we do appeal explicitly to extensional necessary statements in inference - information about conventions is merely hinted at indirectly by these statements. As to the fact that there are inferences and necessary truths concerned

with fictitious entities: that no more shows conventionalism to be true of deduction than the involvement of fictitious entities in inductive cases shows conventionalism to be true of induction. In both cases it is simply a matter of our extrapolation, beyond actual cases, of the general principles by which we assess statements and inferences.

It might be mentioned here that some forms of (j) - conventionalism possess a special implausibility deriving from the matter of the particular kind of convention to which appeal is made. At least some forms of (j) - conventionalism appeal to conventions which genuinely concern us when we validate a necessary truth. Conventions of type (1) indicate what the words expressing the truth mean. Conventions of type (2) - ifexplicative statements (1) - exhibit the content and functional relationships of the concepts of the truth to us. Conventions of type (3) exhibit analyticity when supplemented with the information that the terms in question are descriptive. Conventions of types (4) and (5), by contrast, are irrelevant. If the words 'bachelor' and 'unmarried man' are used of the same objects, it does not follow that 'All bachelors are unmarried men' is necessary. If it did follow, then we could show that 'All featherless bipeds are human' expresses a necessary truth. Similarly, it does not follow from the use of the concept of the featherless

biped in connection with humans that 'All featherless bipeds are human' expresses a necessary truth.

Although upholders of (j.iii) consider themselves conventionalists, it should be noted that in fact (j.iii) is compatible with ontologism, which is neutral on the issue of which statements entail necessary truths. Furthermore (j.iii) renders itself additionally unenlightening by using the term 'follow from', presumably to be elucidated in terms of logical necessity. However, as we shall see in ch. 14 (in the section on Pap), (j.iii) sometimes uses 'follow from' in a loose way. But if for instance the view is that conventions are constitutive of necessary truths, then the theory reduces to some other form of (j) - conventionalism, namely (j.ii), which has already been eliminated.

There will be further remarks on (j.iv) in our chapter on Husserl's followers. (j.vii) has already been refuted in the foregoing. We can object additionally that even if necessary truths had meaningless negations, still ontologism might be true.

The (j) - conventionalist tries to exclude from view all those extensional statements of the form 'Bachelors are...' which are necessarily true. He tries to do the same thing in respect of every other statement-form. He tries systematically to substitute some other formulae

of hiw own choosing. His project collapses as soon as we see the possibility of, the need for, and the actuality of, statements of the kind to which he has made us blind; or he fails as soon as we see that the formulae which he substitutes do not really possess the properties of necessary truths, and only seem to do so as long as the convention is blended, in our minds, with those features of the necessary truth which the conventionalist has no desire to be rid of or to conceal. During philosophizing the conventionalist makes us see extensional necessary truths a s conventions, and the spell is broken when we insist on a sober review of the different kinds of statement one can distinguish. Let us next check over the conventionalist and anticonventionalist literature, to see the sources of the mistakes, to see how far they stand rectified and to see how far our account does justice to actual instances of conventionalism. Our examination of the later Wittgenstein will be the last item in the chapter.

First let us take another look at Hempel's 'On the Nature of Mathematical Truth'. We have already noticed the unsatisfactoriness of his way of dealing with 'traditional empiricism' of Mill's type. (Note that Locke, Berkeley and Hume all differ from Mill, so that the term 'traditional empiricism' could be misleading.

It is however convenient if its restriction to views like Mill's is remembered.) Hempel's positive account of logical necessity is as typical of the times as it is unsatisfactory. Of analytic truths he writes (224) that they are

> "true simply by virtue of definitions or of similar stipulations which determine the meaning of the key terms involved".

Here he seems not to assert that analytic truths a r e conventions but that they owe their truth to conventions alone. This could not be true of analytic truths which have meanings not mentioned in any actual stipulations. So presumably Hempel would prefer to say that analytic truths are true "by virtue of" facts about their meanings, whether these meanings were ever stipulated or not. Do analytic truths then report facts about meanings? We have seen that that view will not do as an account of all analytic truths. If (most) analytic truths are not about meanings, how can it be true that

> "they can be shown to be true by a mere analysis of the meaning attached to the terms which occur in them" (224)?

That is what philosophers since Plato would like to say - but once conventionalism goes, so does its claim to be able to solve the problem of the a priori knowability of necessary truths. When one realizes that coming to under-

stand a sentence is not normally regarded as part of the verification of the statement it expresses, we see that Hempel is in effect saying that analytic truths require no evidence. Once we have corrected the conventionalist's account, we have to say that we accept necessary statements as true on the assumption that they fall under some true principle - or else a r e some true principle - and there remains the problem of how we know the truth of the principle involved. The fact that we have a stock of such principles, in which we trust, obviously does not in itself show that they are a priori justifiable (in a sense of 'a priori' which does not make it analytic that logic is wholly a priori whatever its actual character turns out to be). One might just as well conclude that 'Water at 50.33 degrees Fahrenheit is wet' is genuinely a priori because people do not need to look at the world or experiment to satisfy themselves of its truth. In both the inductive and the deductive cases we bring to bear principles which we carry in our head, but which scarcely seem justifiable a priori, in view of their subject-matter; unless one accepts the absence of any procedure at all as a mode of justification.

We must also protest at Hempel's statement that

> "An analytic statement conveys no factual information" (224).

Naturally if one could say this one could say

> "it is precisely for this reason that the statement can be validated without recourse to empirical evidence" (224).

If an analytic statement told us of meanings, it could not be validated purely by reference to its own meaning, unless it were solely about its own meaning; which would make it quite useless in helping us to validate inferences, on which analytic truths and statements about meaning are brought to bear. If an analytic statement is not about anything else - as it cannot be for the conventionalist - how can it be true or false at all? Somebody might suggest that truth in some non-correspondence sense is involved. But nobody can produce such an alternative sense. The move is just a desperate one designed to keep from noticing that analytic truths really are necessarily true in the correspondence sense. This would not be altered by producing a new concept of truth.

Hempel also makes the claim (234) that logic and mathematics

> "renders explicit certain assumptions or assertions which are included in the premises of the argument".

Let us get quite clear on this matter. Sometimes a deductive step is just a restatement of the premise in alternative symbols, one can say; though even this

remark is potentially misleading. If I move from '-(-p.-q)' to 'pvq', I may claim

either: that one statement restates the other;

or: that one statement is true if the other is;

In the first case I make no inference at all. In the second case I infer a statement synonymous with the premise - in that sense a restatement of it - but the inference involves a claim of truth-preservingness which transcends any claim about what the premise states. Nor must one confuse the truth that I learn nothing new from the inference from p to p with the falsehood that 'If p then p' is contentless. (Who would confuse the truth that I learn nothing from the inference of p from p with the falsehood that 'If p then q, and if q then p' (p and q inductively connected here) is contentless?) If we consider the inference from 'p.q' to q, we find that q is literally "included" in the premise - as a conjunct. But, as is well known now, not everything included in a premise can be extracted as a validly drawn conclusion. (Of course we interpret 'include' in the literal sense, so that 'pvq' includes q; if "included" meant 'implied' then Hempel's explanation would scarcely be explanatory, since tautologous.) 'If p.q, then q' could not in any case be said to assert that 'p.q' says q; for, all other

objections apart, it would be appropriate to retort 'No it does not; it says that p.q'. To avoid this retort, Hempel would have to construe 'If p.q, then q' as announcing that 'p.q' contains q as a conjunct; a translation that nobody would normally dream of offering, but the one which is required in preference to the translation which seems less far removed from the real meaning of 'If p.q, then q'. Of course when we get to 'If p, then pvq' the inclusion doctrine falls right apart: 'pvq' is in no literal, non-trivial sense included in p; quite the reverse is true.

The conventionalist could however improve his position without going so far as to give up conventionalism. He must stop seeing 'If p, then pvq' as elucidating the meaning of p. He would do better to claim that that hypothetical reminds us that 'pvq' is conventionally defined to be applicable if it is true that p (among other conditions). Then at least the conventionalist has claimed that 'If p, then pvq' says something which, in fact, is true, and relevant to judging whether a valid implication is expressed by the words 'If p, then q'. Only, of course, the meaning of 'p' is also not irrelevant. Thus the conventionalist finds himself in the awkward position of saying that an analytic truth provides only some of the information relevant to judging whether certain words express a

valid inference; which would be rather odd. More thrustingly, the conventionalist might suggest that we can get by without inference of one statement from another, and rely on mere restatement: 'You say that -(-p.-q); you mean that pvq; and see, there is a state of affairs verifying 'pvq', i.e. '-(-p.-q). '. However this sort of thinking cannot take the place of 'If (p.q) then q; q; therefore "p.q" is confirmed', for in verifying that q one is not ipso facto verifying the statement that p.q; one cannot say one is ipso facto verifying part of the very statement without raising the usual difficulties over 'part' (triviality and reversion to talk of deduction, or defectiveness e.g. respecting disjunctions) and without opening up a gap between the statement said to be verified and the statement said to be confirmed. Only inference can close the gap. Perhaps we now appreciate sufficiently fully the pitfalls in saying with Hempel (235) that

> "mathematics (as well as logic) has, so to speak, the function of a theoretical juice extractor".

We have been able to question this view effectively without disputing that all logical connections are analytic. Thus we have not said that deduction is a substitute for empirical inquiry. So perhaps one

should say that the central confusion in Hempel's mind is between the truth that 'p' does not advance us beyond 'p' and the falsehood that 'If p then p' is contentless. This confusion is of course sustained by the restriction of 'fact' to contingencies.

Next we shall consider an anticonventionalist paper: Goddard's 'Laws of Thought'. He begins by saying that contradictions are meaningless (32); we shall find that this mistake (c.f. the above) is quite common outside the ranks of conventionalists. It probably derives from our inability to p i c t u r e an impossible state of affairs, though one can think the impossible in a more complex kind of platonic thought. However this is a peripheral matter. Goddard's chief claim is that if conventionalism were true then one would expect logic to alter when verbal habits change (33).

"But this simply does not happen" (33).

Nor does the reverse: as long as 'p.-p' remains a contradiction, the meaning of 'not' does not alter (33). To show that logical laws are conventions, claims Goddard (33),

> "we have to show that we can on occasion assert 'p.-p' while yet retaining that meaning (use) of 'not' which we ordinarily accept".

To the first points the conventionalist could reply that what Goddard denies happens does happen. To counter this

one needs to show how there is a truth distinct from ones about symbols or meanings. Goddard's last-mentioned point could be countered by Goddard's first: 'p.-p' is meaningless in its present use, the conventionalist could say. Again one needs to make moves Goddard cuts himself off from. The next portion of Goddard's article is no better. He says that the law of non-contradiction follows from the truth-tables only by logic (34) and that use of logical words is involved in setting up or interpreting the truth-tables (35). But these points do not entail, as he claims (35), that the law of non-contradiction is "presupposed" in all discussions of it. Whether one presupposes the law in discussing it depends on the words one u s e s - and in these discussions the law is only mentioned. Surely Goddard does not wish to say I cannot mention a principle without presupposing it? And how could Goddard's two points be thought to show that any words I may use presuppose the law of non-contradiction? Still wilder is his further inference (35) from the (false) claim that all discussion of the law presupposes it to the conclusion that it is 'not a verbal convention', but a 'necessary condition of intelligible discourse', a 'law of thought'. It is impossible to see how all this could be thought to follow, indirectly, from his two trivial points. The equally disappointing final section

of Goddard's paper departs from the idea that the law of non-contradiction holds only if temporal and spatial restrictions are imposed (36). This gives him (36) the idea that perhaps the necessity of the principle can be made to disappear by a change of space and time conventions. With overlapping time-scales, he says, we should have a stone at B and not at B (38). Perhaps no longer minding after reaching this conclusion, he contradicts the earlier sections of his paper by concluding that the law is a convention in a wider sense (38). (If so, the negation would be intelligible and the law would not be presupposed in all thought, etc.) One might reply to Goddard that his example shows that the spatial restriction on the law of non-contradiction is better altered, in such a way that what is said to be impossible is that a thing should have a property and not have it a t a l l . It is not the case that the stone is at B (or wet) and not at B (or wet) at all, insofar as it is at B (or wet). However, it is not difficult to present a contradiction as an epistemic option. Then the question is: how does the claim that the option cannot be true relate to our decision to reject it? This is a matter Goddard does not raise, though he should do if he is to resist the reply 'But you are just sketching an impossible case.'. We shall settle the issue in our last chapter.

At the end of the eighth chapter of his 'The Elements of Logic', Barker gives two objections to conventionalism - though only after claiming that to learn the language is to learn that 'p.-p' is false, which seems plausible only on conventionalism. Barker objects to conventionalism that one cannot properly talk of m a k i n g false what cannot be false; and that laws of logic are unchangeable, necessary truths when construed, as truths about statements. Here Barker certainly makes correct points. But by themselves they do not defeat the conventionalist, since he will consider himself to be at liberty to translate the "cannot be false' and the 'unchangeable, necessary' into something conventionalistic - which would make Barker's points seem misguided.

Waismann presents some Wittgensteinian arguments for conventionalism in 'The Principles of Linguistic Philosophy'. In the first few pages of his ch. XIX he argues that logic must consist of "rules", not "propositions", if it is to justify inference. Well, inductive principles can be put into rule form too, but in both induction and deduction, we have seen, the principles must correspond to truths, if they are not truths themselves. Later in the same chapter Waismann argues that since we wish to justify inferring 'pvq' from 'p', and not from 'p' plus axioms, adding

'If p, then pvq' to the premise 'p' must not make any difference to the content of the premise. But it is clear from our investigation that a difference is made to the content by that addition. We must say that 'p' entails 'pvq' and that the added premise has to be true for the entailment to hold. (Just as p is true only if it is true that p, true that it is true that p, etc.) Waismann says nothing to counter our earlier arguments. Still later in ch. XIX he says that we can get along well with the negations of the usual axioms of logic provided we change the rules of inference so that they use the negation of the negated axiom. But, pace Waismann, the same does go for mechanics, so nothing of interest has been shown. True one could notuse ordinary logic on negated axioms of mechanics and still have a serviceable mechanics. But one could use negations of negated axioms of mechanics satisfactorily in inference, and that is the true parallel. Nor can we agree with Waismann's claim (still ch. XIX) that one cannot arrange for the propositions of our language both to remain propositions as before and to be used according to different logical rules. For it just is not the case that, if we made the whole population of the world use invalid rules of inference for most hours of each day, any words would cease to express propositions or change in meaning. Let the Wittgensteinians try it!

Earlier in 'The Principles of Linguistic Philosophy' (ch. III) Waismann considers arithmetic. We find the typical claim that '7+5=12' does not enable us to anticipate the future. Whilst '7+5=12' does not claim that 7+5 things will remain 12 for any length of time whatever, it does claim that a t a l l t i m e s , including future ones, w h i l e there are 7+5 things there are 12. For a counter-instance at any instant whatever would falsify '7+5=12'. It will not do, to say with Hirst ('Mathematics and Truth') that '+' must mean an ordinary physical operation if it is to mean anything (218). Does 'and' mean 'shoved together'? If one says that arithmetic is not true of everything, then one is in trouble when it comes to inference: it will no longer be valid to infer 'There are 12' from 'There are 7+5'. That is just like saying it is invalid to infer 'p' from 'p.q' because the fact that p might disappear by the time the fact that q is added to it. We could make no inferences with looking at the world to see whether objects involved were "stable". Waismann (ch.III) admits that '7 apples plus 7 apples = 14 apples' is as necessary as '7+7 = 14', though he gives a mistaken account of both. They are related in no more mysterious a way than 'Pink tigers are pink tigers' and 'Tigers are tigers'. (Some further remarks on these matters occur later.)

Maxwell ('Arthur Pap on Meaning Rules') tries to remove the paradox in identifying the necessary with the conventional by pointing out that meaning rules are justifiable, and so are not arbitrary. But it is sufficient that alternative meaning rules of all kinds are possible, whereas alternatives to necessary truths are logically impossible. Thus e.g. it might be expedient to reverse a meaning rule, but not, in the same way and for the same ends, to reverse one's subscription to a necessary truth. Even if one admits that necessary truths are in principle revisable, it is clear that reversing meaning rules is a different process: if I go back on my classification of red as a 'colour', I do not thereby go back on my classification of it as a colour in the sense of denying it to be a colour in the original sense of the term. Whilst I do reverse the o r i g i n a l meaning in reversing the meaning rule.

In 'Truth by Stipulation', Richman is interested in conventionalism as a theory which claims to do away with the need to say that we validate necessary truths 'by intuition'. Richman begins by claiming that we need intuition to understand any sentence, because no sentence announces its own meaning (33-4). To this one could reply that one just has to remember facts about the sentence which were not originally ascertained by

intuition, but in a normal empirical manner. This normally does not occur in a very self-conscious way, but then the same goes for a great deal of the information one possesses and continually applies. Richman next (33/4) claims that even if some statements are true by stipulation, intuition may still be necessary for

> "(a) knowledge that analytic statements are true in virtue of stipulations, and (b) recognition of the analyticity of particular statements which are true by stipulation" (34).

> "My contention is that the stipulation of linguistic rules alone cannot account for the n e c e s s i t y of a l l analytic statements, since stipulation alone cannot account for the t r u t h of a n y statement. At best, stipulations of meaning can be such as to render the truth of a given statement intuitively evident....a stipulation of definitional equivalence or of analyticity, if it is to be non-arbitrary, must rest on a prior recognition of synonymy or of analyticity....since such stipulation involves the use of linguistic expressions the meaning, of the expressions of the stipulation must be 'intuitively'

understood." (34.)

One can make the same protest against all these appeals to the need for intuition as we did against the first. But it is more profitable to construe the issue as being the question of whether the problems in the claim that we know the truth of necessary statements can be avoided by switching to talk of truth by stipulation. The idea cannot be that we can be certain of the truth of any statement that we declare to be true, for that would lead to an absurd chaos. In particular, it will not do to say that we can gain (a) by stipulation. And surely we cannot a s c e r t a i n anything by stipulation, since we are free to stipulate as we please, which means that we can do so whatever is actually the case, so that any falsehood could be declared true. Theconventionalist of the type in question may say that we just do arbitrarily 'stipulate truth' in the case of analytic truths, and that in this case it is harmless, even advantageous and correct. But this is equally true for contingent truths: these too may be declared true arbitrarily. Only the conventionalist has failed to show how we can be sure it will continue to be safe and how we can tell which candidates may safely be declared true. This is where Richman's point (b) comes in. We c a n n o t take just any statement and declare it true without running the risk of error. Stipulation of truth just

does not create truth, let alone analytic truth. This Richman notices (35). And in connection with (b) it is significant that we are careful to ascertain the analyticity of a statement b e f o r e we declare that it is true. The conventionalist cannot properly ignore the question of the justification for maintaining analytic statements to be true. The conventionalist talk of truth by stipulation is really just wishful thinking: he wants there to be no gap between stipulating certain meanings and their entering into an analytic statement which we somehow know to be true. But the gap obstinately refuses not to exist.

It is no use arguing against conventionalism on the basis of superficial analogies and dissimilarities. That is a fault of Castañeda in 'Arithmetic and Reality'. "No action is prescribed to anybody by the proposition '7 trees and 5 different trees are 12 trees'" he says (407). But the conventionalist may say that the utterance tells one how to use words. Nor is Castañeda right in saying that it is difficult to work an 'ought' into the sentence (407): one can say that 5+7 ought to be said to constitute 12. He then concedes (407) that there are mathematical rules "derived from mathematical propositions" (407) - only the conventionalist will reply that Castañeda has simply differentiated more and less explicit versions of one and the same rule. If one

goes by superficial features one ends up by saying such things as that moral utterances are 'probably' statements because they look remarkably like them. One must follow up the opposing views much more thoroughly than Castañeda is prepared to do. However Castañeda does have one penetrating anticonventionalist remark to make in 'Arithmetic and Reality'. It connects with certain Wittgensteinian claims which have cropped up from time to time in the present chapter. Castañeda points out that corrigibility is identified by them with being descriptive of the world, yet arithmetic is said not to be about the world because ordinary arithmetic (is or) could be falsified by the world (408). We can sum the point up by saying that if what the conventionalists said were true, there could be no question of asking whether reality falsifies arithmetic, for it would not specify what to examine to find out. Given any ordinary meaning rule, I cannot very well ask the question which the Wittgensteinians pose as a first step towards trying to show that a rule is what is being dealt with. Thus the Wittgensteinians give the whole game away by admitting the existence of an interpretation they wish to deny to exist. Except, that is, that they confuse that interpretation with a quite different statement about the "stability" or "instability" of certain objects.

Gasking ('Mathematics and the World') is Castañeda's

chief target. He makes the mistakes over corrigibility (391/2). He also says (393) that we should give up anything rather than '7+5 = 12'. It is true we have immense confidence in it; but surely we shoulddrop the claim at once if we encountered a clear counterinstance. We should not insist on a saving ad hoc hypothesis if e.g. we simply saw that none of the objects altered during counting, i.e. if we could survey the whole scene perfectly. (Even if one postulated an illusion of the senses, a falsification would still have occurred in respect of elements of the visual field.) Thus there is no justification for inferring thatwe should refuse to consider counter-instances from the fact of our immense confidence in necessary truths. (c.f. the position for certain inductive truths f a l s i f i a b l e b y p l a i n e x p e r i e n c e , if illusion is ruled out. Of course the position is different in highly theoretical contexts - e.g. science) It is interesting to see (394) Gasking rejecting the view that '7+5 = 12' expresses the speaker's terminological intentions (j.v.). Mathematics is more public than that, he says (394). He adds that as no change of language habits could falsify the utterance, it is not an empirical generalization about these (394). Thus the inference to the public rule theory, against which we have argued at length already. Gasking avoids the paradoxes that necessary truths are

either just expressions of intentions of particular people, or really contingent, by embracing the paradox that they are not really truths. Next (395) comes the statement that a mathematical proposition is not exactly a rule for manipulation of symbols, since we cannot change our mathematics at will (unlike our ways of indicating the plural) without getting into practical difficulties. This is wrongheaded. If I change the rule for using '7+5', I get into difficulties only if I go on inferring '12' afterwards. Similarly, if I change the rule for indicating the plural, I get into difficulties only if I go on inferring that a plural is being indicated by the same sign as before. What does get me into difficulties is denying arithmetical truths, however faithfully I follow conventions. Which indicates that necessary truths are different from rules, as well as that Gasking is in a muddle. Finally Gasking shows how there are certain ways of deviating from ordinary arithmetic which do not lead to a vitiating of it (397-403). If arithmetic were really a body of rules we could negate each formula without coming to grief. As it is Gasking can only find trivial changes which do not lead to disaster. We need not go so far as Jardine ('Professor Gasking on Mathematics') and say that Gasking can make only terminological changes (256), but we must insist that none of the d i f f e r e n t

arithmetics c o n t r a d i c t s ordinary true arithmetic, so that nothing has been shown which is more spectacular than the possibility of alternative ways of classifying and describing colours (or anything else).

Having erroneously stated (73/4) that contradictions are meaningless, Campbell ('Contradiction: "Law" or "Convention"?') insists (74-6) that the conventionalist needs to be able to show that it could be intelligible to assert 'p.-p' in its normal sense. We saw in our general discussion that the conventionalist needs to claim that 'p.-p' is u n i n t e l l i g i b l e in its normal sense in order to block a natural line of argument against his position. The conventionalist should welcome Campbell's stance, for if he is right avoidance of contradictions is on the same level as avoidance of nonsense syllables in discourse. As remarked earlier, the view (j.vii) does not make at all clear why the negation of the supposed nonsense is a necessary truth, or even a truth at all (as opposed to a piece of nonsense preceded by 'It is not the case that'). The following points can also conveniently be made at this juncture. '-(p.-p)' is one of those necessary truths which it is especially hard to construe as a convention, etc., since the sentence expressing the law does not lend itself to any

such alternative interpretation. The conventionalist might be tempted to try 'Do not say "p.-p"', but that interpretation scarcely fits on to alternative symbolizations of the law, such as 'If p then p'. The interesting thing is that so many forms of (j)-conventionalism are much more ill-fitted for dealing with the law of non-contradiction than for dealing with some other necessary truths. Thus nobody could construe the law of non-contradiction as the expression of the relation of an expression to its meaning, for example. Perhaps the law might seem to some to say that no meaning has been given to 'p.-p'; but that statement could soon be falsified by giving the expression some meaning, could it not? Indeed, some conventionalists have thought it worthwhile to do just that, so the translation offered is already false. Or are we to take it that the law states that no meaning has been given to some specific utterance of 'p.-p'? That would be an odd and pointlessly restricted 'law'!

An example of the muddle which nourishes, and is nourished by, conventionalism is provided by Le Dantec's article 'la Logique et L'Experience'. He says (47) of logic that it is

"instinct par excellence; it is the genetic summary of ancestral experience". If one thinks of logic in terms of conventions - the conventions which indeed govern the words expressing logical truths - and if one thinks of these conventions as having been gradually adjusted to a stable reality, then Le Dantec's view may seem plausible. We have seen, and shall see, the popularity of more modern equivalents. (Le Dantec wrote in 1904; he uses the word 'convention' (48/9) after Poincaré, noting how nature makes certain conventions convenient.) In a different world from ours, he says (51), our logic would deceive us. Only if we share the conventionalist's state of mind! If the need to change conventions were the need to change logic, then he would be right. But as long as we realise that the old concepts are no longer instantiated in the new world, we shall no more get into difficulty than we do now in connection with necessary truths about unicorns; which we refrain from applying to inferences concerning horses. And the world would have to change very drastically indeed to make irrelevant the most general necessary truths about things, properties and relations in general! We have no positive idea of entities not falling into such categories and so failing to

fall under general logical laws.

Now what of the talk of saving principles - making them necessary - by refusing to count recalcitrant things as instances? This is the sort of vague talk which leads to a confusion among different forms of conventionalism, right from (a) to (j). In 'Vom Wesen des Logischen, insbesondere der Bedentung des modus barbara', P Hertz raises the question of whether the transitivity of identity is analytic or even universally a fact. This is a matter for our later chapters (chs.10 and 15). Hertz concludes (391) that the transitivity of identity does break down, that it is not analytic and, much more dubitably, that the barbara syllogism is not analytic. What interests us at this stage of our investigation is his proposal (329) that we repair the damage by deciding in advance not to count recalcitrant things as instances. Compare Hertz's remark with the following passage from 'On the Nature of Mathematical Truth' (225):

> "Suppose, for example, that a,b,c are certain shades of green, and that as far as we can see, a=b and b=c, but clearly a is not identical with c. This phenomenon actually occurs under certain

> conditions; do we consider it as disconfirming evidence for the proposition under consideration? Undoubtedly not; we would argue that if a is not identical with c, it is impossible that a=b and also b=c; between the terms of at least one of these latter pairs, there must obtain a difference, though perhaps only a subliminal one. And we should dismiss the possibility of empirical disconfirmation, and indeed the idea that an empirical test should be relevant here, on the grounds that identity is a transitive relation by virtue of its definition or by virtue of the basic postulates governing it".

Does not the addition of that final disjunct indicate some uneasiness on Hempel's part, lest a stretched sense of 'analytic' will have to be invoked? We can of course stipulate that one must not say that something is identical with two other things unless those two other things are identical with one another. Transitivity of identity in that sense would be analytic. But is it the ordinary sense? Would a strict verification of 'x=y, and y=z' really involve checking that x=z? Surely that would be thought unnecessary, for the ordinary sense of 'identity'. Not because to compare x and y and to

compare y and z is in itself to compare x and z. It is not. Rather the superfluity would arise from the irrelevance of the matter to 'x=y, and y=z'. It might be held to follow from our 'x=y, and y=z' that x=z, so that it would be unnecessary to take a separate look at x and z to know that x=z, should one wish to know it. But clearly the inferential step would be synthetic. Suppose, though one retained the meaning of '=' which we claim to be the ordinary one, and said that any counter - examples were not to be counted as instances? Well, that would just be a sort of fraud. I can do the same with any falsehood - e.g. say 'All paper is pink' (in the normal sense of the words) and then refuse to count white paper as paper. The method does not yield necessary truths, but merely a refusal to count falsifications as falsifications. Mackie ('Proof') distinguishes a third possibility (25), during an otherwise irrelevant discussion of geometry:

> "We can go on using the terms with the given meanings, while at the same time being prepared to protect the propositions from falsification, if necessary, by changing their meanings"

In the case of '=' it would be inconvenient to change the ordinary meaning. For instance, I might

compare a and b on Friday and b and c on Monday, but be unable to find c to compare it with a; so that it would be inconvenient to make such a requirement for applicability of '='. There is, however, a fourth possibility. One could maintain the transitivity of identity as a synthetic necessary truth, and then one would be led into the practice, described by Hempel, of postulating undetectable differences between a and b, or b and c. But the very fact that one would be led into this would show that Hempel is wrong in regarding the transitivity of identity (in the ordinary sense) as analytic. For when the transitivity is made analytic, in the way we indicated, the mere fact that a is not identical with c establishes that 'a=b, and b=c' (in the new sense) is false. Genuinely analytic principles never lead us into ad hoc hypotheses about unobservable porperties, or illusions. When (j) - conventionalists say such things they are confused, perhaps confusedly moving into a conventionalism other than (j). The Hempel passage just quoted is a classic instance of confusion of different kinds of conventionalism, resulting from uncritical assumption that

everything normally regarded as necessary is analytic. Hertz does not make that second mistake, but he nevertheless ends in confusion by opting for a vague formula covering more than one of the possibilities which it has been our concern to distinguish in the present paragraph.

We turn next to Malcolm's article, 'Are Necessary Propositions Really Verbal?'. In it Malcolm quite wrongly denies that we indulge in psychical activity when we need to validate a necessary truth (191-6). He prefers the view that it is by observing how people use expressions in certain circumstances that we learn necessary truths. Well that can be said to be a method whereby we come to see that a sentence expresses a necessary statement - in a sense of these words which does not entail that knowing conventions suffices for knowing a necessary truth. By observing people using words I can equally come to see that certain sentences express contingent truths; but, again, not in a sense in which it follows that the contingent

truth can be verified from conventions.

Malcolm is the willing victim of the ambiguity of his question 'How do we get to know necessary truths?' (191-4). He is also a victim (194-6) of the 'use' theory of meaning. Simple observation cannot show that terms are being used "interchangeably"; even when one knows they are used of the same object, synonymy is not guaranteed. Nor can we agree, after our earlier discussion, that statements of meaning are the same as entailment statements (194-99). Malcolm adopts the view that necessary truths are rules "justified by" contingent facts about usage. We do not need to repeat our refutations of that view; but we do need to expose as fallacious the argument he brings in support. He says there is nothing paradoxical in the view, because such a contingent statement as 'Lord Russell is Bertrand Russell' is non-verbal but justified by verbal facts (198-200). The use theory is causing trouble again

at this point. The sentence containing 'Russell' expresses a truth because the words of it relate to a certain person in a certain way. But such a truth can be found with respect to any sentence. If necessary truths are justified in that sort of way then they really are not rules. There can be no question of justifying either the statement about Russell, or necessary truths, by reference to genuinely purely verbal facts (as opposed to facts embracing the relations of words to facts). Finally, Malcolm (200-2) makes the mistake of believing he can escape translation test difficulties by having a rule theory; in fact, as we saw, the difficulties do not arise only in the case which he acknowledges, namely that of descriptive utterances.

Black ('Necessary Statements and Rules') makes a large number of conventionalistic claims which have already been refuted. The first part of the article elaborates the way in which dummy pieces

could take the place of rules in a kind of chess; in the sense, it turns out, of serving as reminders - e.g. about a square no piece may move on to. Obviously the dummy piece does this only when its use has been explained, so it does not entirely replace a rule. Then (322 ff.) it is claimed that necessary truths are "dummy statements" used to simplify inferences, e.g. by reducing a recalcitrant argument pattern to a normal one. But obviously the most general necessary truths do not have such a function. Furthermore it is simply asserted without argument that a "dummy statement" is entirely analogous to a "dummy piece" (322 ff.), whilst what is required is a proof that the analogy holds in all respects and not just some. That is, Black would have to show that necessary statements need not be regarded as truths. The analogy with modified chess fails further in that dummy pieces are not meaningful in themselves whereas necessary statements

are meaningful, as Black concedes (passim in the article). At the end (336-40) an attempt is made to explain the feeling of logical necessity by the fact that necessary truths relate to linguistic rules by which one is bound. But in fact one may not be bound in the least by the conventions operating in connection with a necessary truth, yet it still seems to be necessary. If, on the other hand, Black is pointing to the fact that one must use the requisite conventions to entertain a necessary truth, he is simply trying to explain one logical necessity in terms of another; which is no good at all. Furthermore the relation of the necessary statement to the rule is left quite obscure. Finally (337-41) Black insists that any Gedankenexperiment is simply a reminder of meaning. It may be that - sometimes it is. But it is not hard to see that we sometimes rely on the Gedankenexperiment in a more far-reaching way. Why else should we wrongly believe in the validity

of the principle ' If A is west of B, B is west of C and C is west of B, then A is west of D'? Is it not a matter of ill-advised reliance on an inadequate psychical representation? We genuinely seem to crave 'confirmation' from such psychical representations. More will be said on this in later chapters. Black says that if somebody claims to intuit a necessary truth, this claim is overriden by the facts of usage, which alone are decisive on the question of whether words express a necessary truth (338-41). This is one-sided. We can take the sentence to mean what is contained in the intensional act - and sometimes do so. In the 'west of' case, one might say that the truth one actually entertained - psychically - is necessary.

In 'Are Self - Contradictory expressions meaningless?' Lazerowitz takes the view that we are here healing with a borderline case. But the only solid point he considers to be in support of a negative reply to his question is an alleged lack

of "descriptive" meaning in contradictions. Yet we have seen that that is precisely the sort of meaning contraditions do have. No doubt Lazerowitz is relying on the question - begging 'descriptive' - 'contentless' dichotomy. A. Ambrose ('Self - contradictroy Supposítions') argues that the meaningfulness of contradictions cannot be inferred from their ability to occur in the sentence 'Suppose...' (as in reductio ad absurdam). She postulates a sense of 'suppose' in which one can suppose the meaningless. Surely it would be more realistic if she said that 'suppose' has to be constued in an unusual way if contradictions are to be said to be meaningless. Pace Lazerowitz, people thus do treat contradictions as meaningful - though this does not show that they are - but people use 'meaningless' for 'false' and 'self - contradidtory' on occasion. We do not maintain, or need to maintain, that contradictions are not false or self - contradictory, of course. Lewy ('Logical Necessity') says that denial of

necessary truths are meaningless because it is (63-7) meaningless to deny rules or commands. As '(p.-p)' is meaningful, so much the worse for the view that necessary truths are rules or commands. (In the same article Lewy says also (65-8) that a different choice of conventions would yield a different set of necessary truths. Yes, provided that we used them to express necessary truths. But is is misleading to say that therefore necessity is relative to the conventions we have chosen (65-7).. Our commitment to the usually expressed necessary truths does not involve our denying necessity to others; we have only denied ourselves the means to express them. As Rujd points out ('Good Logics and Bad'), alternative logics are not alternatives in the way the different geometries are, for they are all true to reality.)

Fisk ('Analyticity and Conceptual Revision') claims that it is circular to define 'analyticity' as truth in virtue of meanings because (628):

> "all meaning categories are mere codes for analyticity".

This is a poor argument against conventionalism. We do not wish to define 'analytic' by 'true in virtue of meanings'; but Fisk's argument would rule out defining 'analytic' in terms of meanings at all. His very 'examples' (628) of meaning categories show him to be confused. 'Incompatible' does not specify a meaning category, since its definition involves the idea of impossibility of correct co-application. 'Contrapositive', on the other hand, does specify a meaning category, since its definition does not involve the idea of what can or cannot be asserted with truth. We shall see in ch. 10 that 'analytic' can be defined in a clearly non-circular way. Fisk thinks otherwise because he is mixing up logic and semantics. He points out soundly (629) that many grammatical rules do not even seem like necessary truths. We may add that the reason for this is that these rules - Fisk's example is : '"Of" follows the governing noun' - happen not to be expressed in sentences like, or

the same as, those expressing necessary truths. Fisk also remarks correctly that (630) solecism and truth are compatible. This observation forces the conventionalist to attend to uses rather than usagesin his account. The remainder of Fisk's article, however, is vitiated by his initial confusion, which leads him to identify analytic truths with meaning rules (631 ff). 'Analytic' is defined solely in terms of meanings; but it is just the conventionalist's mistake to conclude that analytic truths are meaning rules. It is like concluding that all truths containing meanings are meaning rules. Fisk goes on (633) to define 'necessary' in terms of whether one can think of "live alternatives" to a given statement in the event of an anomaly. This is an uninteresting sense of 'necessary': one can conceptualize any field in a different way, so that there are "live alternatives" to all statements. We are not misconstruing Fisk here: he allows that

"terms can have different meaning in the live alternatives from what they have in present beliefs" (633).

He even infers from this that (633) "not all analytic propositions need be necessary", presumably because he has identified them with meaning rules. But once that step has been taken, revisability is a straightforward consequence in any case. Barker ('Are Some Analytic Truths Contingent?') protests (638) at the consequence (634 ff.) of Fisk's view that one can deny an analytic truth if one has a convenient alternative system of conventions to replace those operating in connection with the analytic truth. If Fisk were right, no analytic deduction would be safe! It might be (or become) proper to deny the analytic truth guaranteeing it. We shall have more to say of such views as Fisk's in ch. 14 - c.f. the section on Putnam. Barker (638) thinks Fisk right in saying that it will never be expedient to change the meaning of '2+2=4' in the light of factual discoveries - in contrast to the

position for sentences expressing analytic truths involving unstable scientific concepts. It is certainly not easy to imagine a world to which a cousin of the statement that 2+2=4 would be applicable: we can think of no form of multiplicity to which numerals in precisely their present sense would not apply. (C.f. our earlier remarks about 'property', 'thing', etc.) In a world without multiplicity, 2+2=4 would simply be inapplicable, like an analytic truth about unicorns in our own world. All the same, one can think of a world in which it might be convenient to restrict numerals to things of a certain kind, as in our '2 oranges + 2 oranges = 4 oranges'; - suppose e.g. that the people wished to count only oranges, at first with numerals like ours but later with restricted ones, after the discovery of lemons. Barker (638/9) makes the further point against Fisk that the latter's loose criterion of propositional identity means that he fails to contradict traditional views

of analyticity. A similar remark may be made about many other recent writers. Fisk drifts into vague talk of convenience (634 ff), and Barker (638/9) challenges him to show his own conventions to be convenient. Well a loose criterion can be advantageous in certain contexts; but that should not encourage one to indulge in the kind of loose, confused thinking which Fisk displays, which involves overlooking occasions when a strict criterion of propositional identity is in use.

Lazerowitz, in 'Studies in Metaphilosophy', retreats to the view that (48) a necessary truth "reflects the verbal facts we know in understanding it". The explanation he gives (48) is that understanding the necessary truth involves knowing the verbal fact, and vice versa. But the same goes for contingent truths! On the same page we also get such conventionalist remarks as that knowing necessary truth comes to knowing how an expression is used. Later (49) Lazerowitz points out that we can answer

'What is it?' either by 'It is a horse' or by 'it is called "horse"'. But this shows only that the same sentence can express two different kinds of question - not that those two kinds are one. (Compare the case where the horse is shrouded and where it is in full view.) Lazerowitz also complains (50) that Platonists are misled by the superficial structure of ' p entails q' into regarding at as a statement about the relations of abstract entities. Well, they did the same for 'brakeless expresses are dangerous'. Are we conventionalists about contingent counterfactuals? The most striking feature in these pages, however, is the exploitation of the ambiguity of phrases such as "what is known in understanding a sentence which expresses an a priori true proposition" (53). These phrases confuse the unsupported suggestion that to understand a necessary truth is to know its truth with the triviality that to understand a necessary truth is to know its meaning. It will be recalled that we found Malcolm indulging in the same

confusions earlier.

According to Hamlyn ('On Necessary Truth'), analytic statements are necessarily true in the sense that their truth is necessary to the employment of the language from which they are constructed (517-20). How could this seem true unless analytic statements were conventions of some sort? Surely I could use the terms even if 'Bachelors are unmarried' were an extensional falsehood. A further objection to Hamlyn's view is that necessity is made conditional on a contingency. If I make an inference to a future state of affairs, therefore, I must reckon with the possibility that the deduction will not be truth-preserving, for language may cease to be used, and then the analytic statement would be at liberty to be false. Similar objections apply to a second class of'necessary truths' distinguished by Hamlyn (519-22), statements about concepts such that their truth is necessary to the employment of other concepts. Hamlyn ends (522-5) his article by asking whether any truths are necessary to all thought, concluding that none are, though some are necessary to whole kinds of thought. He considers ordinary necessary truths as candidates, and we have already rejected this line of thought: I could make assertions

even if the law of excluded middle were false; etc. There are statements fulfilling Hamlyn's requirement - e.g. 'Some thought occurs' - but they are not necessary truths at all! Clearly, Hamlyn's fundamental error is to try to elucidate unconditional necessity as a kind of conditional necessity. This would be circular any way, since conditional necessity is just the unconditional necessity of a corresponding conditional truth.

Next we consider 'Do Necessary Propositions "Mean Nothing"?', by Edwards, and at the same time another article by the same author: 'Necessary Propositions and the Future'. Let us call the first 'D' and the second 'N! As in the case of previously considered writers, Edwards tries to show that necessary truths lack meaning in any sense in which their possession of meaning would conflict with conventionalism. His first claim in D is that necessary truths lack empirical content (457-9), a claim which he alleges to be acceptable to most rationalists. Yes, indeed, many rationalists share the conventionalists' confusions, and deny that necessary truths are about the ordinary empirical world. But now that we know the truth of the matter,

let us pause to consider an ambiguity which obscures the absurdity of denying that necessary truths treat of ordinary empirical things. 'Empirical' may specify mode of verification as well as sphere of subject-matter. It is plausible to say that the content of a necessary truth is such that no empirical verification of it is required. Having said that, one may be tempted to claim that the subject-matter is not or cannot be in the world of the senses either. But this second claim is different from the first, and, we have seen, wrong. Next, in D, Edwards complains that necessary truths are not open to "genuine" empirical test (459-61), since once I have seen that the subject term or antecedent applies, I have already verified the applicability of the predicate or consequent. This could scarcely be said of synthetic necessary truths, but let us evaluate Edwards' point with respect to analytic truths. When I check bachelors to see whether they are unmarried, I identify bachelors by a characteristic which is required for applicability of the predicate; but that is not to say that identification already involves seeing whether the predicate applies. On the contrary, I take the further step of seeing whether the predicate applies;

though, because of its relation to the subject, this check involves looking at a feature involved in the initial identification of bachelors. Perhaps the case of 'F - things are F or G' makes this matter clearer. In identifying an F- thing, I go by a feature which makes the predicate ('F or G') applicable. But in checking the applicability of the predicate, I could stop once I had found all F- things are G (supposing that they are). Now is there anything in all this to justify Edwards' saying that empirical testing of (analytic) necessary truths is "not genuine"? After all, the result is a foregone conclusion only if one assumes in advance that the analytic statement under test is true. One is only carrying out the very test which the sense of the analytic truth demands. One cannot complain that the test is curcular: on the contray, one is giving the objects in question every opportunity of showing themselves to be other than they are. D also (458-60) treats us to the usual story that 'pv - p' tells us nothing - which indicates an additional motive conventionalists have for saying contradictions are meaningless; for if a truth excluding an impossibility were excluding a meaningful epistemic possibility, that truth could scarcely be called contentless. It is chiefly N O

(155-7) which argues that necessary propositions do not enable us to anticipate the future. Edwards there introduces the phrase'indirectly about the future' by reference to the paradigm ' I am (now) contemplating a visit to England next year'. This statement is not falsifiable by future events, since 'next year' occurs intensionally. (Edwards says: only the object of the state of mind is in the future). But of course all this does not help when it comes to a necessary truth about the future, such as 'Every spinster we meet in the future will be unmarried'. For no term in this statement occurs intensionally, so that the phrase 'indirectly about the future' cannot be applied to it in the way Edwards wishes. For good measure, Edwards throws in (157) the false claim that if the fact grounding a necessary proposition is future its non-existence would not falsify it. One of the ways in which the fact that Spinsters will be unmarried would fail to exist would be for future spinsters to be married, and not spinsters.

In D, Edwards tries to make something of the talk, which we have already encountered, of necessary truths as "reflections" of verbal facts. One can easily see how this sort of talk can seem to offer a secure refuge from the more obvious

objections to conventionalism. It is a retreat into guardedly obscure metaphor, and no sooner is the retreat made than the need for an account of "reflection" makes itself felt. According to Edwards, to say of a sentence Sn that it reflects a verbal fact Fn is to say that (460-5):

(X) Given sincerity, use of Sn shows that the user believes Fn;

(Y) Fn exists;

(Z) If Fn did not exist, Sn would not express the proposition it does (in this case a necessary one).

But this will not do at all: a contingent truth reflects a verbal fact in precisely the same sense! This is just the mistake which we saw Lazerowitz repeating a few pages ago. And, like Lazerowitz, Edwards confusedly adds to (Y) that this amounts to the truth of the necessary proposition expressed by Sn. If so, we have here a reversion to straightforward conventionalism! Edwards does not really want this - he wants to say that necessary propositions are not about their subject-matter in the way that contingent propositions are (462-66). But obviously (X) - (2) fail to explain this. In D, Edwards goes back on N and says (460-6) that necessary

truths are "directly" about the future, but not in the way that contingent propositions are. Yet at the end of D (464-8) Edwards makes it pretty clear that he thinks verbal facts make necessary statements true, so why does he not say that necessary truths are in no way about the future unless they "reflect" future conventions (whatever that might come to)? At the end, Edwards says that the identical propositions 'Seven plus five equal twelve' and 'Sieben and fuenf find zwoelf' are made true by different facts. Presumably he means different verbal facts - ones about English and German respectively. As we said, this is just a reversion to straightforward conventionalism, disguised by (and even smuggled into) a hopelessly confused account of "reflection". And as only confusions lead to it, we need not agree with Edwards (and Malcolm, in his work on the topic of logical necessity) that a special criterion of propositional identity is needed for necessary statements (465-8); '7+5=12' has the same truth conditions in every translation - namely that 7+5=12.

In 'Logical Truth and Logic' Veatch takes an anticonventionalist stance on the topics we have

just been dealing with. But his article is only partly satisfactory. He begins by insisting that logic is about logic - but in fact logic is more general that that. He then falls into the trap laid by the ubiquitons use of the term 'vacuous occurrence' in connection with the fact that uniform substitutions in an analytic truth yield another analytic truth. As against Veatch - and many others - we must insist that just as the fact that 'X is subject to the laws of our universe' is valid for all values of X does not entail that 'Dough is subject to the laws of our universe' is not about dough, so too for the analogous phenomenon respecting necessary truths. However, Veatch is not as far misled as most, for he wants to say that an analytic truth is true of everything, yet has its special subject-matter. in the middle section of his article Veatch draws attention to the arbitrariness of saying that extensional and - necessary truths are 'really' metastatements, but not doing the same for contingent truths; prima facie we have a distinction which applies equally to all statements. Strawson ('Necessary Propositions and Entailment Statements') is a chief offender here, and the more preposterously

in that he chooses contingent metastatements. But of course he is forced into this if he does not wish an infinite regress. An objection to Strawson which Veatch misses is that Strawson is wrong in continually maintaining that the contingent metastatements have the same entailments as the necessary truths with which they are supposedly identical. '"pv - p" expresses a necessary truth' does not entail that "(pv - p) v (pv - p)" does so; even if one construes 'necessary' as 'necessary to such and such a system', so long as 'system' is defined to leave the metastements contingent. Strawson's article is yet another case of the embracing of nonsense in preference to rejection of conventionalism: absurdities are inferred from conventionalism, but accepted. Rollins ('Logic and Descriptions') is not convinced by Veatch, and argues that topic-neutral statements cannot be descriptive. As we said, Veatch should not have admitted that necessary truths are all topic-neutral. Even the most general necessary truths, moreover, are only relatively topic-neutral: a statement about things does not treat of non-things. Nor can we accept Rollins' final charge that ontologism closes

the gap between actual and possible states of affairs; only crude forms of ontologism treat possibilities as queer kinds of acutalities. As we have said before, the ontologist need not make crude confusions here any more than in connection with other kinds of possibility.

Like Hampshire in his unremarkable exposition of conventionalism in 'Logical Necessity', Quinton ('The A priori and the Analytic') insists that any self-respecting philosophical thesis is analytic (31).

> "If the thesis is analytic... inductive argument is misplaced. Examples may suggest an analytic generalisation in the first place and be used to illustrate and clarify it, to make the theoretical arguments for it more concrete and intellible, but they cannot establish it".

The full nonsense, then, may be expected from this article, lovingly reprinted by Strawson himself in a collection of Oxford-type studies in philosophical logic, issued during the last of the years during which the present chapter was under preparation. Ostensibly we are to be entertained to trivial, analytic theses. There could not be the excuse that what is really in question is whether certain

sentences express analytic truths in ordinary English; for the terms in question are philosophers' terms, and ones well-known to have been given dozens of different meanings. But the quotation (above) makes it quite clear that the supposedly analytic conclusions are to be taken to be accurate characterizations of what we call analytic truths, without, however, there being any need to look at instances of what we call analytic truths to find out whether this is really so. Of course examples may suggest a concept with which to frame a then obviously trivial analytic truth ('Here are some FG's... FG's are F'), or one may select things falling under the subject-concept of an analytic truth to see whether the predicate applies too - but Quinton can scarcely have had these possibilities in mind when he talked of the role of examples. An example does not suggest an analytic truth - it suggests which of the infinity of analytic truths, which we all know, to assert, on the assumption that we have decided to assert an analytic truth based on a concept suggested by an example. On the other hand, an example may suggest the contingent generalization that everything we call an analytic truth has the characteristics of the example. As is usual with conventionalists, we

shall have to try to systematically reinterpret Quinton in ontological terms. Quinton's main aim is to argue

> "that the correlated distinctions of the analytic from the synthetic and of the a p r i o r i from the empirical coincide with the distinction of the necessary from the contingent since they both arise from elucidations of one of the none too sharply defined elements of that distinction" (33/4).

Well of course if the terms are suitably interdefined, the distinctions coincide. But of course they need not be interdefined. Sloman ('"Necessary", "A Priori" and "Analytic"') shows how alternative definitions are possible which do not effect an automatic coincidence of the classes. During our investigation we are noticing alternatives time and time again. What matters is which definitions are ontologically adequate. Of course Quinton will wish to pass off his analytic thesis as an ontological truth; whereas what he should be doing is finding out what would be an analytic thesis based on adequate concepts. And of course one cannot verify a priori that p is analytic and based on adequate concepts. What makes Quinton's performance the more reprehensible is that

he himself from time to time mentions alternative elucidations of the key terms. For example (36), he concedes that there is a good sense in which there are synthetic a priori truths, namely in the sense that there are empirical truths which are not conclusively falsifiable. But as these unrestricted existential statements, much discussed by Popper and Watkins ('Between Analytic and Empirical'), are contingent, Quinton feels justified in glossing the matter over by saying (36):

> "What emerges is that all n e c e s s a r y truths are analytic".

Producing a "cloud of witnesses" - anti-conventionalists - Quinton declares(37):

> "no philosopher who has seriously considered the question is prepared to dispute the view that necessary truth is determined by meaning".

Given the use of a vague term like 'determined', this is not to be wondered at. What the cloud of witnesses agrees to is that necessary truths are verifiable a priori - though some seem to say that they are about meanings, because of the lazy sort of ontologism that papers over the gap between subject-matter and mode of verification. The cloud of witnesses certainly does not wish to agree with Quinton's gloss on the matter:

> "'Analytic' as true in virtue of meaning' gives a little more clarity of outline to the relatively amorphons notion of the necessary as that which is true in itself, no matter what". (37)

This is offered as a "reason" (37) for saying that "necessary truth depends on meaning"! Define 'necessary' in terms of the vaguest notion of analyticity and we have a completely satisfying account of necessity!

Next (38) we are treated to yet another account of analyticity in terms of containment ("does no more that assert all or part of what has been... assumed"). We need not repeat the points already made in connection with Bennett and Hempel. Then we are told that

> "The ultimate reason for saying that identity is the relation between manings that gives rise to necessary truth is that identity and its opposite are the only relations that meanings considered in themselves, can have".

But that, if it were true, would not show that non-identity of meanings does not 'give rise to' necessary truth. We have been offered a pseudo-explanation and a pseudo-justification.

"The argument to show that necessary truth is a matter of convention is very simple.... it is linguistic convention that makes a form of words express a necessary truth". (40)

To this one could in truth add: "or a contingent truth as the case may be". Quinton has argued correctly that conventions determine what words mean. But of course he immediately - in the next sentence - goes on as if he had established conventionalism in some non-trivial sense:

"This Hobberian view makes necessity unmysterious by treating it... as a matter of human decision". (40).

And only one sentence further (40) we have skipped without explanation from (j)-conventionalism, which is to do with meanings at least, to some other form of conventionalism having nothing to do with meanings:

"impossibility of falsification... is brought about by our refusal from the start to let any falsification occur".

Next however (41) Quinton makes the correct point that one cannot reject the view that mathematics is tautologous because some tautologies are seen to be expressed by certain sentences only with difficulty. On the other hand, he is quite wrong in thinking this has any direct connection with conventionalism.

Quinton says (42) that asserting a necessary truth "reflects" a convention in the way that moving a chessman is in accordance with a rule of chess. But 'reflection' - a word we have met before - cannot be interpreted satisfactorily; certainly not as 'accordance'. A necessary truth is neither more nor less 'in accordance with' the conventions governing the terms expressing it than is a contingent truth. Once again it is a case of failing-chess analogies and failure to give a satisfactory account of 'reflection' - a term used to retreat incoherently from the more obvious objections to conventionalism.

Quinton thinks that all objections to conventionalism will be like that of Lewis, who objects that there are objective relations among concepts (43). In fact of course one can object to conventionalism without agreeing with Lewis that all that is in question is the status of meaning-relations. Quinton's reply to Lewis is unsatisfactory any way (44):

> "The only way in which concepts can be identifyingly described is by reference to the words that express them".

Evidently Quinton has never heard of the intensional use of language. He confuses the intensional and autonymons uses of language. But why should Quinton wish to deny there are necessary (explicative)

statements (2) about meanings? Presumably for him these are just true by convention in turn. Ah! but necessary truths are only true by convention, 'reflections' thereof, for Quinton. We saw clearly how he wished to ontologize non-trivially with trivial analytic theses. And now we see clearly how the 'reflection' doctrine makes for a smooth transition from the favourite concept to the favourite ontological doctrine: not even in the official theory are necessary truths actually supposed to be about conventions. In the general confusion, necessary explicative statements would be vaguely embarrassing.

"Logical terms are implicitly defined by means of logical laws".

says Quinton (45). But of course it is well-known that so called implicit definitions cannot actually define in the normal sense. This is not however the chief objection to Quinton's argument (45/6) for the conclusion that "all necessity is logical". The chief objection is that the conclusion is far too vague, as is the premise, that "necessary truth depends on meaning". Quinton thinks the vagueness of the conclusion can be overcome by saying that (49):

"We can... define a logical term as one whose meaning is wholly specified by implicit definitions".

But that is just the respect in which implicit definitions fail: they do not wholly define a term. Quinton tackles only Quine's objection, that all terms can be implicitly defined. But he objects to Quine's example ('later than') precisely on the ground that the implicit definition does not "suffice to fix the sense of 'later than'"! (49). Here again, then, Quinton has achieved nothing but a glib reinforcement of errors and confusions which vitiate all the philosophy of which they constitute the metaphilosophy, and of which they are an apotheoses.

Let us now turn to a somewhat less excruciating conventionalist. Britton ('Are Necessary Truths True by Convention?') wrongly thinks that no experiment could lead us to change our definitions of 'grandparent' or 'longer' since the evidence for applicability of these words would be the same as for their definitions. But the same goes for 'water', which he thinks does have a revisable definition. The point is that we should look at the de facto reference and adjust the concept accordingly in all three cases. It is just less likely to need to happen in the case of 'grandparent' and 'longer'. (78-83.) We are also told (next) that an analytic truth is just as valuable as a semantic

statement in explaining terms' meanings. We do not need to go into that matter again. Nor need we comment explicitly on the rest of Britton's article, since it is partly an exposition of standard conventionalism, with the emphasis on necessary truths as rules of procedure, and partly on exposition of the later Wittgenstein, whom we shall be considering at the end of the present chapter.

Urmson ('Are Necessary Truths True by Convention?') rejects talk of adoption of rules in favour of the remark that we might have had other rules. Also at the beginning of his paper, he states that it does not follow from the fact that we use certain rules that there are "alternatives". But of course there are alternatives, in two senses: we could use impossible propositions, or we could as Urmoon later notes use different necessary truths from the usual ones, but ones quite compatible with present necessary truths. What is really at issue is whether rules of deduction derive their validity from truths, as in the case of inductive rules. Urmson rightly criticizes Britton for saying that general agreement among different persons is the only test of whether an inference of calculation has been

done correctly. But why should this issue be supposed to have an intimate connection with conventionalism? Does not the same issue arise for the correctness of inductive inference? Predictive success in induction does not show one is applying the inductive rules aright - one might be successful precisely because, in a counter-inductive world, one was applying the rules wrongly. Finally Urmson decides that we have non-conventional logical necessities of the form. 'If one wants A one must have B to obtain it'. But there really is no more and no less plausibility in giving a conventionalist account here than in other cases, of which Urmson thinks conventionalism to be true - presumably because he confuses the alternative and the incompatible. He is also impressed by the fact that some conventions do not seem arbitrary; but of course all conventions (more or less) serve some purpose; that is not the relevant sense of 'arbitrary', for what is at issue us whether necessary truths can be negated and operate alongside replacements without creating havoc. This is one of the tests of whether they are truths, though not a conclusive one.

W. amd M. Kneale ('The Development of Logic') argue soundly against those who say that all one

needs to rely on in checking a formula of the propositional calculus are the arbitrary definitions which the truth-tables constitut:

> "For the discovery that application of the definitions yields 't' under the main connective of a formula in all the lines of our table amounts to a proof of the necessary truth of the formula only when it is already established that the lines of the table exhaust all the possibilities with respect to the truth or falsity of the propositions which are arguments of the truth-function expressed by the formula" (533.)

In short, the truth-table method shows one gets the value 't' only for all logically possible combinations of truth-values of the arguments. However the conventionalist might reply that these matters in turn are just a matter of applying conventional rules. Then one would be pushed back on to our original anticonventionalist arguments. The Kneales' argument remains valuable as a step, showing how to come to grips with the conventionalists' vague talk of the truth-tables as 'a complete account' of tautologies. The truth-tables are in fact just definitions of logical words, and they could be replaced by sentences without any trouble. The equivalent of truth-tables method for 'Men and male'

is as follows; with 't' and 'f' meaning
a p p l i c a b l e or i n a p p l i c a b l e
'Men are male'.

T (T) T

F (T) F

F (T) T

The combination 'TF' is excluded as logically impossible, just as it is when we test '-(p.-p)' (i.e. we do not permit ourselves to have 'T' under the first 'p' and 'F' under the second). Only if we already know the logical law, then, can we justifiably exclude the epistemic possibility represented by 'TF'. Where we do rely on definition alone is in the transition from the hypothesis about the distribution of 'T' and 'F' to the claim that the statement under test is either true of false in that case. And it is by considering the definition that we conclude that 'Men are male' would be false if the combination 'TF' occurred. As the Kneals remark, there is the additional complication that we (533) need a ground for not putting 'T' and 'F' together under the same term: this too is governed by a true law of logic. (Of course this last remark too can be defended against conventionalists' retorts only by general anticonventionalist arguments.)

The Kneales' general anticonventionalist arguments are not always as satisfactory as one would wish. Strawson in 'Introduction to Logical Theory' provides a run-of-the-mill exposition of conventionalism which requires no explicit commentary from us, given that we have examined more original and argumentative sources. Kneale directs his criticism against an aspect of Strawson's exposition which repeats itself in Fisk, in whom we have already noticed it. The Kneales complain (634) that Strawson writes as if contrary opposition of predicates was something instituted by men without consideration for the nature of things. The Kneales write:

> "It is true, of course, that the inconsistence of words is established by human customs in the use of words; but our determination of the limits of the application of a general word is not selection of all the particular things to which we shall thereafter apply it. Rather it is selection of the specific varieties of character that may be exhibited by things to which we shall apply the word, and these specific varieties must be inconsistent in a non-linguistic sense". (634)

Here the Kneales not only fail to expose the source

of Strawson's error but actually fall into the trap themselves. Conventions bring it about that certain sentences express inconsistent statements. But they no more create inconsistency than hitting a ball into a hole causes the hole to exist. The mistake (c.f. our criticisms of Fisk) is to confuse semantic and logical terminology. Once Strawson is allowed to use 'the negation of' and 'inconsisten with' as if synonyms, no wonder conventionalism should seem so natural to him (c.f. the early pages of 'Introduction of Logical Theory'). Of course inconsistency will then seem to be just a matter of meanings. Let us stress again that the failure to segregate semantical and logical terminology is a prime source of conventionalism. It makes it look as if logic has nothing to do with truth and applicability on the one hand, or alternatively that these can somehow be quaranteed-eo ipoo-by facts about meanings. Nor are these the only considerations which tell against the above quotation. Despite the rejection of intellectual intuition (636), the Kneales write in a way which reeks of crude, uncritical Platonism-confused-with-platonism, and the above quotation exhibits the undesirable characteristics which rightly make

conventionalists shudder, and give them the impression that they are in the right. The Kneales write (c.f. the above quotation) of "our determination of the limits of the application of a general word", which pneoumably is a matter of determining its meaning. This is said to involve (c.f. the above quotation) "selection of the specific varieties of character that may be exhibited by things to which we shall apply the word". This again seems to be a matter of fixing the meaning. But then it is said that "these specific varieties must be inconsistent in a non-linguistic sense". Does this mean that the meanings, not just the words must be inconsistent? What could that mean? Words are inconsistent on account of meaning something such that an ontologically-founded law of logic rules out their cO-applicability. Why should the conventionalist mind saying that meanings as well as words are inconsistent? The truth is that the Kneales have 'specific varieties' hovering uncertainly between meanings and (objective) essences (in re). 'Specific varieties' serve both as meanings of necessary truths (platonism) and as their subject-matter (Platonism). We need not repeat our criticisms of Plato here. Our diagnosis of the Kneales is confirmed by their use of 'exhibit'

(above) instead of 'instantiate', which shows that 'specific varieties' does not exactly mean 'meanings'; but then it cannot mean 'essences' (in our sense) either, for we no more 'select' these in determining application that we do particular things - essences are particulars, but not with the same boundaries as physical objects. No, the Kneals are offering us the kind of doctrine which we no more need adopt for necessary truths than we do for 'Brakeless.. expresses are dangerous'. (C.f. our ch. 2.) (Later (649) logic is explicity called the theory of necessary connections among "universals").

Next (635) the Kneales remark that we cannot introduce logical laws by convention, because we cannot formulate logical laws without knowing what they are. The conventionalist may reply that we just go by whether the laws we adopt 'work' to our satisfaction. To counter this one must wear down his resistance to admitting that they correspond to truths - as well as expose the fallacies which tempt him to believe the opposite. Alternatively, the conventionalist might reply that we need to know only facts about conventions, facts about meanings. Here, too, the Kneales would find themselves gravely handicapped by their platonism - Platonism. After

all Quinton (36) was able to quote from the Kneales (636) the following:

> "anything we come to know a p r i o r i ... is learnt by reflection of the meanings of words or other symbols".

And according to Platonism - platonism, the entity reflected on during verification coincides with the entity of which a necessary proposition is true. Only confusions set the Kneales apart from the doctrine that all necessary truths are explicative statements (2), which shares many features with (other forms of) (j)- conventionalism.

One should not assume too readily that citing synthetic necessary truths will dismay the conventionalist. However many conventionalists have confused conventionality and analyticity, it remains possible for a conventionalist to declare synthetic necessary truths conventions of some sort, though presumably not (j)- conventions, since sentences expressing synthetic necessary truths do not seem fitted to express anything to do with linguistic conventions. The Kneals touch on a matter which we shall deal with in ch. 15 when they cite synthetic necessary truths in their arguments against conventionalism. Also peripheral is their suggestion that there may be necessary truths not knowable a

priori because we lack the ideas. Well it is certain that we lack infinitely many concepts which could be used to express necessary truths. But the real question, of course, is whether the truths would be knowable a priori if we had the concepts. (We do not say a truth is barely a priori when only a few men will ever possess the concepts in question.) (637)

The Kneales rightly condemn those who just rig definitions to create a synonymy among terms like 'analytic', 'necessary' and 'a priori' (637/8). But the worrying thing is that the resultant theses are condemned (637/8) because each is "a simple tautology". Why is 'simple' inserted here? Because, like Quinton and so many others (e.g. Bennett), the Kneales believe that a tautology which is hard to detect as such or based on ordinary meanings, is non-trivial? We have seen what a mistake that would be. Let us repeat: all concepts, however hard to capture in complex expressions, or however well-entrenched, must be tested for their adequacy to the situation which they are supposed to be representing to us.

In 'Introduction to Logical Theory' (12) Strawson says that logical rules are rules for all possible languages. It will not do for the Kneales to infer from this that they are not conventions. (639). Can

one not speak of rules for all possible chess-games?

The Kneales object (639) to including contingent facts about words in logic. We saw in ch. 5 how genuine logic is related to these contingent facts without stating them.

A further anticonventionalist argument of the Kneales is (640) that since 'necessary' and 'contingent' are correlatives, if necessity is conventional so must contingency be. This argument is fallacious in several ways. There is an illicit more from a remantical to an ontological statement. The conventionalist could easily deny the claim that the terms are correlatives. And it is clear that not everything true of necessity is true of contingency. We may agree it is absurd to talk of "making truths" (645), but the conventionalist will claim an unusual sense of "truth" in which it is not nonsense; or else say that necessary truths are truths about meanings, so that he need not speak of 'making truths'.

In a disturbing passage (649) the Kneales say that geography and history will never become necessary since it would not be sensible to legislate away alternatives in those disciplines. Thus they entertain the idea of other sciences' becoming logically necessary, analytic in fact. So

they do not realize that analytic truths are all trivial. But, it might be said, suppose physicists did develop very complex concepts such that every truth they uttered came out analytic? Well, they could avoid that by using reference (1). Otherwise they must at least add that the complex concepts of their system are instantiated (in our world), if they do not wish to cease to be physicists (i.e. men who make clais such that if we know them to be true we know what kinds of things exist). Of course the existential commitment need not be explicit - it may just be a background assumption of all scientific expositions.

We are urged to accept that

"Being presupposed in the very concept of a system' logical laws

"at least are absolutely a p r i o r i" (650). This seems to be an uneasy reaction to the realization a few paragraphs earlier that we do replace necessary truths by others as time goes by. The point is that the Kneals seem to want necessary truths to carry their own pledge to the effect that the subject-concept is instantiated. Hence the implied contrast with "absolutely a p r i o r i". But the Kneales cannot have it both ways. A truth

which has the kind of pledge needed to save it from triviality is not at all necessary and not at all a priori. The Kneales do not wish to face up to this. Genuine necessary truths which are not logical truths are all just as "absolutely a priori" as logical laws - neither more so nor less so. In any case, the content of "the very" concept of a system (whichever that is) can have no bearing on the matter. Of course it might be that, contingently, our disire is only for systems with logical laws operating in them; but that is unlikely since we should be well content, with any set of truth-preserving transformation rules-non-analytic ones would be positively preferable. (We might, in principle, arrive at these new transformation rules by trial and error, but, of course, they would have to correspond to the truth of certain hypotheticals about truth-preservation. We, against the conventionalists, demand that at least the same be said of deductive rules of inference.)

In 'Are Necessary Truths True by Convention?' W. Kneale argues that (j)- conventionalism is either platitudinous or absurd (c.f. the first section of his article). Certainly we have seen Lazerowitz and Malcolm confusing platitudes with controversial theses which are false. Certainly it is platitudinous to say that the sign-meaning relationship is conventional.

Certainly it is, as Kneale charges, absurd to suggest that conventions governing symbols. But of course (j)- conventionalism seriously asserts neither the platitude nor the absurdity. Probably Kneale is confusing the absurdity with the far less absurd thesis that necessary truths are rules which may be abandoned in favour of others governing the same symbols. On the other hand, Kneale is clearly right in criticizing Urmson for saying that the possibility of interpreting a calculus in different ways is a strong argument for conventionalism. A little later in the same article ('Are Necessary Truths True by Convention?') Kneale draws attention to the misleadingness of saying that Intuitionist logic contains the denial of the law of excluded middle: the meaning-rules for its signs differ from those of ordinary logic, so that what people call the denial of the law in that logic is not really so. Kneale might have added that even if there were a logic which denied the law of excluded middle, that would not establish conventionalism: either that new logic or our own would be false in at least one of its claims. As began to emerge in ch. 3, the real difficulties over the law of excluded middle (and other laws) arise from imperfections in the nature of our concepts. These

affect contingent statements as well as necessary ones ('Is it a butterfly or a moth? - it has characteristics of both!) What is important is that nothing is ever both as it is and not as it is (for instance); and all that is unclear is which essences are to be said to fall under which concepts. If one says that a thing falls under 'F' and '-F' simultaneously, this is never made true by the thing's lacking a characteristic which it has. Thus (c.f. ch.3.) there are ways of stating necessary truths such that the difficulties do not arise. Somebody might object to any such way -e.g. somebody might object that a borderline case 'lacks a characteristic which it has'. The reply to this objection is that we use the phrase in such a way that it is not correct to say of a borderline case that it lacks a characteristic which it has. We could also try other formulations, such that eventually we reached one with respect to which honesty would require the objector to admit that no difficulties arose on his use of the words in question. (The fact remains, of course, that difficulties do arise in connection with nearly all necessary truths in ordinary language.)

Before we turn to an examination of another well-known anticonventionalist, there is one more

matter which needs to be dealt with in connection with W. Kneale. In a paper largely concerned with other matters, called 'Truths of Logic', Kneale argues that we cannot obtain or identify any necessary truth purely on the basis of syntactic conventions. (c.f. the end of 'Truths of Logic'.) We have already noted that this is so: one does not have a truth, and so one does not have a necessary truth, until words have been made to express a statement. The main source of mistakes in this area seems to be the fact that logicians have interpretations more or less vaguely in mind when they construct an 'officially' uninterpreted calculus. As a result, they call 'theorems' strings of marks which (look like strings of marks which) in other contexts do express statements. The danger is especially great when a calculus is partially interpreted, so that one has only to give certain signs the same descriptive meaning for them to express necessary truths. Correlating with this is a tendency to use 'theorem' loosely, to cover uninterpreted as well as interpreted formulas.

Let us now begin sifting right from wrong in Ewing's paper, 'The Linguistic Theory of A P r. i o r o Propositions'. He is surely correct in arguing that if necessary truths were linguistic rules, and

explanation would be needed of the fact that not all linguistic rules seem even prima facie to be necessary of a priori truths (213-5). But of course the conventionalist is prepared to whittle away at the applicable sense of 'necessary' and 'truth' until there is no question of a prior truth, but only of unmediated expression of a rule of language. In other words, he wil just say that Ewing is mistaken in thinking he can detect a difference. Ewing has made a legitimate demand of the conventionalist, and one which the conventionalist is ill-equipped to satisfy, but nothing conclusive has been established. (We indicated earlier that the truth is that some linguistic rules are close in expression to necessary statements than others. This accounts for the phenomena Ewing cites.) Ewing further and rightly points out that (215/6) it is especially implausible to identify a necessary truth with an empirical generalization about usage. Here he is attacking Malcolm's article which we have already discussed. Although Malcolm denied that necessary truths are about usage, he did say that they are justified by facts about usage. And that is sufficient to destroy any kind of apriority in necessary truths: they are then not a priori even in the negative sense that I need not go out into the

world to obtain a watertight justification for asserting a necessary statement. We detect in this area a tension in Wittgenstein's theory of meaning; if what each man means is a function of the entire nature of society, presumably I need to know a great deal about other people to ascertain what I mean. On the other hand, it seems to common sense reasonable to say that I can know what I mean - which rules I follow - independently of such information.

Ewing argues (216/6) that conventionalists are committed to the view that if everybody were forced to hold that an impossible statement were true, this would become a law of logic. But the conventionalist would say that people were in fact being forced to entertain a meaningless supposition, so Ewing is off-target. We might however mention in this context that it is a sign of the meaningfulness of impossible statements that that people can use them in inference (though they refuse to do so if they have detected the impossibility or otherwise disbelieve the statement offered as a guide in inference). One can infer -p from p by an impossible rule just as easily as one can perform a reductio ad absurdam from an impossible premise.

Next (217) Ewing argues that I can think some

necessary truths in intensional acts, to which conventionalism could not possibly apply. But I can think linguistic rules in intensional acts - I can think almost anything in that way, Ewing should have said not that some necessary truths can

"be seen to be true without the use of language", but that when we do think a necessary truth in an intensional act i t d o e s n o t s e e m t o b e a b o u t l a n g u a g e. The use of an intensional act in this way is the first step towards freeing oneself of the conventionalists' insistence that his is the only way of interpreting a sentence expressing a necessary truth.

Ewing claims (217/8) that the conventionalist will be unable to cope with the fact that we know a priori that '7+5=12' would express a necessary truth when translated into any actual or possible foreign language. As Ewing says (218) the conventionalists always reply to this that expressing a necessary truth is here a criterion of correct translation. By this remark they seem to be pointing out that Ewing has expressed a necessary truth, -i.e. for them - a rule about his own use of words, and that this explains why one can know the truth a priori, at least in the sense of not having to

investigate all possible languages. As a result of the conventionalist's retort, Ewing modifies his point to the following (219):

> "The point is that we can see that in any language, granted the use of certain rules, it follows necessarily that, if certain other rules are not observed while the first are at the same time observed, we shall not be making an admissible statement, and how we could see this of all possible languages that obey the first set of rules when we do not know all such languages is quite incomprehensible if the basis of this a p r i o r i proposition is linguistic".

But of course to this the conventionalist could reply just as before. He would say it is just a more complex case of a sentence's expressing a rule about how words are to be used (these words already having been given some of their meaning); and another case of giving a rule as to what is to count as a translation of our statement.

Next Ewing dismisses the view that the possibility of altering words' meanings establishes (J)- conventionalism (219/20) and remarks (220) on the ambiguity of 'contained in the premises'. However we can not agree with the assumption that the

'containment' fallacy is an integral part of conventionalism or of the view that all necessary connections are analytic. We may agree with Ewing (222) that in knowing a premise one does not know the conclusion, unless it is synonymons with it. After making that point he presents instances of synthetic, analytic, and 'literal containment' entailments, without, one might think, sufficiently distinguishing the last two classes, which overlap but are not co-extenseve. It becomes clear that Ewing is willing to concede that the third class of entailments is just "verba" (226). Thus he confuses the conventionalism issue with the issue of whether all entailments fall into the third class ('literal containment'). And the threefold classification of inferences gets mixed up with the question of the paradox of analysis - it is said (226/7) to be a difficulty for "the analytic theory" that not all necessary connections are obvious from the printed page. Given all these confusions we are well prepared for finding Ewing concluding (228) that

> "'A brother is male' is either a synthetic empirical proposition about the use of language or not a proposition at all since

it asserts nothing".

Later (232 ff.) Ewing argues that a conventionalist is bound to regard all necessary connection as analytic, but his argument is still spoilt by the confusion of the second and third classes of inference. (E.g. he talks of passing "from one set" to "a different one" in inference (233) as if this covered all the cases for which conventionalism seems least implausible.)

Ewing protests (238) that non-contingent truths are meaningful, arguing "from experience" (239), and that

"a p r i o r i propositions are compatible with all possibilities but they restrict the possibilities".

He should have inserted "epistemic" before the last word in this passage. Although he clearly realizes that conventionalists will say that constradictions are meaningless, he fails to bring this to bear when he charges the conventionalist with destroying altogether (240)

"the notion of right and wrong... a p r i o r i assertions or deductive arguments",

or else making it

> "dependent on the arbitrary conventions of the majority or the educated class or the rulers".

The conventionalist might reply not just that deduction "works" but that is is nonsensical to deny an entailment. Finally it should be said that Ewing shares the platonist - Platonist flavour of the Kneales, and of so many other anticonventionalists:

> "we can sometimes see that one characteristic entails or necessarily excludes another.... I have no theory to account for the fact that we see it". (243.)

But one only has to reflect (c.f. chs. 2/3) to see that there are difficulties in maintaining that we 'see it'.

Blanshard ('Reason and Analysis') gives several objections to conventionalism (200 ff.), which we shall review briefly. He says that new information about conventions does not increase one's sureness of logical necessities; the conventionalist will say this is because to know a necessity one must already know a convention. He talks of deduction without words; the conventionalist would have to deal with this by talking of conventional procedures concering

non-verbal units of thought. He wrongly thinks conventionalists would object to the conclusion that they make necessary truths deal with mere marks. He claims that conventionalists make conventions dictate to reality; but they deny that they have any ontological implications. He cites (284) synthetic necessary truths (c.f. our ch.15). He asks what true statement could a necessary truth express if it were not about the world. The conventionalist answers: words or meaning, or else that necessary truths are not really truths. They will reply in the same way when he says that one thinks truly only when one thinks in accordance with facts. Thus Blanshard fails to achieve a pincer movement on the conventionalist.

By publishing 'Logic Without Ontology', Nagel drew some further anticonventionalist arguments from ontologists. Nagel exhibits the usual - perhaps almost universal - misunderstanding of what it is that makes a statement non-trivial:

> "There are, indeed, relatively few practising scientists today who place any credence in arguments claiming to prove that any principle about an identifiable subject matter is at once logically necessary and

empirical in content". (191).

Clear he thinks that if necessary truths were admitted to be about the world - just as contingent ones are- then he would be committed to believing that we could discover the nature of the world a priori. He does not realize that even with synthetic necessary truths - even with contingent hypotheticals - we cannot say very much about the nature of the world. Of course even analytic truths about unicorns rule out some epistemic possibilities - e.g. the existence of unicorns that are not unicorns. But - to take a contingent case - what is the use of knowing that if a thing is a unicorn it is subject to such-and-such physical laws, if I do not know whether those animals I pass every day are unicorns? What is the use of physics without a presumption that it is true of w h a t w e c a l l by the names of things which appear in the theory?. And so on. Suppose 'Gold' is defined in such a way that it conjoins all predicates (F) applying to what we call 'gold'. Should Nagel worry if we say that the analytic truth 'Gold is F' is about gold, that here we have a

> "principle about an identifiable subject matter... at once logically necessary and

empirical in content" (191)?

No, because, for non-triviality (in our sense) what is required is not that the subject-matter be "identifiable" (191) but that it be i d e n t i f i e d. I know nothing beyond what everybody has alway known until I can add to 'Gold is F': "And what we call "gold" is gold/F'. Thus Nagel's typical resistance to admitting that necessary truths are about the world is unfounded - as unfounded as would be the claim that contingent hypotheticals are not about the world. Yet so firmly does Nagel reject the idea that necessary truths are about the ordinary empirical world, that he says he is arguing for

> "the view that the role of the logico-mathematical disciplines in inquiry can be clarified without requiring the invention of a hypostatic subject matter for them" (192/3).

In other words platonism - Platonism is seen as the least objectionable alternative to conventionalism! (We need to be aware of these misconceptions if we are to appreciate the reason why philosophers cling so tenaciously to conventionalism; even though the misconception about the conditions of non-triviality just as

frequently finds expression in philosophers' misuse of necessary truths.)

Nagel says (193) that he wishes to discuss the following principle:

> "'the same attribute cannot at the same time belong and not belong to the same subject in the same respect'".

Regarding the qualification 'in the same respect', Nagel writes (193):

> "This qualification is important, for it makes possible the defense of the principle against all objections. For suppose one were to deny the principle on the ground that an object, a penny for example, is both sensibly circular in shape and sensibly noncircular. The standard reply ... is that... since the different shapes do not occur 'in the same respect' the principle has not been invalidated".

The shortest reply to all this is that Nagel is using a poorly - stated version of the principle of non-contradiction; he would find no trouble if he replaced 'in the same respect' by 'at all' (after 'not belong'). C.f. our remarks on Goddard. Nor would Nagel find any trouble with other general laws of logic. Furthermore, however, 'sensibly noncircular' is not the negation of 'sensibly

circular', so Nagel is not fighting cleanly with either fist. He takes as a further example (193) 'subtending an angle of 30 degrees' and ' subtending and angle of 60 degrees'. These predicates are not contradictories either. But Nagel could have taken contradictories. He could have said the penny looked circular and did not look circular (at the same time). But no such event has ever occurred! The fact that the penny did not look circular at place P, and did look circular at place P2 does not establish that the penny looked circular and did not look circular. For 'did not look circular at place P,' does not entail 'did not look circular', though 'did look cirular at P2' does entail 'did look cirular'. It would be very rash to go to P, and say on returning 'it did not look circular' if one meant by that 'it did not look circular from any point of view'; 'at P,' must be understood. Nagel thus fails to find counter-instances to the law.

Nagel (193) concludes that, as an ontological principle, the law of non-contradiction, holds only when certain 'respects' are specified. We have just seen where he has gone wrong in reaching this conclusion. And, as we remarked

in similar connections earlier, if Nagel seriously maintained that the law of non-contradiction is false as an ontological principle, he would have to face these consequences:

(a) Necessary truths are after all about the world;

(b) One can truly maintain contradictory beliefs at the same time.

(a) conflicts with Nagel's desired and actual conclusions and (b) would cripple deduction - there is not much point in an arbitrary rule banning contradictions if contradictions are ofer true.

Nagel's next complaint (193/4) against ontologism is that

> "t h e p r i n c i p l e i s e m p l o y e d a s a c r i t e r i o n for deciding whether the specification of the attribute is suitable and whether these conditions are in fact sufficiently determinate. Because of the manner in which the qualification 'the same respect' is used, the principle cannot be put to a genuine test, since no proposed case for testing the principle will be judged as admissible which violates the principle to be tested".

Clearly Nagel's argument continues to be vitiated by his misconceptions about the law of non-contradiction, which in fact is applied to all attributes and under any conditions. Any case will be admitted as a test case, and if any entity should be found to lack a property that it has, the principle will be rejected.

Nagel continues (194) with the following argument: we can be sure no penny will turn up with a diameter of two different lengths,

> "because what it means for the diameter to have one of the attributes of dimension is specified in terms of the absence of the other attribute. The principle of contradiction is impregnable against attack, because the 'sameness' and the 'difference' of attributes are specified in terms of the conformity of attributes to the principle".

Nagel here continues to confuse different with contradictory predicates. This makes his view on the role of the principle of non-contradiction in definition all the more bizarre. Let us criticize the first clause of the immediately preceding quotation first. Length - expressions are not defined in terms of the "absence" of all lengths

but one; rather each length - symbol is assigned to the designation of one particular length. 'Soft' is confined to soft things and 'red' to red things; yet soft things can be red. But these are matters for ch. 15. For the present it suffices to note that even where we have quite distinct definition, it does not follow that the terms defined cannot be co-applicable. Nor can one say that 'same F' or 'different F' are defined in terms of the conformity of F to the principle of contradiction; whoever saw a criterion of identity or difference given in such a way? Nagel is just in a muddle. He manages to confuse the restriction of a predicate's meaning with the obscure notion that the principle of non-contradiction functions.

> "as a norm or regulative principle for introducing distinctions" (194).

Presumably, then, this is a more contorted case that we have hitherto encountered of the confusion of semantics and logic. A principle telling one what to say on pain of falsehood is confused with a principle telling one what to mean by one's words. The two are conflated in the phrase

> "appropriate linguistic usage" (194),

of which the principle of non-contradiction is said (194) to be a "norm". The principle of non-con-

tradiction is a rule of truth, so far like a law of physics, which tells one how to speak appropriately if one desires to speak the truth. The law of non-contradiction does not dictate usage. It does not prohibit formation of contradictory concepts, except on pain of obtaining a concept not instantiated. A contradiction may be the very expression I need - and not just for frivolous purposes. Men experience desires for the logically impossible - e.g. for a monogamous marriage to three women at once. (this yields a further argument for the meaning fulness of contradictions: if they are needed as intensionally used expressions of desires, etc., they cannot be meaningless, as (c.f. ch.1) intensionally used language just gives models of thoughts)

Nagel's next point (195.7) is the sound one that 'logic is the science of all possible worlds' is trivial. Then (197) he claims that terms like 'inconsistent' apply only to descoure. But so do words like 'empirically impossible'. Such points show nothing about ontologism, then. "'p' is logically impossible" and "'p' is physically impossible" both relate to reality through the

origins of the laws applied in reaching such conclusions, and also through their limiting of epistemic possibilities.

Having dismissed (198) psychologism in the usual way (contradictions occur; psychology is contingent), Nagel argues against ontologism (199) that if 'A' and 'If A then B' are "asserted as true", we should not reject ponendo ponens if we found that not - B. Of course not: we have more confidence in ponendo ponens than what people just claim to be true (uhless that too happens to be logically necessary). There is nothing here to refute ontologism. Nor will it do for Nagel to add that "not to acknowledge" necessary truths is to "run counter to the established usage of the expressions" (199); for in negating a necessary truth one would, on the contrary, negate it in its original meaning; negating a proposition is different from going back on the conventions which enable the sentence to express it; in fact, the latter precludes the former.

Next (199) Nagel remarks that science cannot establish logic since it generally uses logic itself. Then logic must be established without the aid of the major part of science! That is

scarcely a handicap! Which ontologist thought that advanced argument against the use of plain induction to establish logical laws, but rambles on about advanced science.

According to Nagel (204), the fundamental laws of logic

> "specify minimal conditions for discourse without confusion".

But e.g. contradictory discourse does not create more confusion than other discourse containing statements everyone disbelieves. If A knowingly writes a self-contradictory message to B, who realizes that A wrote it knowingly, B will lay the message aside, impatiently, as false; just as if the message had said 'Unicorns exist'. If a contradiction seems unintentional, on the other hand, one will wonder which claim the writer really meant to make - just as in the case of two statements which are obviously beyond the bounds of physical compossibility. Furthermore contradictions cause no trouble of any sort if intensionally used, as in a specification of a desire. Other causes of confusion in communication, however, affect intensionally used language as much as any other language.

Finally (209/10) Nagel embraces the view that one can justify adopting any logic only on the basis of its success in enabling us to pursue our (cognitive) ideals. He is impressed by the possibility of alternative logics, and, typically, takes this to refute ontologism. As we have said before, if this were so, then no statement could justifiably be said to be about the world, since there is no field in which alternative conceptualizations are impossible. (Note: Cowan in 'The Uses of Argument - An Apology For Logic' gives the same kind of account (34-8) of logic as Nagel, but says that all traditional accounts must be rejected (33) as "circular"; this is because he wrongly thinks such accounts must say what deduction is deductively related to.)

The published discussions of Nagel's 'Logic without Ontology' are disappointing. E. Nelson ('The Relation of Logic to Metaphysics') ignores Nagel's arguments for saying that the law of non-contradiction is criterial for words other than 'respect', but wrongly swallows Nagel's arguments in the case of 'respect', claiming only that this is too minor a matter to make the law self-protective. Nagel ('In Defense of Logic without Metaphysics') ignores his earlier

arguments and says that 'respect' is not sharply segregated from 'attribute', and does create invulnerability on its own. Nelson's second point is equally in-effectual: he claims that we know a priori that in some conditions the ontologically construed law of non-contradiction holds. He wrongly concedes that there are exceptions, and is quite wrong in thinking Nagel will admit it is an a priori matter - though Nagel nowhere denies it, either. Nelson also swallows the story of Nagel's that we use the law of non-contradiction in drawing distinctions. All Nelson wishes to insist on is that it is useless to draw distinctions not founded in reality! Which is not true in any case, since we may need to dispel confusions involving at least one uninstantiated concept. The Nelson seeks to overcome the triviality of 'logic is the science of all possible worlds' by restricting 'possible' to 'composed of elements known to us in our world'. Then, of course, one fails to obtain a description applicable only to logic. But Nelson does make a sound point when he says that empirical contentlessness does not follow from tautology but from some theory making empirical falsifiability a necessary condition of empirical

content; which stands exposed when it is realized that the consequence follows only when 'empirical falsifiability' is qualified by 'given the truth of logical laws'. Hall ('The Metaphysics of Logic') says correctly that regulatoriness of logical laws does not preclude ontological content, but fails, like Nelson, to expose the mistakes in Nagel's argument. In fact Hall is content to say that the question of the nature of logic remains "open".

Little emerges from a symposium entitled 'Truth by Convention' in which Ayer, having adopted (18-20) the view that necessary truths are rules that it does not make sense to deny, is uneasy (21/2) about saying that the necessity of being consistent in use of language is just conventional. In fact, however, we do not have a logical necessity at all here, unless we understand '...to avoid falsehood' - but then why find conventionalism more paradoxical here than elsewhere? Presumably because one is brought face to face with logical rules as rules of truth! Whiteley says (23):

> "I think conventionalists must at some point say that a certain usage is implied by or is inconsistent with the rules of the language;

and the inconsistency of a usage with a rule cannot be itself a convention".

But the conventionalist may not say what Whiteley says he must - he may e.g. just call impossibilities meaningless. But even if he does do as Whiteley says, he will only be doing what we do when we say that driving on the right is inconsistent with a rule of the road, i.e. is in conflict with it - a loose use of 'inconsistent', unless what is really meant is that it is logically impossible to obey the rule and also drive on the right. And the conventionalist need not deny that there are facts embracing conventions and their relations; whilst if a necessary truth about conventions is adduced, he can give a conventionnalist treatment of that necessary truth equally. Whiteley further argues (24/5) that impossible propositions are not grammatically improper as 'I seen him' is, because they would not become acceptable if everybody started to talk that way. The conventionalist could reply that 'I seen him' has a meaning and that the impropriety is in the selection of words to express it; whereas impossible statements are meaningless, and for that reason never become acceptable, just as 'For but for' never will, unless the meaning is changed.

However (25) Whiteley does argue against the view that impossible statements are meaningless, on the good grounds that they are functions of meaningful statements and are truly deniable. However, the conventionalist will not be convinced by these points alone: he will say that conjunction of meaningful sentences just is meaningless, given our rules of language, and he will deny that the denial of an impossibility is, strictly, a truth (as opposed to a rule). Whiteley (28/6) finds it paradoxical that a verbal premise or rule of inference should be relevant in an argument with entirely factual premises and conclusions. But the conventionalist will reply that necessary truths 'organize' meanings, analyse the premises, etc., and Whiteley can scarcely deny that we need to understand the words before we can assess or perform any inference. Whiteley does however score (26) when he points to the implausibility of identifying necessity with the meaninglessness of 'denying a rule': as he says, 'Shut the door' scarcely seems necessary, though its denial is nonsensical (in the sense that is is absurd to deny what is not a statement). Whiteley objects also (26), that rules are not deductively related;

this is correct, but will not be admitted by the conventionalist, since he does not admit that deductive rules are rules of truth. (Of course the conventionalist can point to the fact that rules clearly do have 'derivability' relations. But he should note that such relations can be inductively based too - c.f. e.g. 'Withdraw the rod from the fire and touch it without burning yourself', which it is physically impossible to comply with. Thus there is no support for conventionalism in this area.) The third symposiast is Black - in his preconventionalist days. He argus (29) that conventionalism is absurd because any logical truth or falsehood can be made into a command. The conventionalist will reply that the'falsehoods' are meaningless, and so not commands, but he will accept Black's point (28/9) that we can be inconsistent if we wish - only, he will say, we fall into meaninglessness. So Black is misleading when he concludes that (30) but for social pressure all mathematical propositions would have an equal claim: for he includes meaningless ones here, the conventionalist would retort, and these appeal to few, independently of social pressure. Nor is Black just in the following remarks (30):

> "Whereas the plain conventionalist theory confuses mathematics with sociology, the attempt to justify the privileged position of 'our' rules by reference to a causal connection with experience confuses mathematics with physics".

Rules are not sociological; to show the connection of rules with experience is not to operate with rules (do mathematics, as far as conventionalists are concerned). Nor does the fact that mathematics is invariant with respect to transformation from one language into another show that

> "the question of 'alternative' mathematics does not arise" (32).

The question does arise, but offers no support to conventionalism; as we have seen.

Chapman ('What are the Laws of Logic?') tries to draw conclusions from the fact that certain logical laws could not be expressed if we imposed a different notation on ourselves (60), But nothing can be shown in such a way, for contingent statements could be afflicted equally by the same means. Nor (61) is he right in thinking that the fact that the conventions are based on experience lands us in a Mill-type theory; for conventions are not generalizations about things (other than meanings, on some interpretations).

M. MacDonald ('Necessary Propositions') argues against conventionalism that learning French is not learning to argue (47). "But it is learning all one needs to use in arguing", the conventionalist could reply. She objects to saying that contingent facts about language are evidence for necessary truths (48), but of course conventionnalists need not say that - any more that they need say that such facts are evidence for a command which one comes to understand by knowing linguistic facts. She complains (49) that the chess analogy leads to saying that every necessary statement has a significant contradictory, but in fact the analogy only leads to the result that rejection and alteration are possible. She does not notice (50) that conventionalists will say contradictions are meaningless, and she overlooks (50) the possibility of alternative logics. She says (50) that deduction is involved in deriving conventions from conventions, but does not show why conventionalists cannot give a conventionalist account of such deduction.

In 'The Analysis of a Simple Necessary Statement', Black tries to give an account of the feeling of necessity which necessary truths are accompanied by. In this paper he is writing

as a convinced conventionalist. He identifies validating a necessary truth with having "the linguistic habits of transformation in question". "No wonder, then, that the 'statement' should appear to the speaker as 'necessary', since he is now using the word 'statement' in such a way that no assertion will by definition be a a statement of this peculiar kind u n l e s s it has been validated". Even if we agreed that we use '(necessary) statement' as suggested, we could not agree that our feeling of necessity has anything to do with the convention in question. The word '(necessary) statement' does not enter into most necessary truths, and, moreover, the sense of necessity would not vanish if we adopted a different difinition (as in fact we all have!). That Black is confused is confirmed by his next saying (c.f. the end of his article) that the "infallible validation" of necessary truths is no more mysterious that the digestion of digested food. At best he could be 'explaining' one logical necessity in terms of another, or else just pointing to the logical necessity. Basically he seems struck with the idea that 'validation' of a necessary truth consists in firm adherence to it as a rule, but he

acknowledges (c.f. the last two pages of his article) that there are necessary truths expressible in usages which are not well-established. Yet just before he writes:

> "The term 'necessary' is reserved for precisely such statements as will, in point of fact, be retained as invariant in the widest possible range of linguistic change of habit".

In a word, Black cannot plausible maintain that a necessary truth functions "as an impulse to, and a symptom of, a certain fixity of linguistic habit", since it is not linguistic habits which remain fixed, but our adherence to necessary truths. Extravagantly he even says

> "One is less inclided to argue with an alleged 'fact' than with an explicit command".

But even a conventionalist can say that the citing of necessary truths is relevant only in a certain context, and that they remind one of the force of one's words - there is no need to make the use of necessary truths look like the imposition of orders which are arbitrary relative to the purposes in hand.

It is no use arguing against conventionalism, as does M. Swabey ('Logic as Language habits versus Logic as Formal Truth'), that there cannot

be alternative logics, as all logics must conform to certain basic principles. The conventionalist will say that this is just to put forward a rule for using the word 'logic', and that it does not show that there are no alternatives to our logic, even though it might be considered incorrect to describe them as 'logics'. (Walsh (50 ff.) repeats M. Swabey's mistake in 'Reason and Experience'.)

Chisholm argues against conventionalism in 'Theory of Knowledge'. He claims (81) that necessary truths are not all rules ("imperatives") since

> "the logician can also tell us nonimperatively such things as: If you believe... you will also believe...".

The conventionalist will simply say that these are disguised rules for describing situations (cognitive ones). Chisholm also points to the occurrence of the same distinction in chess manuals, which contain rules and also indicatives about what happens when the rules are obeyed. Here again the conventionalist may talk of disguised rules, for theory of chess is itself a formal discipline. Chisholm, quite soundly, also (81) points out that to say that logic gives rules for avoiding error

is to say nothing that is not true of inductive rules. When we speak of logical rules as rules of truth, though, we challenge the (j)-conventionalist's view that e.g. excluding contradictions is excluding nonsense, the avoidance of error in that way. Chisholm also, obviously rightly, objects to the obscurity of 'time in virtue of meanings'. (We shall be returning to Chisholm in later chapters.)

The conventionalist need not be impressed by Quine's argument ('Truth by Convention') that (250/1)

> "Considered in isolation from all doctrine, including logic, a definition is incapable of grounding the most trivial statement.... a logical consequence of definitions is... more exactly describable as a logical truth definitionally abbreviated". (251).

The conventionalist will just read 'logical truth' as 'definition in disguise', or something of the sort. Nor need he share Quine's illusion that every definition is

> "a convention of notational abbreviation" (250).

Once semantic definitions are recognized, conventionalism seems much less implausible. The conventionalist could further retort that he does

not hold that definitions ground statements in the sense of propositions with truth-values. Or he could say that by 'definition' he means 's t a t e m e n t of meaning', and in that sense definitions do ground statements. Alternatively, the conventionalist could deny the substitution is the procedure he has in mind for deriving truths from definitions - he may claim some other relationship. Quine, then, has just sketched a view contradicting conventionalism without defending his view. After all, the conventionalist knows from the beginning that superficial appearances are not on his side. The remainder of Quine's article, insofar as it is relevant to our purposes, is odd. He talks (260) of "arbitrarily" declaring "true" sentences of the uninterpreted propositional calculus, saying (260):

> "Such contexts as we render true are true by convention".

He next (261) in effect says that by appropriate selection we can make ordinary logic "true by convention" in that way. Here he is obviously cancelling the element of arbitrariness, and in effect describing the procedure of calling true all those s e n t e n c e s of logic

which in fact express truths. But what is the interest of this? Do conventionalists mean by 'truth by convention' that we carry out such a procedure? Of course not. There are dozens of different interpretations of the expression, as we have seen; but Quine has not fixed on one of them. Thus it is quite uninteresting to be told that the procedure he has sketched would be an infinite process (261) or, if this avoided, that (271) "logic is needed for inferring logic from conventions"; or that the procedure can be carried into empirical science (268); etc. At the end Quine himself acknowledges the existence of alternative interpretations of conventionalism to his own (272):

> "It still may be held that the conventions... are o b s e r v e d from the start, and that logic and mathematics thereby become conventional. So conceived, the conventions no longer involve us in vicious regress".

He explains:

Why then does Quine choose to consider an outrageous form of conventionalism?

> "it is not clear wherein an adoption of the conventions, antecedently to their formulation consists; ... when a convention is incapable of being communicated until after its adoption,

its role is not so clear. In dropping the attributes of deliberateness and explicitness from the notion of linguistic convention we risk depriving the latter of any explanatory force and reducing it to an idle label".(273.)

Nothing in this last quotation could detract from the outrageousness of Quine's interpretation of conventionalism. The obscurity of a phenomenon does not make it sensible to construe theories which refer to that phenomenon as if they referred to something else. It is clear from the quotation that Quine is leaning too heavily on the ordinary meaning of 'convention'; after our discussions of the various conventionalisms we cannot agree that conventionalism says only that necessary truths are firmly accepted or perhaps says not "anything at all" (273), unless it says what Quine - pointlessly - makes it say.

We turn next to an examination of an article by Ajdukiewicz, 'Le probleme du Fondement des Propositions Analytiques'. In this article he argues that conventionalism (j.ii.B.4) is objectionable because

"It is not true that if there is a convention valid for language L and according to which the term 1 must denote an object

satisfying the condition $^{F}(1)$, this term denotes, by this very fact, such an object". (262.)

For the object might not exist. - But this will not do as an objection to (j.ii.B.4) at all. If I order you to fetch an unicorn, my order is not rendered meaningless by the non-existence of unicorns, and I do not have to see whether there are unicorns before I can give the order. (j.ii.B.4) can make a similar appeal in respect of the denotational rules of which it speaks. Ajdukiewicz goes further astray when he confuses theory of reference and semantics in thinking (263/4) that the same argument rules out (j.ii.B.1)- he talks of 'symbolizing' instead of 'denoting' 'an object'. Against (j.ii.B.3) he 'argues' that (265) one needs logical truths as well as syntactical conventions to yield truths. But, as we noted against Quine, this truth will not do as an argument against conventionalism. And why did not Ajdukiewicz use the same remark against the other two kinds of conventionalism that he discusses?

Finally (268-70) he argues (as does Britton (163) in 'communication') that we need existential premises even to ascertain "syntactical analyticity" unless we are dealing with logical truths or con-

ventions guaranteed to exist by logical laws. That is obviously a very confused thing to say; and we have now already exposed the defects in the thinking which leads to the pronouncement; except that we have yet to mention that Ajdukiewicz is also confusing kinds of conventionalism with kinds of analyticity - as emerges in his use of such phrases as 'syntactical analyticity" (268-70). Obviously Ajdukiewicz could do with a table setting out some of the different things he is mixing up. Let us provide one, which will serve to summarize some of our findings, and to show which errors each form of (j.ii) conventionalism either escapes or embraces.

Does the theory make necessary truths

	NECESSARY?	A PRIOI?	TRUE?	ABOUT THE WORLD IN GENERAL?
(j.ii.A.1)	No	No	Yes	No
(j.ii.A.2)	Yes	Yes	Yes	No
(j.ii.A.3)	No	No	Yes	No
(j.ii.A.4)	No	No	Some; others false	Partly
(j.ii.A.5)	No	No	Some; others false	Partly
(j.ii.B.1)	No modality	Verification	No Truth-value	No
(j.ii.B.2)	No modality	■	No Truth-value	No
(j.ii.B.3)	No modality	not	No Truth-value	No
(j.ii.B.4)	No modality	■	No Truth-value	Partly
(j.ii.B.5)	No modality	Required	No Truth-value	Partly

((j.ii.C) is a non-starter.)

On the basis of the above table, we can critcize some forms of conventionalism for not making analytic truths a priori; but then they make them nonanalytic too. At the same time, Ajdukiewicz and Britton must realize that all facts (including syntactic ones) about what a sentence before one expresses are contingent, but this does not count against the apriority of the truth expressed if one requires no non-logical knowledge to verify it. This remains so even if the theory of meaning operated with says that it is necessary to study the world in general to see what a sentence means: the stage of finding out what a sentence means, or what statement is in question, is not counted as part of the verification. The same goes for contingent truths. Finally, one does not need to know a fact in order to be able to issue a directive regarding what is to be done if the fact obtains.

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At this point we recommence our examination of Wittgenstein's views on logical necessity. Now for the first time we shall be dealing with the later Wittgenstein. Or rather, we shall be dealing for the first time with Wittgenstein's own words. For a great deal of the conventionalist material considered in the preceding pages was more or

less inspired by Wittgenstein. This will help us to deal more speedily with Wittgenstein himself, as will the fact that our general anticonventionalist arguments have already been presented, earlier in the present section; the material of ch.6 will of course also be pressed into service. In considering Wittgenstein's own writings, we shall examine briefly those writers on logical necessity who have addressed themselves explicitly and specifically to the later Wittgenstein's account. We begin, then, with Wittgenstein's RFM.

The opening passages of RFM suggest a number of connections among different topics. The theory of meaning leads to the remarks on following a rule:

> "'The way the formula is meant determines which steps are to be taken'. What is the criterion for the way the formula is meant? Presumably the way we always use it, the way we were taught to use it". (RFM.I.2; PI.I.190 is closely similar.)

Talking of the problem of how we know how to continue a numerical series, Wittgenstein says in brackets (RFM.I.3.)

> "The question: 'How do I know this colour is "red"?' is similar".

Having thus indicated a connection between his theory

of meaning and his remarks on following a rule, Wittgenstein subsequently shows that he assumes that his remarks on following a rule give rise directly to questions concerning logical necessity. This emerges from the way in which he moves from a discussion of following a rule (continuing a series) to the following question as the first sentence of the succeeding paragraph (RFM.I.4):

> "'But then what does the peculiar inexorability of mathematics consist in?'"

And in the next section (RFM.I.5) we have come to the question:

> "'But doesn't it follow with logical necessity that you get two when you add one to one, and three when you add one to two?: and isn't this inexorability the same as that of logical inference?'"

Clearly, then, the topic of following a rule constitutes a bridge between Wittgenstein's treatments of meaning, on the one hand, and of logical necessity, on the other. We shall be disputing the correctness of the manner in which Wittgenstein links the three topics.

Let us note from some typical passages the course which Wittgenstein's thought took. First a statement from PB:

"Given some universal rule - one containing a variable - I must recognize at each step that this rule can be applied h e r e. No act of foresight can save my needing this act of i n s i g h t". (PB.XIII.149.)

(The reason he here gives for saying this is that "the form to which the rule is applied is a different one at each step". But later he realizes (RFM.I.3) that "(If intuition is needed to continue the series + 1, then it is also needed to continue the series +0.)".) Now an editorial footnote to PB.XIII.149 informs us that Wittgenstein inserted the following correction in the margin:

"Act of d e c i s i o n, not of i n s i g h t."

This is a natural reaction, once one has dismissed intensional acts: for then there seems to yawn a gap where before there was something to appeal to for guidance in following a rule. But, one will wonder, does not the use theory give us a substitute for the intensional act? It is the obscurity and ultimate defectiveness of the use theory which makes it difficult for Wittgenstein to make up his mind on the positive point. However, he certainly abandons the simple view expressed in the margin to PB.XIII.149: compare the following from BB.p.143:

"It is no act of insight, intuition, which makes us use the rule as we do at the particular point of the series. It would be less confusing to call it an act of decision, though this too is misleading, for nothing like an act of decision must take place, but possibly just an act of writing or speaking."

At Pl.I.219 he declares:

"When I obey a rule, I do not choose. I obey the rule b l i n d l y."

'Not so fast!' we must cry. Once we dismiss the idea that intensional acts can be appealed to, to tell us what we mean, we dismiss the idea that there is anything b e f o r e t h e m i n d a t t h e t i m e which shows whether something falls under a given concept. But it would not follow that there is nothing to appeal to which shows whether something falls under a given concept. Would Wittgenstein say that I trust a man "blindly", if my knowledge that he is honest does not consist in trust's being accompanied by an intensional act which somehow constitutes knowledge of the man's honesty? Wittgenstein never says anything of the sort; but if he did, the point could only be that knowledge is not given in an intensional act. It would be quite a

different matter to claim that nothing is constitutive of a man's being honest or - to take an example nothing to do with intensions - that nothing is constitutive of a man's being thin. But does not Wittgenstein's theory of meaning tell us what is constitutive of a concept's being this rather than that? Should it not be possible to state in terms of Wittgenstein's theory of meaning what is constitutive of an entity's falling under a given concept? Should it not be possible to f i n d o u t whether one has obeyed a rule?

In ch. 6 we criticized Wittgenstein because nothing in behaviour is constitutive of the meaning of any word. In a sense, we see from the passages just quoted, Wittgenstein agrees with our criticism. Only instead of looking for an alternative theory of meaning, he infers from the fact that no behavioural facts are constitutive of the meaning of any word - he infers from this fact that when we talk about meanings we are not in the ordinary sense stating facts at all. In virtue of certain objective considerations I do judge this way rather than that about what was meant; but the same objective considerations could equally well be made out to support a different claim about

what was meant - even where the objective considerations include all the (behavioural) facts there are. This, at least, is the most favourable way of interpreting Wittgenstein. However, he concentrates so much on the absence of an intensional act which would uniquely determine what falls under it, that one cannot help thinking that he means us to draw from that premise alone the conclusion that we follow a rule blindly, in the extreme sense of "blindly", according to which no objective justification can in principle be found. (c.f. BB,RFM and PI passim. The main passages in PI are: I 28/9, 84-7, 143-9, 185-242, 674-7. The main passages in BB are 12-5, 33-6 and 141-3. In RFM the passages are more widely scattered.) Let us take one example. At BB p.143 Wittgenstein remarks that he answers the inquiry "Surely it is using the rule 'Add 1' in a different way if after 100 you go on to 102, 104, etc." with the retort "That depends on what you call a 'Different way'.". Here he could mean just that no intensional act governs the use of 'different way', or else that there are no facts constitutive of a person's meaning 'different way' in such a way that going on from 100 to 102 could as a matter of fact be said to be going on 'in

a different way'. The former alternative is more plausible than, but does not entail, the latter.

The latter is not plausible if one remembers that there are neural as well as psychical and behavioural aspects of man, and that there is every reason to believe that the nervous system has the dispositional properties required for satisfactory talk of meaning, whereas behaviour does not.

Clearly Wittgenstein's new-found radical scepticism about meaning would not affect only what we say about meaning. It would affect everything we say, because there would be no such thing as 'what we are really saying'. If Jones opens the window when told to shut the door, he could in principle defend the claim that he had obeyed the order. In fact any claim whatsoever becomes justifiable, because of the indeterminacy attaching to the character of any claim whatsoever. This is just another route to the conclusion that Wittgenstein should not have claimed to have had a theory of meaning at all. For, on his view, what at first seems like arbitrarily insisting upon one interpretation rather than another of certain words, itself ultimately turns out to be of indeterminate

character so far as its meaning is concerned - we never really succeed in saying anything. It is true that in PI, where we find an unfortunate dread of offending common sense, Wittgenstein tries to get the tiger back into the cage, but his effort is feeble. He says (PI.I.201) that the paradoxical conclusions show that

> "there is a way of grasping a rule which is n o t an i n t e r p r e t a t i o n,

but which is exhibited in what we call 'obeying the rule' and 'going against it' in actual cases".

Here Wittgenstein just vaguely says that every thing must after all be all right; but it is absurd of him to say that the paradoxical conclusions "show" this to be so - unless one accepts the rule of procedure that 'common sense' is to prevail over hard-won philosophical conclusions.

We have ssen that there is no compelling reason for accepting Wittgenstein's extreme scepticism regarding meaning. (If we did accept it, it would bring chaos not only to deduction but also to induction and to the argument for the scepticism itself.) But when we notice that there are indeed, for many thoughts, intensional acts, and that there are indeed neural facts in which to

ground a determinate meaning for all words, our desire to embrace scepticism will vanish; for it is e.g. clear that the nervous system can harbour dispositions sufficiently finely differentiated, and uniquely associated with pieces of language, to provide an adequate basis for talk of meaning to be viable, to have something specific to latch on to.

As long, then, as we can take ouselves to be able to represent facts to ourselves, we can take ourselves to be able to express necessary truths. Apart from their necessity, necessary truths, we have seen, are truths like any others. Thus we are constrained, in inference and in acceptance of necessary truths, not only by meanings but also by facts. Thus necessary truths do not have any especially close connection with meanings that would make them more vulnerable to scepticism, etc. than other truths. Let us next criticize some typical passages of RFM from this standpoint, beginning at RFM.I.4.

It is a necessary truth that two follows one, but says Wittgenstein, only if "in the series of cardinal numbers" is understood. As "in a different series something different follows", this is correct. Then he remarks:

"And isn't t h i s series just d e f i n e d

by this sequence?"

Why does he say this? He seems to think that the remark effects a reduction of the necessary truth to the series, or to its definition, for he ends with the strange conclusion, which seems to him a discovery:

> "it can't be said of the series of natural numbers - any more than of our language - that it is true, but: that it is usable, and, above all, i t i s u s e d."

In fact, the remark about the definition of the series of cardinal numbers emphasizes the form of the necessary truth, but certainly does not show that its truth is a matter of definition, or that it is not true at all. He further asserts that what makes it 'correct' to count as we do is our disposition to call only certain activities 'counting', this disposition being backed by the importance of the activity in our lives. There is an inexorability in the insistence on behaving in a certain way. But counting is, again, nothing like asserting a necessary truth, whatever the nature of the latter; even if necessary truths were not truths in the normal sense, they at least invite such a description in the way that numbers recited in counting do not. No-one expects the sequence to be a truth (except in the sense of adequacy of the

concepts), so that it is nonsense to put such an idea into an opponent's viewpoint, as Wittgenstein does at RFM.I.4. The only effect is to confuse issues. This will become clearer as we proceed; RFM.I.4. is a microcosm of the aspects of RFM which concern us.

At RFM.I.5 we reach the question:

> "But isn't there a truth corresponding to logical inference? Isn't it t r u e that this follows from that?"

Instead of answering directly the question '"h o w should we get into conflict with the truth" if we inferred differently?', Wittgenstein turns to the question:

> "How should we get into conflict with truth, if our footrules were made of very soft rubber instead of wood and steel?" (RFM.I.5.)

He answers (RFM.I.5.) that the results would conflict with ours; but:

> "It is similar to our measuring and capable, in certain circumstances, of fulfilling 'practical purposes'. (A shopkeeper might use it to treat different customers differently.)"

If this is meant as an analogy, then perhaps we are supposed to accept that if we inferred differently, we should get a different practise from

the one we now follow, that it would constitute its' own standard for correctness of its own kind, and that it might, in certain circumstances, be useful. All these points are correct; but the mistake is to suppose that they entail some form of conventionalism, or that they contradict any of the theories Wittgenstein opposes, even though in the confusion of the early sections of RFM they have an air of so doing. Even now, it is sometimes useful to infer wrongly, or, if it is preferred, differently. I might, for instance, wish to annoy someone in this way. Given the practice, I can use it as a standard or paradigm, to form a new concept of inference to which individual acts will or will not conform. But once again, we are now talking of a practice, not of a truth. "Inferring defferently would be all right in its own way" would, insofar as it is justified, not be an assertion that it was necessarily truth-preserving, but merely an admission that procedures which are not necessarily truth-preserving may have their usefulness and that they constitute a recognizable category. Having, so he thinks, abolished meanings as providing 'rails' along which inferences 'must' proceed, Wittgenstein overlooks the fact that, when we are dealing with

inference, as opposed to mere following of a rule we demand that the procedures be truth preserving. This provides a bases for appraising inferences which is absent in the case of following a rule. It is true that inferring '-p' from 'p' can be a mistake only if 'p' and '-p' have determinate meanings, so that the theory of meaning is relevant in this way. But there is the additional factor that if you infer p from -p, you get into conflict with the truth in your conclusion, given that your premise is correct. Thus in saying that one m u s t infer this way rather than that if one wishes to proceed correctly, one is appealing not merely to meanings, but also to facts, e.g. to the fact that when Hitler is a man, he is also human.

At RFM.I.6-9. Wittgenstein talks of inference as a transformation of our expressions by means of comparison of them with a rule, and at RFM.8. he mocks talk of rules of inference as agreeing with reality, saying that it goes with a view of logic as

> "a kind of ultra-physics, the description of the 'logical structure' of the world, which we perceive through a kind of ultra-

experience".

On the other hand, he says, it is all right to appraise an inference by reference to the rules of inference. Here, again, he must simply be overlooking the fact that our rules of inference can be judged by whether they are, or must be, truth-preserving. This is a question which most emphatically does arise, e.g. where we get strange results by following certain rules of inference, and Wittgenstein cannot legitimately speak as if at arose only for non-conventionalists. At RFM.I.9. he once again confuses inference with other procedures; he calls translating one measure into another 'inference', and says that the only standard of correctness here is convention, no doubt wishing us to think the same of inference proper. So Wittgenstein is involved in the typically conventionalist error of confusing the semantical and the logical!

Let us re-emphasize more strongly that Wittgenstein shares in the common but strange mistake of thinking as if the theorist of logical necessity has to choose either conventionalism or platonism - Platonism. C.f. RFM.I.8:

"Is this supposed to mean: only what follows

going by the rules of inference, or is it supposed to mean: only what follows, going by s u c h rules of inference as somehow agree with some (sort of) reality? Here what is before our minds in a vague way is that this reality is something very abstract, very general, and very rigid...."

To overcome this false dichotomy, the best method is to insist on regarding necessary truths as just like any others, except in respect of their necessity. There is no need to have a queer view of their meaning universality or counterfactuality (platonism - Platonism) or of their truth, meaning or statementhood (conventionalism).

There is no need to comment on every relevant passage of RFM, for the story told about logical necessity is a repetitive one. The logical and the semantical are identified systematically. Sometimes this is by insinuation:

"One learns the meaning of 'all' by learning that 'fa' follows from '(x), fx." (RFM.I.10.)

One might indeed pick up the meaning of 'all' in this way; but this no more justifies the confusion of logic and semantics than the fact that we learn the meaning of 'horse' from hearing certain contingent statements justifies confusion of semantics with the study of horses. (But c.f. our last

quotation in this chapter!)

RFM.I.23 does however require separate comment.

> "'But we surely infer this proposition from that because it actually follows'. - We ascertain that what is written here follows from what is written there. And this proposition is used t e m p o r a l l y."

Yes indeed, what we a s c e r t a i n is a contingent fact. But that is only because we a l r e a d y k n o w the necessary truth which is also needed if we are to verify that what is written here follows from what is written there. 'P is not the sort of thing we need to ascertain here' does not entail that P does not express a fact. On the contrary, we need to k n o w t h e f a c t that if p then pvq, when we ascertain that certain words express a correct inference, if the inference is in fact from 'p' to 'pvq'. (C.f. ch. 5.)

Next let us examine passages in which Wittgenstein seems to entertain the falsifiability of necessary truths by experience. We do not need to repeat here our arguments against entertaining such a view - c.f. section B and also the present section (above). At RFM.III.10 Wittgenstein clearly seems to entertain the alternative 'Either one

allows that mathematics can be falsified or one withdraws all content from its formulas':

> "Isn't it over-hasty to apply a proposition one has tested on sticks and stones, to wavelengths of light?....
> Does one actually count on it that what has proved true in so many cases must hold for these too? Or is it not rather that with the arithmetical assumption we have not committed ourselves a t a l l?"

Another passage which is relevant is the following:

> "But now, if he has an H of things and a P of things, and he actually correlates them, it surely isn't p o s s i b l e for him to get any result but that they are the same in number. - And that it is not possible can surely be seen from the proof.' - But i s ' n ' t it possible? If e.g. he - as somehone else might say - omits to draw one of the correlating lines."

(We discuss this example further below, where it will become clear that a genuine logical impossibility is under discussion in the above passage.) The inclusion of "as someone else might say" in the above passage shows that Wittgenstein in effect believes that in excluding a logical impossibility we are really just refusing to

countenance a counter - example and insisting on a description which makes it look as if it never occurred. Moore's diagnosis is hence confirmed. There are problems about how we know that necessary truths have no exceptions to them; but it is a different matter to say that we can actually find counter-examples, and no doubt Moore's explanation of the confusions leading Wittgenstein to such a result is the correct one. Furthermore, it is clear that the claim that necessary truths are ontologically falsifiable fits ill on to the doctrine that they are just conventions, as conventions concern only meanings. We thus have a dual strain in Wittgenstein's writings on logical necessity. Basson develops the strain opposed to (j)-conventionalism in 'Logic and Fact'. He says: To call bad logic bad usage is to commit the error of making logical error a special kind of factual error (82/3). Further (87):

> "It is, pure convention that 'Outside' and 'Inside' mean Outside and Inside, but what is meant by 'Insides are never bigger than outsides' is not this sort of convention at all. Statements like this are fossilized science. We have decided to let nothing alter our attitude towards them, simply because things which might have altered our attitude seldom if

ever happen."

But these things N E V E R happen! He thinks they do because big things sometimes shrink on being put into boxes which they did not fit prior to shrinking. But the size of a thing before it is smaller than a box no more counts in favour of a thing's later being larger than the box than the multiplication of microbes falsifies arithmetic. We are not, as Basson says, faced with a choice: while the thing is in the box, it just is smaller than the box, and the earlier dimensions are irrelevant. Otherwise all change would count against the law of non-contradiction and inference would be hazardous in a way in which it manifestly is not.

Stroud ('Wittgenstein and Logical Necessity') draws attention to the woodsellers who have different measures from ours (RFM.I.149). He claims that their conventions are unintelligible to us - but that is just being narrow minded. Obviously we could propose selling wood on the basis of different measures if we wanted to. Stroud wants to say someone can adopt different conventions from ours, but that we cannot understand them. He says we cannot understand 'adopt the convention that going on 99,100,102,104.... is going on the same (adding one)', but that it

is not contradictory. It is contradictory, not unintelligible, but also not the adoption of a convention. Though of course we could decide to use 'same' to mean 'different'. (Apart from these confusions in the middle, the rest of Stroud's article is just an exposition of Wittgenstein. Cowan ('Wittgenstein's Philosophy of Logic') also presents simply an exposition, based on the claim that what we mean is always indeterminate. G. Robinson, 'Following and Formalization', also presents an exposition, including however the just criticism that comparison of logical with legal inexorability (RFM.I.118) is unfair, as the former is prima facie independent of our will. One should add that it is hard to see how necessary truths could "express respect for" conventions (RFM.I.118) given that we can express necessary truths in conventions we do not wish to adhere to subsequently. This tells also against Levison's account of inexorability of logical laws in 'Wittgenstein and Logical Necessity': he says it arieses (369)

> "because we want them to do a job and because we see that in order to get the job done everyone has to do it by the same rules".

We do not, pace Wittgenstein and Levison (369/70) have a "deep need" for our conventions. They are altering all the time. So a felt need for uniformity or constancy cannot actually be the sense of necessity which attaches to a necessary truth, even apart from the fact that it is not conventions which possess the aura in question. Nell and Chihard argue over the correct interpretation of Wittgenstein in "The Hardness of the Logical 'Must'" and"Wittgenstein and Logical compulsion" respectively. Nell argues one needs logic to decide to give up logic. Which is false, since a decision does not involve inference or necessary truth. And in any case, the point is really whether one speaks falsely in going against logic - whether one d e c i d e s to do so or not. Chihard rests his case on the impossibility of being able to guarantee success in conveying what one means. This does not afflict logic alone. And what matters is whether what we say h a s determinate meaning, not whether it can infallibly be conveyed. Not even on platonism is infallible conveyability guaranteed. On the contrary, is it not Wittgenstein's theory which t r i e s to make meanings public, and so

easily discernible?)

Let us now turn to the question of the extent to which Wittgenstein's case against essentialism (ontologism) is adequate.

R.F.M. I.25. introduces us to a horizontal row (a) of five vertical lines which can be correlated with the angles of a five-pointed star (b). The figure with lines drawn between the vertical lines of (a) and the angles of (b) is called (c). At R.F.M. I. 26. Wittgenstein remarks that if five men stand arranged in a pentagon, "I could regard figure (c) as a schematic p i c t u r e of my giving the five men a wand each". One can say that "by drawing projection-lines I have ascertained that there are as many strokes at the top of figure (c) as the star has points" (R.F.M. I. 27). "Temporally!" exclaims Wittgenstein: "In this way of taking it the figure is not like a mathematical proof" (R.F.M. I. 27). Then he adds:

> "I can however conceive figure (c) as a mathematical proof. Let us give names to the shapes of the patterns (a) and (b): let (a) be called a 'hand', H, and (b) a 'pentacle', P. I have proved that H has as many strokes as P has angles. And this

proposition is once more non-temporal".

(R.F.M. I. 27.)

This talk of the figure itself as either being or not being 'like' a proof is odd and careless, for clearly the mental activity which we perform in connection with the figure is an important factor. Nor will giving the figures names itself suffice to convert the thought-processes into a proof. After all, they already had names, '(d)' and '(b)'! The nearest Wittgenstein comes, at this point, to saying what is different in the temporal and non-temporal cases is his talking of naming the s h a p e s of the patterns (a) and (b), when one is conceiving the proof. For this does vaguely suggest preparation for some thought-process involving some kind of necessity; for instance, determining to mean by 'H' and 'P' only figures just like the ones one has before one.

At R.F.M. I. 28. Wittgenstein recognizes that to describe the physical pattern one has before one is never to utter a necessary truth. But he goes on to offer a characterization of a necessary truth, "p follows from q and r", which is either wrong or unhelpful:

"It says - as one might put it - that it makes sense to speak of a proof (pattern)

> in which p follows from q and r. just as one can say that the proposition 'white is lighter than black' asserts that it makes sense to speak of two objects, the lighter one white and the other black, but not of two objects, the lighter one black and the other white". (R.F.M. I. 28.)

In any ordinary sense of the words, it does make sense to speak the logically impossible. Certainly the logically impossible is not meaningless in the way that 'abx' or 'went went cup' are, and if one asked for the kind of meaninglessness to be specified, this could be done only in terms of logical impossibility. Talk of meaninglessness in this connection is only, if it is legitimate, an expression of total rejection of what one is entertaining or envisaging.

According to R.F.M. I. 30.

> "The proposition proved by (c) now serves as a new prescription for ascertaining numerical equality: if one set of objects has been arranged in the form of a hand and another as the angles of a pentacle, we say the two sets are equal in number".

Wittgenstein has not made clear exactly what is supposed to have happened and to have been proved. The natural and least partisan way of stating

the conclusion is as follows:

'An H and a P are the same in number'.

Noargument is given in RFM.I.30 for saying that a prescription is what is proved. But why does Wittgenstein speak of what is proved as being a n e w prescription f o r a s c e r t a i n i n g n u m e r i c a l e q u a l i t y? Subsequent remarks show that there is a muddle. Consider RFM.I.32:

> "I might also say as a result of the proof: 'From now on an H and a P are called "the same in number"'.
>
> Or: The proof doesn't e x p l o r e the essence of the two figures, but it does express what I am going to count as belonging to the essence of the figures from now on".

The second alternative seems to say that sameness in number is built into the concepts of H andP. (This is not, of course, a ground for equating this prescription with any truths the resultant concepts are used to express.) But the first alternative seems to be an arbitrary fiat of a very different order - one is said to start calling H's and P's the same in number without carrying out the old check of correlation each time, and, presumably, without making the requirement set out in the second alternative.

For, if we did, we should not obtain a new prescription for ascertaining numerical equality; since the consequent would be built into the antecedent of the hypothetical set out in RFM.I.30.

From RFM.I.31. it is clear that Wittgenstein refuses to allow that one can verify any necessary truth by looking at the figures. He seems to argue that the proof must issue in a convention because all I can do by looking at the figures is find out what is now before me. Talk of exploring the essence of H and P he rebuts with such remarks as "But how can you have brought t h a t out by correlating them?" (R.F.M. I. 31.) In fact one can, in several senses, empirically verify facts about essences. But, as we have seen, there are problems about saying we do so conclusively where the reference of our assertion is partly beyond the instances confronting us. However, it does not follow that necessary truths do not make the problematic claim and are mere prescriptions. In the same section, Wittgenstein alludes also to the fact that one may o n - as someone else might say - "omit to draw one of the correlating lines, and so get the result of an H and a P not

the same in number. But no-one wishes to say it is impossible to get this result - only that such a result can be correct. So this observation, too, fails to support the view that the conclusion is not valid as a truth. And the "as someone else might say" is particularly outrageous in the present example, for the failure to draw the line is as clearly objective as any fact is. Wittgenstein says that but for the contingent fact that we generally get the same result "the ground would be cut away from under the whole proof". But this is true only in the practical sense, that we should be deviating from the truth. (There is no question of the falsehood of the necessary truth.)

RFM.I.36 asserts:

> "the proof does not serve as an experiment; but it does serve as the picture of an experiment"

since "I see the 'mathematically essential' thing" about a process of dividing rows of marbles on a screen just as well as in an experiement. The argument hinted at here will not do: though there are not ten real marbles on the screen, there are ten real patches of coloured light, which an opponent could invoke as essential to whatever was shown.

One can say that Wittgenstein notices quite correctly that it is no revelation about "what we happen to have here' which is provided by a necessary truth. But he simply fails to realize in these sections that we can refer to things via reference (2) as well as by reference (1). In PI he does at last face the question of an ontological interpretation of sentences expressing necessary truths, but he can produce little but bluster and abuse:

> "'A thing is identical with itself.'"- There is no finer example of a useless proposition, which yet is connected with a certain play of the imagination." (PI.I.216.)

We do appeal to that law explicitly when people transgress it in their talk. It is the most general formulation of a kind of law that we continually use in inference. But neither uselessness nor a connection with a certain play of the imagination could detract from the ontological character of the law. Instead of argument we are being treated to ridicule. This is made possible by a sort of perversion of our natural inclination not to consider the epistemic possibility of the law's being falsified. This inclination is taken to an extreme when ontological content is denied - for that is a step which

protects the law from falsification. But we must learn to distinguish ridicule based on objective objections from other kinds of ridicule, such as that let loose by Wittgenstein in PI.I.216. Conventionalism i s ridiculous, but ontologism will seem ridiculous to one who has long accepted conventionalism as a matter of course.

However, let us end with a quotation from PI which shows Wittgenstein taking a very different line. The quotation shows him confusing meaning and essence, and shows the danger of the 'use' theory from that point of view, and exhibits the tendency to believe necessary truths express non-trivial facts about the world, and so on.

> "One ought to ask, not what images are or what happens when one imagines anything, but how the word 'imagination' is used. But that does not mean that I want to talk only about words. For the question as to the nature of imagination is as much about the word 'imagination' as my question is. And I am only saying that this question is not to be decied... by pointing; nor yet by a description of any process. The first question

> also asks for a word to be explained; but it makes us expect a wrong kind of answer. E s s e n c e is expressed by grammar. Consider: 'The only correlate in language to an intrinsic necessity is an arbitrary rule. It is the only thing which one can milk out of this intrinsic necessity into a proposition.'
>
> Grammar tells what kind of object anything is. (Theology as grammar.) (PI.I.370-3.)

Here we see how the rationalistic, illegitimate use of trivial ontological (necessary) truths as if they were non-trivial persists from T to PI; only in PI conventionalism enters as the handmaiden to outrage, since conventionalism authorizes starting from what we mean by our words by saying that necessary truths are conventions. Thus we have a wrong construal of the way necessary truths are about the world, a denial that they are about the world, and a wrong construal of their relationship to statements of meaning. So (c.f. the above quotation) Wittgenstein proposes breaking down the distinction between that which concerns meaning and the ontological! But he offers only the view that they merge into one another. That could be so only if de facto ref-

erences were in question - but then necessary truths cannot be in question, and it is not sufficient to ask oneself simply 'What should we say...', if one wants reliable answers. of course someone might object that a priori knowledge of de jure extensions is in question. Well, that would be trivial, and one would scarcely be justified in using the definite article in the phrase "the question as to the nature of the imagination" (as in the above quotation). The truth is that Wittgenstein is up to his neck in the theoretical confusions and the confusions in method which we examined in ch. 4 and 5. It is not remarkable that an inadequate theory of logical necessity is as integral a part of these confusions as in the case of other philosophers.

PART TWO

VIII

LEIBNIZ AND THE RELATION OF NECESSARY TRUTHS TO FACTS

It is now clear to us not only that conventionalism is false, but also that necessary truths are about the world in just the same way as contingent truths are. We now know how to reply to those who agree with Ushenko ('The Problems of Logic') that

> "The possibility of discarding a theorem by adopting a different logic proves that the theorem has no external antecedent standard to be adjusted to" (195)

We now realize that theorems of logic can be "discarded" in favour of a "different" logic only in the sense in which 'Rabbits are more common than hares' can be discarded in favour of 'Hasen sind haeufiger als Kaninchen' ('Hasen' including hares and some rabbits; 'Kaninchen' including fewer rabbits than 'rabbit'; 'sind haeufiger als' meaning 'are more common than'). It is equally clear to us that platonism-Platonism, as found in most of the anti-conventionalist literature, is bankrupt, being no more than a falling back on the doctrines of Plato which we have seen to be unsatisfactory (c.f. chs. 2 and 7). It is not good enough for anticonventionalists to write as follows of necessary truths:

> "Is what is thus meant to be true... also a c t u a l l y true or false? I do not know how to deny it. Must there be a region which what is true is true o f ? Obviously again. Is this region an integral part of the world we take as real? Yes; if not, it is nothing. Just how it is related to the rest may be hard to say."

Thus Blanshard in 'The Nature of Thought', vol.II, p.421. In ch.2 particularly, we saw what the pressures are which induce the denial that necessary truths are made true by the same "region" of reality as contingent truths. But in ch.7 - the chapter preceding the present one - we saw that those pressures need to be resisted, since the pressures working in the opposite direction are overwhelming when given their head. People like Blanshard - and many others, some considered, others, lacking new arguments, not considered - such people merely refrain from exposing themselves to the considerations which tell so surely and devastatingly against platonism-Platonism. They have nothing to say which is even intended to tell against those considerations, which began to emerge in ch.2 (For further relevant material c.f. chs.11 ff. The fundamentals concerning platonism-Platonism have however already been set out).

In ch.3 we saw how Aristotle answered inadequately both the question of how we can know that a statement is necessarily true and the question of the conditions under which a statement is necessarily true. In the present chapter we shall be showing how ontologism is to overcome the latter failure. Aristotle could not show why e.g. 'Bachelors have lungs' is not necessarily true, given that lungs are included in the essence of bachelors. It is important to note that Platonism, leaving aside its other failures, could do no better here. Time and again we are told that necessary truths are about relations among universals. Suppose I mention the universal Lung at time t. Is it then necessarily true that the universal I mention at time t is identical with the universal Lung? Of course not; but why not, given that I have said of the universal Lung that it is identical with itself, which is surely one of the necessary relations? Clearly an analogous difficulty arises for those who wrongly say that all necessary truths are about concepts or propositions (or statements). In fact the difficulty arises for any theory which says that necessary truths are true in the correspondence sense of 'true'. The difficulty could not be so great as to require an abandonment of ontologism; the case for ontologism of the kind we advocate is so strong that it would always be preferable to adjust our beliefs about what is necessary

rather than renounce ontologism. Nevertheless the difficulty needs to be ironed out. And in the present chapter we shall show how to iron it out without requiring a revision in our beliefs as to which statements express necessary truths.

One does of course need to distinguish two senses of 'ontologism': there is the view that necessary truths are true in the correspondence sense and then there is the view that necessity is a property of facts rather than of statements (propositions, thoughts). Is a necessary truth a truth corresponding to a necessary fact, is necessity genuinely non-relational property of statements themselves, or is necessity perhaps a feature of the correspondence relation? By the end of our investigation we shall come to find such questions in a certain way unsatisfactory. But meanwhile we can say that it is clear that the 'must' must attach to the obtaining of the fact if it is to attach to anything. It is no good being told that something non-relational about the statement makes it all right to believe a necessary statement and all wrong to believe an impossible statement. For how could it be all right or all wrong, respectively, if no limitation has been placed on what occurs, but only on what one can truly say occurs? It would be as if one were told that 'Men are immortal' is inherently incapable of expressing a truth, whilst - explicitly - no limitations were placed on what may happen

to men. If we are told impossible statements are unable purely on account of their own nature to express a truth, then our reaction must be: well, in that case we should have to countenance the (epistemic) possibility of an occurrence which could not be thought about if it occurred. Which is cold comfort if there is no guarantee that there will be no such occurrence. So logical necessity must be de re, not de dictu. Which is not to say that one cannot specify k i n d s o f s t a t e m e n t s which are necessary; this is proper in the way that specifying kinds of statements which are contingently true is proper. Nothing is implied about what makes the statements fall into the category, when one talks of 'kinds of statements'. It may be that all statements expressed with the aid of a certain word are contingently true; but in mentioning the fact one would not be claiming that contingent truth is sometimes just a matter of being expressed with the aid of a certain word (Note also that saying that a necessary truth is a truth corresponding to a necessary fact is no more paradoxical than saying that a bold man is a man who performs bold actions.) It is equally clear that, even if it were not granted that necessity is a property of facts, it would still be proper, granted that necessary truths correspond to facts, to raise the question of the kinds of facts which ground necessary truths. It is clearly permissible, then, to ask whether any particular

k i n d s of fact underlie necessary truths. Acceptance of this statement does not rest on acceptance of our claim that necessity is a property of facts - a claim which it is impossible to establish as securely as ontologism in the other sense, for reasons which will emerge much later in our investigation (c.f. our concluding chapter). What is clear is that if logic is not to be made a mockery of, one must believe in the impossibility of the occurrence of a non-human man, not just in the impossibility of s a y i n g with truth that a non-human man exists. That is, one must believe in the necessity of the facts grounding the laws by reference to which we rule out logically impossible statements. (Obviously one can additionally object to the view that logical necessity is de dictu on the ground that if the epistemic possibility that p.-p were realized, then 'p.-p' just would express a truth; it is very unsatisfactory to say that somehow it would not. It might be objected to us that we can argue from the thinkability of all impossible statements to their falsehood, since, according to the de dictu view, an impossible statement cannot express a truth. But how do we know, on the de dictu theorist's premises, how many (thinkable) impossible statements there are? If everything had been other than as it is, there would have been no (thinkable) impossible statements, according to the de

dictu theorist, and thinking a few impossibilities does not reduce very far the total number of impossibilities that can be ruled out as not occurring. The de dictu theorist might reply that we can think 'something is other than as it is', and that so ruling out this impossible claim is as good as ruling out all. But it w o u l d n o t be as good o n t h e d e d i c t u t h e o r y ; for on that theory only the particular impossible statement would be ruled out as false - not the states of affairs which would make other impossible statements true, if they could be made. No, a de dictu theory of logical necessity is no more reasonable than the view that physical impossibilities consist in the physical impossibility of a physically impossible statement's asserting a truth.

The de dictu theory is inadequate in itself, and would not explain why 'Bachelors have lungs' does not express a necessary truth. How can it fail to do so, one might ask the de dictu theorist also, if it asserts of creatures with lungs that they have lungs? The true resolution of the difficulty lies a long way indeed from the kinds of things which the de dictu theorist says. Nor is it sufficient to say that 'Bachelors have lungs' is not analytic and cannot be known to be true a priori. For

necessity is neither analyticity nor a priority, and there is nothing inherently objectionalbe in the idea of a necessary truth which is neither analytic nor a priori. Indeed that is the very idea which we are tempted to say is instantiated by 'Bachelors have lungs'. We saw how Aristotle was tempted into the view that all universal truths are necessary. But it was left to later philosophers, such as Leibniz, to carry the quirk of thought to greater lengths still, as we are about to see. Leibniz thus constitutes an admirable guide into the quagmire which ontologism (essentialism in a wider sense) allegedly cannot get clear of. So let us allow Leibniz to lead us into the quagmire, that we may emerge again with a stronger and better grasp of the true essentialist theory of logical necessity.

Leibniz tended to the view that all logically necessary truths have self-contradictory negations. Like Kant, he connected this idea with the idea that they are (182)

> "i d e n t i c a l , because it appears that they do nothing but repeat the same thing". ('New Essays on the Human Understanding', 4, 2, 1.)

Leibniz fails to explain the relationship of being self-contradictory when denied and identity. We shall deal

with the matter in ch.10. But it is clear that Leibniz is operating with the idea of analyticity - given that that has always been at best a vague idea (which is not to say that a precise and adequate idea of analyticity is not achievable). Although Leibniz gives the impression that he believes all necessary truths to be analytic, it should be said that he is rather inexplicit or evasive on the issue. Thus in the passage just quoted from (182) only "primary" truths of reason are called identical. Again, though in paragraph 31 of 'Monadology' (8) Leibniz writes that

> "Our reasonings are based on... the p r i n c i p l e o f c o n t r a d i c t i o n, by virtue of which we judge to be false that which involves a contradiction, and true that which is opposed or contradictory to the false". At paragraph 33, on the other hand (a) he writes that "truths of r e a s o n i n g are necessary and their opposite is impossible."

Thus he avoids explicitly saying that all necessary truths have self-contradictory denials. However, Leibniz (a) continues paragraph 33 by saying that

> "When a truth is necessary, the reason for it can be found by analysis, that is, by resolving it into simpler ideas and truths until the primary ones are reached."

In the light of the above quotation about "primary" truths of reason, from 'New Essays on the Human Understanding', we may judge that Leibniz does think that all necessary truths are analytic, but is apt to reserve the expression 'self-contradictory' for self-contradictions which manifest themselves as such in the pattern of the signs expressing them. This diagnosis is confirmed by his allusion in paragraph 35 of 'Monadology' (a) to

"identical propositions, whose opposite contains an express contradiction".

Without wishing to defend the view that all necessary truths are analytic, we must nevertheless defend Leibniz against Pap's charge ('Semantics and Necessary Truth') that (8) not even 'If p, then p v q' is analytic. For 'If p, then pvq' actually means 'If p, then - (-p.-q)', which in turn means '-(p.(-p.-q)' - which it is contradictory to deny, in the sense that one then asserts a state of affairs to obtain and denies it. We shall enter into these matters further in chs. 10 and 14. Meanwhile let it be noted that Pap applies 'analytic' in far too narrow a way (going in fact by the express form of a necessary truth rather than its content), and he also makes the mistake of regarding the question whether a truth is of analytic as a matter of whether a contradiction is

"deducible from its denial"(8).

'self-contradictory', like 'contrapositive', is a semantical term: to check its applicability one needs to come to an appreciation of the content of the statement in question.

The fact that Leibniz held all truths of reason to be analytic is a sign of how little the doctrine of synthetic necessary truth has to do with rationalism. The same conclusion emerged from our examinations of Plato and Aristotle, and the same will emerge from our examination of Spinoza. Leibniz is another of those who, like philosophers who think the proper target for abuse is the doctrine of the synthetic necessary truth, commit the errors exposed in chs. 4 and 5. Let us examine some relevant passages in letters written by Leibniz to Arnauld. We begin with a fairly enlightened one (73):

> "... in every affirmative true proposition, necessary or contingent, universal or singular, the notion of the predicate is contained in some way in that of the subject; p r a e d i c a t u m i n e s t s u b j e c t o . Or else I do not know what truth is."

The mention of contingent truths in this passage shows that Leibniz is not simply equating truth with analytic truth: the connection whereby the predicate is "contained in some way" need not be a necessary connection. On the

other hand, of course, it is clear that co-applicability of subject and predicate to things is being confused with a relation between concepts, Leibniz is in a muddle over the relations of truths to facts. We are thus well prepared to find him making the usual confusions in respect of necessary truths. He writes concerning a certain fact about himself as follows (71):

> "This predicate or event is not certainly connected with my other predicates conceived incompletely or s u b r a t i o n e g e n e r a l i t a t i s , but it is connected certainly with my complete individual notion, since I suppose that this notion was expressly so constructed that it might be possible to deduce from it everything which happens to me."

Thus Leibniz's passion for an ideal language with rich concepts (passion) springs from the idea that one will be able to deduce a great number of truths applying to whatever the subject-concept of one's analytic premise applies to, and so forth. In the case taken in the passage just quoted, one is said to deduce everything which happens to Leibniz. The conclusions will be trivial if this is to say that one deduces everything about Leibniz, in the sense in which 'Leibniz' expresses the perfect concept. If 'Leibniz' is used in the ordinary

way, then the deduced predicates can truly be said to apply to Leibniz (in this ordinary sense), but these conclusions will not be necessary. Then the question is: why not, given that one would only be saying of Leibniz that he has those properties which he really has? This is the key kind of question in the present chapter. But before supplying the answer, let us permit Leibniz to entangle us further in the confusions which nobody has carried to a greater extreme than he. The point is that he carries the confusions into the sphere of judgments about individuals, whereas others restrict them to universal statements. 'This paper would not be this paper unless it had t h e s e words written on it. Why, it would not even exist unless it were this paper - it m u s t n e c e s s a r i l y exist in order to be t h i s paper.' These are the thoughts which we are typically initiated into by reading Leibniz.

We genuinely are initiated into thinking necessary truths in this way. And they are not necessary truths which one appeals to in everyday life very frequently, though one may do so. The sentences in which they are expressed do not normally express necessary truths. What happens is that we take sentences normally expressing contingent truths and build the predicate concept into the subject-concept as a conjunctive constituent, thereby

forming a new statement which genuinely is as necessary as any other analytic truth. The danger is, of course, that the aurd of necessity will illegitimately rub off on to the original contingent truth. Although the fundamental confusion is the same, Leibniz's practice differs from that usual among rationalists and linguistic-philosophers alike. Leibniz begins with a contingent truth and constructs a normally quite novel analytic truth on its basis, allowing the aurd of necessity to rub off on to the contingent truth to which we finally return. (Why bother with synthetic necessary truths if so much can be achieved with analytic ones!) Other rationalists, and linguistic philosophers in particular, by contrast, go straight from an analytic truth embodying their favourite, 'ordinary' concept to a construal of it as if it were a different kind of truth, which is contingent. Leibniz's procedure is clearly rather more wholesome, and this communicates itself to the entire atmosphere of his writings.

Leibniz's extremism helps us to see where traditional essentialism goes wrong, for by being extreme Leibniz prompts us to improve our grasp of the facts of logical necessity. The temptation to say that 'Bachelors have lungs' should be necessary on an essentialist account springs from our failure to differentiate different

forces of the same words. If 'Bachelors have lungs' expresses a non-existential statement involving reference (2), then its truth-conditions may transcend facts about actual bachelors. Lungs are part of the essence of bachelors, but it is not the case that anything which would be a bachelor would have lungs. Compare the contingent truth that all kings are flattered; it would not do to say that all kings or trolls are flattered, even though trolls do not exist, unless one were implicitly restricting one's generalization to existing kings or trolls. 'All bachelors have lungs', with reference (2) and no existential import, has as a truth-condition the non-existence of lungless bachelors if it has no counterfactual import; and this again is a matter not guaranteed by the self-identity of everything; for the non-instantiation of the concept of the lungless bachelor is what is involved. Thus the reason why 'Bachelors have lungs' is not necessary is that it does not actually mention a necessary fact. One's mind glides to the fact that such-and-such lunged creatures called 'bachelors' have lungs - but 'Bachelors have lungs', normally, simply does not state this fact, and is not made true by it. Nor is it difficult to bring a general argument against the view that a necessary truth can be made true by the same state of affairs as a contingent

truth (the necessity, it being assumed, deriving entirely from the combination of words chosen to refer to the fact). A contingent truth about a state of affairs might not have been true; so the fact might not have obtained; so how can the necessary truth be necessarily true in any sense which is not a mockery? 'Bachelors have lungs' says of bachelors that they have a property which is part of their essence; but it is not necessary because it does not say that things with the bachelor essence have properties contained in that essence - the concept of the bachelor applies potentially to things with a different essence from that of (actual) bachelors. Thus 'Bachelors have lungs'; as normally understood, and unlike an analytic truth, is simply not fitted to stating a necessary fact. The confusions in traditional essentialism stem from the failure to notice that talk e.g. of the essence Bachelor, to be acceptable, must of course be about the total natures of actual bachelors, whilst truths involving the corresponding concept may have truth conditions transcending the matter of what is contained in the essence. It is not difficult to modify these considerations to take care of any other case that may be raised. One just has to note the way in which a truth which ontologism might seem committed to saying was necessary in fact has certain truth-conditions which are

not guaranteed to be fulfilled by the self-identity of everything, and which are contingent. 'Containment in the essence is a perfectly good phrase for self-identity; the mistake made by essentialists and anti-essentialists alike was failure to see when such a self-identity is actually being talked about, or is at the basis of a statement's truth. (Actually 'self-identity' is not quite the phrase required here; what matters is that nothing lacks a property which it has; 'self-identity' is to be understood as covering this in the immediately preceding sentences.)

Quine, in section 41 of 'Word and Object', notes that 'Necessarily the number of major planets is greater than 4' is fake whilst 'Necessarily 9 is greater than 4' is true, so that, the number of planets being 4, we seem here to have an intensional context. By the substitution criterion we do. But on that criterion so is 'Trolls or kings are flattered' intensional, though it clearly has nothing to do with the intensional use of language in the fundamental sense, as described in our ch.1. Thus one cannot use the substitution phenomenon Quine draws attention to in order to argue for a de dictu theory of logical necessity: 'That so-and-so is necessary' may treat either of a fact or of a statement; (if of the latter, it is still the fact which makes it correct to call the statement a necessary truth). The explanation

of the failure of substitutivity is that changing the specifying concepts in the above-mentioned cases also effects a change in the facts being talked about, in such a way that statements about them are not materially equivalent. In the first case, 'the number of major planets' does not really have the same reference as '9', since the modal claim involves such considerations as what would be the case if there were fewer planets. (If this is altered by an injection of existential import, then this is destructive of the necessity of both modal claims - they both come out false, so we have not even a prima facie case of intensionality).

Quine (same section) is right in denying that sentences of the form 'Mr. so-and-so is necessarily F' express truths, but wrong in construing this is an objection to ontologism in general. Cyclists are necessarily two-legged and mathematicians are necessarily rational, but the reason why we cannot ask of a particular cyclist-mathematician what he necessarily is, is that existential import is thereby presupposed. If on the other hand it is asked which of any cyclist-mathematician's attributes are necessary (essential), as opposed to contingent (accidental), the answer must be that it is facts, not attributes, which possess these properties (being necessary, being contingent). Or rather, if one says that manhood is necessary to

bachelorhood, then one is only pointing to the necessity of a certain fact. The muddles of an Aristotle or of one who thinks all ontologism must suffer from Aristotle's difficulties, arise soley from a failure to think through adequately the relationship of necessary truths to facts. 'Bachelors are male' is about certain lunged creatures - i.e. actual bachelors have lungs; but it does not follow that any statement such that all actual instances of the subject-concept have the property specified by the predicate are necessary. "'P' is about X's, and &'s are the only X's there are" does not entail "'P' is about Y's only". One has to look at the whole range of truth-conditions before declaring that a statement is made true by a thing's not being other than as it is. But whenever a statement is made true by such a fact, then it is necessary. And sometimes on other occasions too, of course, i.e. when we are dealing with a synthetic necessary truth. Analogous difficulties arising for synthetic necessary truths need to be dealt with in parallel fashion to the way we have dealt with analytic necessary truths. In all this, the main point to watch is that one does not confuse analytic and synthetic statements as Leibniz does - not just treating analytic statements as contingent, but forming unusually rich concepts of things and then thinking a certain

contingent fact can be expressed by an analytic truth employing the rich concept. It is the occurrence of such illegitimate shifts in one's thoughts which seem to show that ontologism faces difficulties. But in fact necessary truths all correspond to different facts from contingent ones, and Quine's 'de dictu' talk has to be resisted strenuously since it is not only wrong but also a result of thinking different truths correspond to the same facts in cases where they do not.

IX

LOCKE AND HUME

This chapter is divided into two sections. In the first we assess Locke's contribution to our understanding of logical necessity, and in the second we assess Hume's contribution in relation to Locke's.

A

Those views of Locke which concern us are concentrated into Book IV of 'An Essay Concerning Human Understanding'. It opens in a very unsatisfactory way. Locke begins (I.1) by arguing that:

> "S I N C E t h e m i n d , in all its thoughts and reasonings, hath no other immediate object but its own i d e a s ; which it alone does or can contemplate; it is evident that our knowledge is only conversant about them".

The kindest way of construing this argument is to take it to be alluding to the difficulties of verification which arise if necessary truth is said to concern states of affairs which are not given to the mind during or by thought (c.f. ch.2). But it would remain a mistake to proceed to assume that what we call 'knowledge' or 'necessary truth' always treats of ideas. Then at I.2 it is stated without further argument that

> "K n o w l e d g e then seems to me to be nothing but t h e p e r c e p t i o n o f t h e c o n n e c t i o n a n d a g r e e m e n t ,

> or disagreement and repugnancy, of any of our ideas?"

This clearly does not follow from I.1. We are asked to accept it on the basis of two examples (I.2):

> "For when we know that white is not black, what do we else but perceive that these two ideas do not agree? When we possess ourselves with the utmost security of the demonstration that the three angles of a triangle are equal to two right ones, what do we more but perceive that equality to two right ones does necessarily agree to and is inseparable from the three angles of a triangle?"

In fact, even if we are thinking of ideas, it is not sufficient for necessary truth that we notice the difference of the idea of white from the idea of black. This would verify the contingent claim that we are contemplating different ideas. There is a sense in which different ideas might have been the same, as we saw in earlier chapters. Locke is another of those who wrongly think that the distinction between contingent and necessary truth is to be drawn in terms of its objects. Furthermore, the difficulty of verifying necessary truths about non-mental states of affairs is mirrored by a corresponding difficulty in verifying that one's own sample ideas provide an

adequate guide to 'the' ideas (i.e. other instances of the ideas). Locke, unlike Plato, is not tempted to attack this problem by making ideas public. Rather (c.f. III 31), he suppresses the problem by exploiting the ambiguity of "'the' idea"; which can mean either the type or the token being contemplated. Then the formulation of Locke's second example does not seem to invoke ideas at all; and instead of agreement the talk is of necessary agreement, though this change also fails to bring us to the sense in which ideas may necessarily agree.

There are further muddles when Locke suggests a fourfold classification of sorts of agreement and disagreement between ideas (I.3). The following categories are said by him to exhaust the kinds of agreement or disagreement underlying knowledge: identity or diversity; co-existence or necessary connection; other relations; real existence. Even leaving aside the question of the adequacy of Locke's platonism and Platonism, we may still have doubts about this classification and its accompanying elucidation. Let us next examine the elucidation.

I.4 makes it clear that the first of the categories is supposed to cover assertions of the self-identity of an idea or the diversity of one idea from another.

> "A man infallibly knows, as soon as ever he has them in mind, that the i d e a s he calls

w h i t e and r o u n d are the very i d e a s they are, and that they are not other i d e a s which he calls r e d or s q u a r e ".

On Locke's own account, then, in the case of identity only one idea is involved, and not two. This is because he has in mind the self-given self-identity of any idea that we may contemplate, and not the qualitative identity of numerically different ideas. Moreover presumably the mind should be said to be able to perceive the diversity of three or more ideas, and not just of two. (Similar criticisms apply in respect of the other categories also) How does Locke know that our knowledge of necessities of his first category are 'infallible'? Of course we can judge wrongly about ideas other than those involved in that judgment itself. But Locke has in mind our immediate awareness of the ideas in question; and one could also make a judgment about ideas self-referential. The answer to our question, to which Locke fails to address himself, must be that what is reduces to what seems in connection with mental contents. It needs to be stressed that the relevance of self-givenness is to ease of verification and not to necessity itself; self-givenness and logical necessity must not be confused. And let us not forget that only token ideas are given, so that only a particular necessary self-identity or diversity is given. (There

must be particular necessary connections if there are to be universal ones. But it is unusual for us to speak of them, for it is not commonly that we withdraw existential import from talk of particulars, as one must to express a necessity.)

One final matter remains to be dealt with in connection with I.4. Speaking of knowledge falling into the first category, Locke says that:

> "though men of art have reduced this into those general rules, W h a t i s , i s , and I t i s i m p o s s i b l e f o r t h e s a m e t h i n g t o b e a n d n o t t o b e , for ready application in all cases wherein there may be occasion to reflect on it: yet it is certain that the first exercise of this faculty is about particular i d e a s ."

It should scarcely need pointing out that the principles here mentioned are not in fact generalizations of the truths which are actually supposed to be under discussion. But more important is the issue of the relationship of more general necessary truths to other necessary truths which may be regarded as their instances. Locke's use of the term 'reduction' in this connection is not happy, and it only enables him to desist from enquiring more deeply into the issue. For no man of art ever reached a more general

necessary truth by verifying all its instances one by one and summarizing them. Does an inductive leap from a few instances take place? Locke fails to distinguish the problem of generalizing from particular to universal necessary connections, which is a genuine problem, from the problem of generalizing from less to more general necessary truths. This second problem is not so fundamental, since there is no reason to suppose that we need to derive more general necessary truths from less general instances which are universal. Difference in degree of generality should not be thought to entail a difference in verification procedure.

The other categories of agreement and disagreement may be disposed of more swiftly. In connection with co-existence (I.6) Locke mentions the example 'Gold is fixed'. He seems to envisage this as contingent, and he seems to be talking of the substance rather than the idea. Or rather he seems to regard knowledge of the substance as knowledge to the effect

> "that fixedness... is an i d e a that always accompanies and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in a q u a r e g i a, which make our complex i d e a signified by the word g o l d".

Presumably Locke is confusing co-existence of ideas with co-existence of their instances; which is a further form of insensitivity to intensionality. Nor does Locke succeed in establishing his other two categories of necessary connection. No truth to the effect that an idea is instantiated (I.7) is necessary. (And of course this last category is not of a relation between two ideas at all.) As an example of a necessary truth founded on relation of ideas, Locke offers 'Two triangles upon equal bases between two parallels are equal' (I.7). This can scarcely be construed as a necessary truth about the relationship of two ideas.

Although Locke peppers the sections we have just been discussing with talk of necessity, we do not find in them a clear stipulation that 'knowledge' is to be reserved for necessary truths. Ambivalence is responsible for many of the errors we have noticed. But, as we shall see, there is a dominant tendency in Locke to make the stipulation, so that we are abundantly justified in interpreting him as we have. At I.7 he cites 'God exists' as expressing knowledge, and one might suppose that this demonstrates that Locke did not make the stipulation, for he does not accept the ontological argument. But, as we shall see, Locke regards 'God

exists' as deducible from knowledge of one's own existence, which he calls intuitive (III.21) and confusedly regards as belonging among necessary truths. (At II.14 even sense-perception of objects present to the senses is designated ('sensitive') knowledge - on account of givenness)

II.1. recurs to the teheme of intuitive knowledge of the self-given, but II.2. announces that there is a further kind of knowledge, demonstrative knowledge,

> "where the mind perceives the agreement or disagreement any i d e a s , but not immediately".

But this specification undermines the account of knowledge given at the beginning, even if we take that account to concern intuitive knowledge only. For we are now being asked to accept that ideas can have properties, apart from relations to extramental entities, of which we are not aware, so that the basis for calling intuitive knowledge infallible is removed. To avoid this difficulty, Locke could replace 'but not immediately' in the passage just quoted by: 'but only after some difficulty in forming the ideas'. Locke does not adopt this reply, and it would certainly not do if the intention were to give an account of demonstration in the ordinary

sense, as seems to be the case; for demonstration does not consist in an effort to form ideas. The account which Locke actually adopts (I.2.) runs as follows:

> "The reason why the mind cannot always perceive presently the agreement or disagreement of two i d e a s is because those i d e a s , concerning whose agreement or disagreement the inquiry is made, cannot by the mind be so put together as to show it."

Unfortunately, on Locke's account of thinking and meaning, this entails that we cannot think the hypothetical whose consequent we are trying to deduce from its antecedent. If we could, unless ideas are to have properties of which we are not aware (apart from relations to extramental entities), then the agreement or disagreement of the ideas would be immediately obvious. These difficulties are independent of what we take 'agreement or disagreement' to be, so long as it is envisaged as involving no extramental factors. But it is a further criticism of the account of demonstrative knowledge that 'agreement or disagreement' is far too vague, and definitely confused if understood by reference to Locke's own explanation. This vagueness creates a further difficulty for his view that demonstrations establish agreements of ideas by a

series of agreements with and between intermediate ideas; for the question arises of whether agreement is a transitive relation. We cannot answer this question if we do not know what 'agreement' is supposed to be; yet we should have to be sure of transitivity if we were to be sure of the cogency of demonstration.

Although the criticisms just made are correct, it is important to notice that modification of one of Locke's doctrines would save him from some of our objections. In the case of sense-perception, we cannot always state on the basis of simple looking whether (e.g.) two figures are equal in area; and this need not be on account of a doubt as to whether we are perceiving the figures veridically. This kind of knowledge requires the intermediaries of measuring devices, and perhaps calculations. Locke suggests (III.3) that something similar may be true of ideas, actually taking the case of ideas of non-superimposed geometrical figures. We need not attend to the particular example. It is enough that the analogy of the perceptual case exhibits to us a possibility which may be entertained in the case of ideas. One could hold that whatever seems to be the case about ideas is the case, but refuse to say that whatever is the case about ideas seems to be the case, at the time of contemplation.

But there are counter-objections to all this. In the case of sense-perceived physical figures equality in area is an objective feature which it is not immediately possible to judge. We have already noted that if a metajudgment about ideas is in question, then error is perfectly possible even in cases which Locke would admit called for no demonstrations. What is in question is whether ideas can have features of which we are not aware even at the first level of awareness; this is what is relevant in connection with the verification of necessary truths (for Locke). To attribute non-given features to ideas, we should clearly have to objectify them as Plato tried to, and we have already seen what is wrong with that. (In particular, no criterion of being a genuine but unrevealed feature exists.) So whatever account one gives of the difficulty we have in making some judgments of perception and some metajudgments about ideas, we may not postulate features of ideas of which we are not immediately aware. The now general assumption that Locke's account of demonstratively verified necessary truths is quite wrong - this assumption is correct, even for thinking of which platonism is true.

At III.10-14 Locke develops the thesis that we have very little knowledge of co-existence of ideas, since necessary connections among them are so rare. He adds (III.14) that we have semitive knowledge of co-

existence of ideas when we (e.g.) look at a piece of gold. Here we see quite clearly the duality of criteria operating for 'knowledge': necessity and intuitiveness. In the present context they are not confused. But the usual confusion between ideas and qualities persists. It is a mistake to treat Locke as a consistent, whole-hearted Platonist; there are many passages where he is manifestly operating with assumptions incompatible with Platonism. Locke is interested in necessary truths about nature, and it is the paucity of these which he laments. However he does think this is attainable, insofar as it is attainable at all, from mere contemplation of our ideas. At III.14 he calls this 'the only true way of certain and universal knowledge'. Having said beforehand that the method is to perceive necessary coexistence of ideas, Locke faces the charge that necessary co-existence of ideas is no guarantee of necessary co-existence of (numerically discrete) qualities. If one said 'If the qualities are like the ideas in being necessarily connected, then they are necessarily connected', then this is not synthetic. Yet it is pretty obvious that the 'co-existence' category is meant to cover synthetic necessary connections.

And at III.14 he brings his famous examples of affirmative synthetic necessary truths:

> "figure necessarily supposes extension, receiving or communicating motion by impulse supposes solidity".

The first of these is the more famous; the second being a more dubious example, at least to the minds of more recent thinkers, since it seems contingent unless rendered analytic (by making the consequent a necessary condition for using the words expressing the antecedent). At II.15 come the synthetic incompatibilities:

> "any subject can have of each sort of primary qualities but one particular at once: v.g. each particular extension, figure, number of parts, motion, excludes all other of each kind. The like also is certain of all sensible i d e a s peculiar to each sense; for whatever of each kind is present in any subject excludes all other of that sort: v.g. no one subject can have two smells or two colours at the same time".

At VII.5 'Two bodies cannot be in the same place' is mentioned for the co-existence category. We have devoted a complete chapter (15) to synthetic necessity, and shall not comment on these passages here, except to notice a slight inadequacy in Locke's treatment of synthetic

incompatibilities. He says (II.15):

> "Has not an opal, or the infusion of l i g n u m n e p h r i t i c u m , two colours at the same time? To which I answer that these bodies, to eyes differently placed, may at the same time afford different colours; but I take liberty also to say that, to eyes differently placed, it is different parts of the object that reflect the particles of light, and therefore it is not the same part of the object, and so not the very same subject which at the same time appears both yellow and azure."

The usual way of dealing with this difficulty is to restrict the claim of incompatibility to sense-data or to things as seen from one point of view. This surely is a preferable move to Locke's, whose argument manifestly relies on his objectionable theory of primary and secondary qualities. There is no ground for postulating the difference in subject he claims, even so far as the purely scientific part of his argument goes. Thus the only explanatory remark that Locke makes about synthetic necessity, as such, is inadequate.

III.18 is supposed to be a further discussion of knowledge founded on agreement or disagreement of ideas in relations other than co-existence and identity or diversity. Whilst the 'co-existence' category turns out

to embrace synthetic necessary connections, and the 'identity' category to embrace certain analyticities, Locke makes much less of the 'relation' category. In the passage now under consideration he connects it vaguely with reasoning, i.e. with non-intuitive necessary truths, and also he cites the wonders of algebra. This seems to be because he has connected the 'co-existence' category with knowledge of substance, and the examples were all of an intuitive character. But all this is mere association of ideas. Locke quickly passes to a consideration which is quite independent of any discussion of the 'relation' category:

> "the i d e a s of quantity are not those alone that are capable of demonstration and knowledge; and .... other and perhaps more useful parts of contemplation would afford us certainty, if vices, passions, and domineering interest did not oppose or menace such endeavours" (III.18).

Specifically, Locke envisages the creation of a deductive science of morality (III.18). How does Locke see the role of a deductive ethical theory? How would it be useful? His remarks are too vague for us to be sure of the view he takes. He talks of deducing the 'measures' of right and wrong from 'self-evident propositions'. He calls the following 'as certain as any demonstration in E u c l i d ':

(a) Where there is no property there is no injustice.

(b) No government allows absolute liberty.

He makes it clear (III.18) that he regards (a) as synonymous with 'Where there is a right to nothing, no right is violated', and (b) as synonymous with 'No body requiring the obedience of society to its laws allows each to do as he pleases'. (b) is descriptive and analytic. As Locke believes moral utterances to express statements, he would want to regard (a) as analytic also. There is no need to repeat our criticisms of this last view here. Not until a later chapter does Locke regard deductive morality as definitely analogous to a prior knowledge of nature. As no further supporting claims clearly emerge, there is nothing to add to our general consideration of the matter, except that Locke's general lack of grasp of the possible roles of a deductive theory probably accounts for the absence of incisiveness from his comments specifically on deductive moral theory. Locke returns to the matter at XII.8, merely stating without new argument, however, that moral ideas match real essences and are suited to demonstrations. In ch.XII he embraces the view of rational ethics as a 'real' science. In fact, of course, non-descriptive discourse cannot enter into necessary truths and remain non-descriptive. (Of course any words can occur in sentences expressing necessary truths

if they are used intensionally or autonymously - for then any word is used descriptively.) We can make 'can' a necessary condition for a p p l y i n g 'ought', but we cannot say that it is necessary that one can do what one ought to do. For the utterance corresponds to no fact - it is not a truth. All one can say is that it cannot possibly be correct to use the concept o u g h t in connection with a person unable to act in the way in question. And that is a very different kettle of fish from a deductive theory of morality - whose theses would be trivial any way, of course, even if such a deductive theory were possible. 'Ought' no more implies 'can' than any other utterance which is not descriptive implies anything.

At III.19 Locke undertakes to explain

> "that which ... has given the advantage to the i d e a s of quantity and made them thought more capable of certainty and demonstration".

His first point is that geometrical ideas can be represented by diagrams, whereas other ideas are hard to hold constant as the mind struggles to apprehend necessary connections. He blames also the complexity and variability (contested-ness) of moral ideas. He regards definition as a partial solution to these difficulties (III.20). "And what methods a l g e b r a , or something of that kind, may hereafter

suggest to remove the other difficulties is not easy to foretell." (III.20). Our reaction to these claims cannot be a favourable one. It is not true, and has not generally been thought to be true, that apprehension of necessities is more feasible where diagrams are possible. Certainly geometry should not be singled out as involving unusually simple ideas. Locke repeats the error of blaming difficulty in apprehending necessities (in thinking conforming to platonism) on factors other than difficulty in forming the requisite ideas at all. We have noted that it is inconsistent with platonism to allow that there can be any difficulty in grasping analyticities once one has the thought. We have seen that Locke tends to the view that most necessary connections are analytic (though he is too confused to say so explicitly). One could argue that with complex analytic truths it may take some time for the necessity itself to dawn on the thinker, (for analyticity is not necessity itself). But in fact the sense of necessity arises as soon as any analyticity is actually grasped. There is a difficulty of principle about the relationship of analyticity and necessity, but this affects all analytic truths equally.

We should not neglect to notice that among the causes of ignorance Locke puts our lack of adequate ideas (III.26),

failing to notice that, even if we had ideas which adequately represented the natures of things in the world, only sense-experience could enable us to know that we had assigned those ideas to their objects correctly. He states difficulties in attaining to more necessary knowledge as if these were difficulties attaching to getting to know nature. He shares such rationalistic mistakes as overlooking that experience is necessary to show even which synthetic necessary truths have subject - concepts instantiated in the actual world. He is saved from full-blooded rationalism only by scepticism about our resources for discovering necessary truth, not by scepticism about the rationalist's view of the import of necessary truths.

Ch.IV, to Locke's great credit, raises the questions which his exposition should prompt in his readers (IV.1):

> "I D O U B T not but my reader, by this time, may be apt to think that I have been all this while only building a castle in the air and be ready to say to me: To what purpose all this stir? Knowledge, say you, is only the perception of the agreement or disagreement of our own i d e a s ; but who knows what those i d e a s may be? I s there anything so extravagant as the imaginations of men's brains? Where is the head that has no

> c h i m e r a s in it? O r if there be a sober and a wise man, what difference will there be by your rules between his knowledge and that of the most extravagant fancy in the world? They both have their ideas and perceive their agreement and disagreement one with another."
>
> "Such castles in the air will be as strongholds of truth as the demonstrations of E u c l i d . That an harpy is not a centaur is by this way as certain knowledge, and as much a truth, as that a square is not a circle. But o f w h a t u s e i s a l l t h i s fine k n o w l e d g e o f m e n ' s o w n i m a g i n a t i o n s to a man that inquires after the reality of things?"

Admirable though these passages are, it is important to notice certain very damaging confusions in them. Locke contrives to convey the impression that all the difficulties reduce to that of saying that necessary truths treat solely of ideas. But that is not the only major problem at all. The problem of the relevance to the actual world of necessary truths not about ideas at all - this is just as great, and independent of the problems presented by Platonism. Contrary to Locke, 'An harpy is not a centaur' is just as good a necessary truth as 'A square is not a circle'. That Locke thinks otherwise is a further sign

sign that he confuses instantiation with commitment to instantiation. For neither of these truths carries any existential commitment, so that Locke must be confusing this with instantiation when he faults 'An harpy is not a centaur', treating it as if it does have existential commitments. A further defect in IV.1 is that judging is wrongly identified with the mere having of ideas. This conflation makes Locke's own view seem wilder than it is. (He keeps confusing the data of judgment with the judgment: this leads to the error). Having noted these defects, we are ready to appraise Locke's answers to the questions of his own which we have just been considering.

He first undertakes (IV.3) to show that there are

> "two sorts of i d e a s we may be assured agree with things".
>
> "The first are simple i d e a s which, since the mind, as has been shown, can by no means make to itself, must necessarily be the product of things operating on the mind in a natural way and producing therein those perceptions which by the wisdom and will of our Maker they are ordained and adapted to." (IV.4)

This argument is even worse than Spinozd's for somewhat the same conclusion. The conclusion does not follow from the premise, and does not seem to do so, for that sense

of the premise in which it is most plausible to uphold its truth. As Locke himself explicitly grants elsewhere (e.g. at I.8) we have the power to revive any idea in the absence of its object, so that it is a mistake to suppose that simple ideas are immune from misapplication or ignorance as to the range of their application.

> "Secondly, All our complex ideas, except those of substances being archetypes of the mind's own making, not intended to be the copies of anything nor referred to the existence of anything as to their originals, cannot want any conformity necessary to real knowledge. For that which is not designed to represent anything but itself can never be capable of a wrong representation, nor mislead us from the true apprehension of anything by its dislikeness to it; and such, excepting those of substances, are all our complex ideas." (IV.5.)

This is another wrongheaded argument which Locke shares with Spinoza. (c.f. our chapter on Spinoza). As one might gather from the preceding quotation from IV.4 also, Locke is at this point in his work confusing creation of ideas with their being used to stand for objects. A desperate confusion, possible only for the blindest rationalist.

In any other context Locke would have admitted that we do not construct complex ideas (concepts) merely to use them intensionally, to stand for themselves; yet here, at IV.5, he claims to derive such a conclusion from the premise that the ideas are not created in us automatically from experience. (Of course he is also wrong in assuming that his distinctions are co-extensive with the distinction between complex ideas of substances and other complex ideas.)

Yet Locke does not simply fall victim to these confusions. He confuses these confusions with more alluring errors which we have already exposed as such in earlier chapters. Still at IV.5, he writes:

> "And hence it is that in all these sorts the i d e a s themselves are considered as the a r c h e t y p e s, and things no otherwise regarded but as they are conformable to them. So that we cannot but be infallibly certain that all the knowledge we attain concerning these i d e a s is real and reaches things themselves, because in all our thoughts, reasonings, and discourses of this kind, we intend things no further than as they are conformable to our i d e a s".

We do not need to return in detail to the issues involved in this. Locke has one of the insights needed for a proper

grasp of logical necessity (c.f. the last sentence in the above quotation) - but also falls into the error of supposing that there is no problem regarding the relevance of necessary hypotheticals to the actual world (c.f. the middle sentence: 'So that we cannot but be infallibly certain that all the knowledge... is real and reaches things themselves'). If one were reluctant to take such phrases as 'reaches things themselves' as proving that Locke thinks that necessary truths can function like categoricals with existential import, then one should still admit that he displays a dangerous lack of awareness of the pitfall. One must add that it is extraordinary that, at the same time as he shows how to overcome the position, he retains an explicit commitment to Platonism, even mentioning (IV.6) the usual example of the geometrical figure as establishing that mathematical knowledge 'is only of our own i d e a s ' .

At IV.8/9 Locke has some exemplary remarks. At IV.8 he notes that necessary truths are 'general' and non-existential. (But this does not show that he is after all not in error over the cognitive status of necessary truths. On the contrary, he thinks they are involved in

> "most of those discourses which take up the thoughts and engage the disputes of those who pretend to make it their business to inquire after truth and certainty" (IV.8).

And, given his silence on the matter, he seems to regard it as desirable that this should be so, rather than as disastrous.) At IV.9 he knocks down one of the props of the linguistic philosopher, dismissing the objection that

> "if m o r a l k n o w l e d g e be placed in the contemplation of our own m o r a l i d e a s , and those, as other modes, be of our own making, what strange notions will there be of j u s t i c e and t e m p e r a n c e ? " .

He notes, roughly, that one analytic truth is as good as another, whether the meanings involved are standard ones or not. To notice this is not simply to eliminate a particular line of defence of the linguistic philosopher (viz. a certain appeal to standard meanings) - the more general mistake which Locke shares with them also loses its plausibility. Perhaps it is, once again, confusion that prevents Locke's appreciating this. For he continues IV.9 with a discussion of the unimportance of which 'sounds we make use of' to express an idea. And this is a different issue from the initial one, though Locke appears to regard it as the same one, or as a related one; for he implies that his argumentation on the second issue supports his position on the first.

On the other hand at IV.10,13/4 Locke most plainly insists on the fact that we can express knowledge in

sentences with non-standard meanings, going so far as to frown upon

> "the zeal of some men, which enables them to spin consequences and to see religion threatened whenever anyone ventures to quit their forms of speaking"(IV.14).

It is unfortunate that Locke did not pursue this line of thought more consistently and more thoroughly. As it is, Locke reaches the end of ch.IV without escaping from his confusions, first he exclaims (IV.16):

> "So necessary is it to quit the common notion of species and essences, if we will truly look into the nature of things and examine them by what our faculties can discover in them as they exist, and not by groundless fancies that have been taken up about them."

But then (IV.17) he returns to the claim that this is an obstacle to 'clear and distinct knowledge' 'especially' 'in reference to substances', and to the claim that the problem can be diminished by attention to thoughts rather than words. The first claim we have already criticised sufficiently; and it takes very little effort to see that the second involves confusion of the idea - object relation with the idea-word relation (or else his consideration could not seem to Locke to diminish the problem raised in

the quotation from IV.16).

At VI.4 Locke introduces the distinction between real essence and nominal essence (or idea) - obviously a vital distinction in view of the mistakes which philosophers, including Locke himself, are all too prone to make. He begins (VI.4) with the argument that

> "because we cannot be certain of the truth of any general proposition unless we know the precise bounds and extent of the species its terms stand for, it is necessary we should know the essence of each species, which is that which constitutes and bounds it".

We have already noticed the error of softening this with the claim (VI.4) that

> "This, in all simple ideas and modes, is not hard to do."

But that issue can be ignored in the present context. What we need to notice now is that Locke recognizes that there are two modes of reference - via the idea, or directly to the real essence. Regarding the second mode of reference Locke says:

> "man or gold, taken in this sense and

> used for s p e c i e s of things constituted by real essences, different from the complex i d e a in the mind of the speaker, stand for we know not what; and the extent of those species with such boundaries are so unknown and undetermined that it is impossible with any certainty to affirm that all men are rational, or that all gold is yellow" (VI.4).

Regarding the first mode of reference Locke says:

> "But where the nominal essence is kept to, as the boundary of each species, and men extend the application of any general term no further than to the particular things in which the complex i d e a it stands for is to be found, there they are in no danger to mistake the bounds of each s p e c i e s nor can be in doubt, on this account, whether any propositions be true or no." (VI.4).

Thus, though he fails to appreciate the ramifications, Locke should be credited with some insight in the question of the reference of necessary truths. And now what should one say of the way in which he connects the matter with knowledge of species' boundaries and of necessity? At the beginning of VI.4 - c.f. the first of our quotations from

the section - Locke is hampered by his failure to make use of the very distinction he is anxious to draw our attention to. That is why he fails to clarify adequately how, and at what cost, reference via ideas enables us to be certain that such-and-such is necessarily true of all members of a certain class. He makes the issue look like one of brute ignorance of real essences; whereas, as he himself hints (c.f. our quotations) later in the section, one must consider a whole series of different matters concerning the assertions involved. We shall not repeat here the investigations of earlier chapters. (It should however be added that in VI.5 Locke declares real essences to be fictions or else transcendent. Insofar as he has this in mind, he fails to make the important distinction between modes of reference that we have attributed to him in VI.4.)

Although the subject has already been touched upon, it will be as well to throw into sharper relief the manner in which Locke conflates incorrigibility and logical necessity. His Platonism leads him to invoke the incorrigibility that derives from the self-givenness of ideas to account for the aura of necessity which necessary truths possess - for he holds them all to treat of ideas. On the other hand, he also makes the mistake of regarding certain contingent truths as necessary on account of their

incorrigibility. Thus e.g. he says at VII.4 that one

> "can never be in doubt, when any i d e a is in his mind, that it is there and is that i d e a it is".

(Here the point is put in terms of indubitability; but the text as a whole, as well as the choice of examples - both incorrigible, only one necessary - in the passage quoted, evidence the conflation of which we must complain.) The idea that necessity might be explicable in terms of incorrigibility certainly needs to be followed up. But, when we do so, we soon find that the idea is not a satisfactory one. The difficulty that Platonism is false could be countered by the claim that extramental necessity is a myth. Even so, one could not account for all necessity in terms of incorrigibility, since some incorrigible statements - e.g. 'This idea exists' - do not carry the requisite aura of necessity. So one cannot plausibly maintain that all auras of necessity reduce to an inability to doubt what is before one's mind. Failure to appreciate all this results from failure to appreciate that the necessary truths are of a quite different form from the incorrigible categoricals with which they are confused. 'The idea exists insofar as it exists' is confused with 'The idea exists'. If we ignore the problem of whether persons are self-given to themselves, these

considerations are quite sufficient to refute the arguments of Locke regarding 'I exist'. The relevant passage is at IX.3 (where, it must be granted, there is not actually any talk of necessity, as opposed to incorrigibility, in connection with 'I exist'; but c.f. our note on X.7 below, which shows Lock's culpability.)

One of the best single pieces of evidence that Locke conflates necessity and in corrigibility is provided by ch.X, where he undertakes to prove God's existence from one's own existence. What is revealing is that he calls God's existence 'equal to mathematical certainty' (X.1). This description occurs at a place where he is emphasizing that we need a demonstration from the intuitive knowledge of our own existence. And, of course, that the terminology of 'demonstrative' and 'intuitive' is ensnared in the conflation has already been established. We need not delay over Locke's attempted derivation of God's existence, for its steps do not possess the 'intuitive certainty' (X.3) which Locke attributes to them. (He appeals to synthetic necessary causal connections in a way which we no longer find compelling).

(A further excellent piece of evidence of conflation is provided by X.7. There he says that knowledge of one's own and of God's existence is intuitive, or else demonstrative, because of the connection of the I d e a s

of ourselves and of a First Being with the i d e a of real existence. This is just the sort of talk we find in Locke in connection with necessary truths in general. It contrasts markedly with the use of words like 'we perceive it so plainly' (IX.3) where the emphasis is on incorrigibility deriving from self-givenness.)

Some of the contents of ch.VII will be of interest to us. There Locke deals with 'maxims', which are general necessary truths of the 'intuitive' or 'self-evident' - i.e. non-demonstrative - variety. Sometimes (e.g. at VII.1) Locke uses the term 'axiom' as a synonym of 'maxim'. His chief concern is to show

> "that these magnified m a x i m s are not the principles and f o u n d a t i o n s of all our other k n o w l e d g e " (VII.10).

Locke reminds us of the implausibility of the supposition that more general necessary truths are known prior to less general ones. He means both that in fact people know the less general ones first, very frequently, (VII.9/10), and also that we do not need to appeal to the more general necessary truths in order to justify the less general ones, though he admits (VII.11) that in fact 'maxims' are often our final court of appeal. He thinks that there are 'a great many other truths which have as much self-evidence as' the maxims (VII.10). Unfortunately Locke does not get

appreciably far beyond bald assertion of these claims; though at VII.19 he makes the valid point that a 'maxim' will stand in as much need of a proof as the necessary truths it is used to support. He rests his case on the theory that verifying a necessary truth simply involves noticing self-given ideas. Thus regarding '1 + 2 = 3' he declares (VII.10) that 'the equality of those i d e a s ' is 'as visible and certain to him' without a covering maxim 'as with it, it needing no proof to make it perceived'. Locke thus evades the real problem of verification by embracing a position which we have already seen to be almost entirely wrong, and so he fails to appreciate one of the reasons why a (desperate) appeal is made to 'axioms' as a foundation for knowledge (of other necessary truths). (An extraneous point of interest in VII.10 is Locke's remark that the more general ideas of the maxims

> "are more obscure or, at least, more difficult to be settled in the mind than those of o n e , = t w o and t h r e e ".

This is only one of several places at which Locke begins to rock platonism, without however firmly embracing any restrictions on the theory's validity.) We may greet with a smile of agreement Locke's remark of VII.11:

> "There is, I know, a great deal of talk, propagated from scholastic men, of sciences and the m a x i m s on which they are built;

but it has been my ill-luck never to meet with any such sciences".

However a sense of regret should set in when we reflect that Locke's derision by no means extends to the idea of sciences founded on less general necessary truths (c.f. our remarks above).

Locke goes on to deny that maxims are of value 'in the advancement of sciences or new discoveries of unknown truths'. He makes this denial (at VII.11) because, as is clear from the account he gives, he assimilates all scientific advance to deduction, but wishes to insist on his own account (of deduction) in terms of 'finding out intermediate i d e a s '. The inadequacy of that account makes it a poor weapon to bring to bear on the fact that we do in fact appeal to 'maxims' in deduction. Locke would have done better to inquire into the sense in which a deduction can constitute an advance in knowledge. He has the additional argument that one may mistake the use of maxims in teaching for a role as an instrument of original discovery (VII.11), but this does not show that it i s an error to believe the things he is concerned to render implausible. Yet Locke has still another argument. He recognizes that maxims are appealed to 'to put an end to wrangling';

"They in truth, when urged in such cases, teach nothing: that is already done by the intermediate

> i d e a s made us of in the debate, whose connexion may be seen without the help of those maxims, and so the truth known before the maxim is produced and the argument brought to a first principle." (VII.11).

If we prise off the wider, wilder force of his view, we can interestingly take Locke to be claiming here that it is superfluous e.g. to appeal to 'Everything is what it is' when verifying 'Doors are doors'. This is certainly a consequence of Locke's general theory of logical necessity. For how could it be relevant, on his theory, to entertain ideas other than the ones involved in the assertion to be verified? The 'maxim' could not support its instance at all on Locke's erroneous principles. He cannot consistently concede, as he does at VII.11, that maxims c a n replace their instances in argument, however pointless the replacement may be. We should by no means omit to notice that we can object in an analogous way to other philosophers' theories of logical necessity also. For instance, if all necessary truths were meaning rules, how could one necessary truth replace, or support, another in argument? It is only by taking into account the ontological import of necessary truths that we can understand the force of such a remark as 'You said that this man is not male, yet you will admit that nothing is

other than as it is'. The maxim has no relevance to any meaning rule about 'man' and 'male' (and one n e e d s self-contradictions to define self-contradictory expressions, one might add) - and the 'maxim' would appear even less relevant if, somehow, it too could be equated with some meaning rule, as the theory under attack demands. For how can a definition of 'everything' or 'is' bear on a definition of 'man'? To avoid this particular objection, the conventionalist will have to modify his usual account in the case of 'maxims'. In the present case, he will have to offer 'contradictions are to be avoided' as an equivalent for the 'maxim'.

There is a point at which Locke momentarily extends the doctrine that 'maxims' are cognitively useless to less general necessary truths (it is not clear to how many). At VII.12-4 he notes that 'space is body' is necessary (analytic) with Cartesian interpretations of the terms, but impossible with normal interpretations, so that:

> "though both these propositions (as you see) may be equally demonstrated, viz. that there may be a v a c u u m and that there cannot be a v a c u u m , by these two certain principles (viz.) W h a t i s , i s and T h e s a m e t h i n g c a n n o t b e a n d n o t b e ; yet neither of these principles

> will serve to prove to us that any, or what, bodies do exist; for that we are left to our senses to discover to us, as far as they can"(VII.14).

Thus Locke notes a possible philosophical mis-use of 'Space is body' (in its Cartesian interpretation). Yet one cannot after all say that, even momentarily, he comes to a correct appreciation of the cognitive status of necessary truths. For he contrives to blame 'maxims' for the uselessness of the Cartesian claim:

> "the force of these a x i o m s, reaching only to the sound and not the signification of the words, s e r v e s only to lead us into confusion, mistake and error" (VII.14).

In other words, Locke manages to blame misuse of the Cartesian claim on a defect in the inferential procedure from it to the impossibility of a vacuum; whereas, of course, the defectiveness lies in quite a different quarter, and cannot be cured simply by attention to meanings during inference. As we saw, he does mention a s r e l e v a n t that only experience can tell us which ideas (of body, say) are instantiated in the world; and from this it is only a short step to the insight that misapplication of maxims is not of the essence of the Cartesian error; but Locke does not take that step. In VII.15 the suggestion is that the only difficulty lies in the appearance of proving contradictory conclusions, through inattention to

differences of sense attached to one and the same expression. This difficulty, too, is said not to arise for simple ideas; though Locke is manifestly in error on this score once more, for even simple ideas can differ whilst the terms expressing them remain the same. VII.15 also exhibits fairly clearly Locke's failure to distinguish the intensional from the extensional 'about'. Thus we find him saying there:

> "men mistake generally, thinking that, where the same terms are preserved, the propositions are about the same things, though the i d e a s they stand for are in fact different".

Succumbing to the tendency for 'idea' to mean the same as 'essence in re', Locke simply fails to recognize the distinction between co-ordinating ideas with reality and co-ordinating them with words; still further is he from recognizing the importance of the distinction for our thinking about logical necessity. Thus he falls into the disastrous error of regarding cognition as perfectible from within, a mistake not unknown in other philosophers, both before and after Locke.

VII.16 declares of maxims that

> "so far as demonstration is by these principles, it is only verbal and gives us no certain, universal, true proposition or knowledge of any being existing without us".

This seems to suggest that demonstration by principles other than 'maxims' is not so useless (even when purely a priori, i.e. of the consequent from the antecedent of a necessary truth). This illusion has already been exposed as such; for our arguments were independent of whether principles of inference count as 'maxims'. Not being able, given his confusions, to say anything else, Locke categorizes demonstrations by maxims, from no premises, as 'verbal'. This is also an error which has already been refuted. We shall consider Locke's 'verbal' category of necessary truths in a moment. Here we need only to note that if he had classified them either as dealing with ideas or as dealing with (other) things, then the crudity of his framework would have prevented him from consistently conceding their triviality. It is also in VII.16 that Locke notes, correctly, that when can be proved with the 'maxims' depends on the content of the concepts of the statements in question. E.g. if possession of a soul is not a conjunctive constituent of one's concept of a man, one cannot prove with 'maxims' that men have souls. Locke's comment on this situation is:

> "to him, the principle of W h a t i s , i s proves not this matter; but it depends upon collection and observation, by which he is to make his complex i d e a called m a n " (VII.16).

Here Locke conveys the impression that, if one's idea of a man does include possession of a soul, then it is perfectly in order to accept the proof that men have souls, to be 'convinced', in a way in which the other man should not be! There is a fatal unclarity regarding the reference of 'it' and 'this matter'. Locke seems to accept it as 'part of the game' that substantial conclusions be derived from the character of the idea one happens to have of anything: hence the 'to him' in the passage just quoted. A role is given to experience in concept-formation, but the suggestion seems to be that all the outrageous procedures we have condemned are in order in connection with the idea one happens to attain to. Once again, Locke is blaming use of 'maxims' for errors which result from misconstruing the quite correct results of quite legitimate applications of 'maxims'.

In ch.VIII Locke offers a classification, with elucidations, of 'trifling propositions':

(a) 'P u r e l y i d e n t i c a l p r o p o s i t i o n s ' (VIII.2/3).

The examples which Locke gives here, e.g. 'What is, is' and 'A soul is a soul', all involve repetition not merely of the idea but also of the word employed as subject. (At VIII.12 he gives further examples not so restricted.) He begins with the correct points (VIII.2) that they tell

us nothing we do not already know, yet they may usefully be appealed to when someone contradicts himself accidentally. But we cannot fall in with his loose talk that

> "the same word may with great certainty be affirmed of itself" (VIII.2)

Worse than just a careless use of language is involved here; Locke overlooks the fact that 'A soul is a soul' is an 'identical proposition' only so long as 'soul' has the same meaning at both occurrences. Nor can we agree with Locke's denial of ontological import in his claim that 'purely identical propositions' affirm (VIII.3)

> "that the same term is the same term, and the same idea the same idea".

Locke wishes to contrast the role of 'purely identical propositions' with that of other necessary truths, in reasoning (VIII.3). Of the former he declares that

> "no one who has the use of reason can miss them, where it is necessary they should be taken notice of, nor doubt of their truth when he does take notice of them" (VIII.3).

The first of these falsehoods Locke himself has contradicted in mentioning that we may overtly contradict ourselves(VIII2) The second is refuted by our arguments brought originally against Aristotle's claim that there can be no intelligible

doubting of fundamental logical laws; if it is intelligible to doubt, then it is rational to do so in the course of an examination of fundamental assumptions, if in no other context. (Locke continues to be influenced by the error that all that is involved is the actual self-identity of our ideas - it should be obvious, from our earlier discussions of this point, how the error leads to the two further mistakes which have just been under consideration.) We may, however, agree with Locke that 'purely identical propositions' are more readily grasped and verified than other necessary truths. But, for reasons given in earlier chapters, we cannot admit that there is a corresponding difference in degrees of informativeness or triviality. Leaving aside his wrong account in terms of 'finding intermediate ideas', we may agree that inferences are more 'instructive' (VIII.5) if not made with 'purely identical' rules of inference; but this must be distinguished from the informativeness of the rules, in the sense of their information-content. Otherwise the result is rationalistic excesses, or else confusion of the rules corresponding to necessary truths with the rules corresponding to contingent (verbal) truths.

(b) 'Propositions wherein the g e n u s is predicated of the s p e c i e s ' (VIII.4)

(c) Statements made ' t o p r e d i c a t e a n y o t h e r p a r t o f t h e d e f i n i t i o n

of the term defined, or to affirm any one of the simple ideas of a complex one, of the name of the whole complex idea' (VIII.5).

The example which Locke gives in connection with (b) is 'Lead is a metal', and it is clear from his remarks that he is regarding 'metal' as a (complex) conjunctive constituent of the definition of 'lead'. As usual, he overlooks the fact that not all instances of (b) are of this form - he overlooks the fact that a genus may be defined as the disjunction of its species. But for this oversight he might have made (b) genuinely distinct from (c), which it is not, if both are to comprise conjunctive cases. The example given for (c) is 'All gold is fusible'; which is analogous to the example given for (b) - in that it says that gold is a species of the genus of fusibles - but which is of a different king from 'All toes are digits', in that this last is a disjunctive case. But these mistakes of Locke's are irrelevant to the concern which is his chief one in ch.VIII. He goes on quite correctly to designate cases of kinds (b) and (c) as trivial assertions, though again not in a sufficiently guarded way. He says also that they may teach us the meanings of the words used, but without noting that the statements made are then contingent.(VIII.5/6) He also points out the same sentences may express prescriptions regarding use of words, again failing to

note that we are then no longer dealing with necessary truths (VIII.12). Indeed, he even goes so far as to make the mistake of inferring the triviality of 'trifling propositions' from an alleged t o t a l lack of ontological import (VIII.10). Let us recall, though, that Locke is consciously talking only of a sub-class of necessary truths in ch.VIII; thus at VIII.8 he mentions 'The external angle of all triangles is bigger than either of the opposite internal angles' as being non-trifling, assuming that it is also necessary.

Pap ('Semantics and Necessary Truth') thinks (47/8) that Locke can overcome the difficulty that we are aware only of particular ideas at particular times - and so cannot directly verify generalizations about types of ideas - by saying that

> "logical relations do not hold between temporal entities (particulars), hence it does not make sense to say that they hold at some time or at all times between given terms" (48).

However, not only does it make sense to say what Pap says is nonsense - it is actually true. Necessary truths do not deal with entities outside time - we know of none such. They do not deal with just the one set of particular ideas one is contemplating; but to say they deal with types is only to say - if it is sound - that they deal with sets

of particular ideas transcending the set being contemplated. Even if there are no further ideas of the kind contemplated - i.e. if there are none beyond those contemplated - one would have to know this to use it as a basis for overcoming the difficulty of transcendence of data. (Of course Pap is wrong also in falling in uncritically with Locke's view that all necessary truths are about ideas; in this paragraph we have let Locke have this premise so as to show how transcendence difficulties arise even for the Platonist of Locke's kind.)

B

In connection with logical necessity Hume makes no advance beyond Locke. On the contrary, we find Hume presenting a simplified version of Locke's fairly complex theory.

> "All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, R e l a t i o n s o f I d e a s , and M a t t e r s o f F a c t . Of the first kind... every affirmation which is either intuitively or demonstratively certain".
>
> ('Enquiry concerning Human Understanding', 4,1.)

Here we find simple Platonism and an account which relies on Locke's terminology ('relation of ideas', 'object of reason', 'intuitive or demonstratively certain'). The culminating feature is obviously the highly misleading

dichotomy between 'relations of ideas' and 'matters of fact'. It is now obvious what our criticisms of this dichotomy should be; we shall not repeat them here. Pap ('Semantics and Necessary Truth') quite rightly says (69-72) that Hume did not claim that all necessary truths are analytic; in this area too his approach does not differ from Locke's. Hume's attempt to distinguish k i n d s of relations which occur only in necessary truths ('A Treatise of Human Nature', I,3) is clearly a Lockean enterprise; which, as Pap notes (72-5), obviously fails: any kind of relation can enter into a necessary truth.

There remains the issue of Hume's equation of logical possibility with imaginability:

> "To form a clear idea of any thing, is an undeniable argument for its possibility, and is alone a refutation of any pretended demonstration against it." ('A Treatise of Human Nature', III,6.)

Pap (79-80) points out that it is absurd to deny logical possibility just on the ground that we are unable to form the clear ideas in question (e.g. of unperceived colours). However, on a simple copying theory of ideas, production of a clear idea is a reasonable ground for affirming logical possibility, since having an idea is not very different from actually seeing the corresponding object.

Conversely, if one could form a clear idea of an object with properties F and -F, one's faith in the law of contradiction would be destroyed, for in a model of a thing, which is F, and-F there will actually be features G and -G, representing F and ¬F. (c.f. ch.6 section A). But of course not even all platonic thinking is copy-thinking; and in fact one can form ideas of impossibilities- otherwise no sentence could express an impossibility. In this way Hume's equation breaks down totally. It is preferable to regard a thought-experiment as a making intuitive of what a sentence means; and once this becomes clear we are ready to compare the claim with a true general principle, such as the law of identity, and accept or reject the claim under test on this basis. Of course the problem remains of how we k n o w the general law to be true (do we trust imagination here?); and there remains also the problem of how we know that the thought-experiment makes the meaning of the claim intuitively clear in an adequate way (c.f. the question of whether 'west of' is transitive). These are questions to which we shall be returning at the end of our investigation.

X

KANT AND ANALYTICITY

Kant's theory of synthetic necessary truth need not detain us long. It is not difficult to see that it is confused and irreparably inadequate. Consider the following quotation from Bxvi:

> "Hitherto one assumed that all our knowledge has to conform to the nature of objects; but this presupposition destroyed all attempts to extend our knowledge by discovering anything about them a priori from concepts. So let us see whether we do not get further in metaphysics by assuming that objects have to conform to our knowledge, which accords better with the required possibility of a priori knowledge of them..."

We cannot even know analytic truths "a priori from concepts" except in the sense that we carry in our minds general laws by which we validate particular statements once we have understood them. But, clearly, if some of these general laws are synthetic, we can know synthetic a priori truths about objects just as well as analytic ones. Nor can there be any question of denying the "presupposition" that "knowledge has to conform to the nature of objects" - if there is a divergence, then a statement is not true, and so cannot be knowledge at all. And it is misleading to say that assuming objects to conform to our knowledge is an alternative assumption. Again, if an object failed

to conform to what was said in a statement, that statement could not be true and so could not be knowledge. Thus Kant's "Copernican" fundamental thought in connection with synthetic necessary truth is just a piece of nonsense. We are left, then, with the idea that the synthetic general laws, whereby we validate (less general) synthetic necessary truths, are grounded in the structure of the human mind, which constitutes experience in such a way that no counter-instance occurs. (c.f. the whole of 'Kritik der Reinen Vernunft'.) But of course, as has often been remarked, we do not seem to have a body of synthetic necessary truths in this area; it just does not seem to be necessary that our minds operate as they do. (Even if it were necessary, Kant would not have succeeded in saying what synthetic necessity is.) Thus far from explaining synthetic necessity, Kant gives as an account which would destroy all desire to speak of synthetic necessity once that account is understood. Yet he does not write as if this were the result, so his account must be dismissed as confused. Clearly he has the vague idea that a subjective source makes synthetic necessary truth more readily knowable - but nobody really wishes to claim that he knows with logical necessity how his mind will continue to operate; indeed, in a good sense, one does not know at all how one's mind functions in many respects. Of course we feel certain that our mind

will never reveal counterinstances to synthetic necessary truths to us; but only because we do not believe that falsifications will occur. To say that is to explain nothing: the Kantian account seems explanatory only when it is in fact destructive (i.e. an account in terms of constituting experience). (c.f. however our final chapter for further comments).

Now let us examine Kant's account of analyticity. As is well-known, he commits the 'containment' fallacy, and gives an account applying only to affirmative subject-predicate statements (A7). Furthermore he often writes as if all analytic statements are about concepts. He says (A7) that analytic truths

> "analyse their subject-concept into its constituents."

We do not need to repeat our arguments against the view that all analytic truths are explicative statements (2). (In A2 Kant actually uses a synonym of 'explicative') Kant evidently confuses 'repeats the subject-concept' and 'says what the subject-concept is'. He is also wrong in his reasons for saying that (A7/8) (X)

> "our knowledge is in no way extended by analytic judgments."

The first reason he gives is that (A8)

> "the concept I already have is only analysed and made clear to me".

This would in itself be to state facts; but it is, as we saw, not what all analytic truths do - and none of them tell me what concept a word expresses; - that is a contingent judgment. Kant's second reason for embracing (X) is that analytic truths contrast with synthetic ones, in the case of which one requires something more than the subject concept in order to make a well-founded judgment. But so one does, we saw, with an analytic truth equally. It will not do to regard making an analytic judgment as a matter of just dwelling on a concept. The only sense in which analytic judgments do not extend our knowledge is that we know them to be true already - though we do not already know which sentences express analytic truths. Kant's inference that (B11/12) experience of objects is inappropriate to analytic truths' validation thus rests on a confused account of their nature. However, at A151ff. and elsewhere, Kant does mention the law of non-contradiction as being used in the validation of analytic truths. This we shall see below to be not only relevant but central to analyticity.

'Analytic' specifies a semantic category to which certain truths belong which correspond to necessary facts. That is, analytic truths are truths with a kind of structure fitted to represent necessary facts of a certain kind. There is no such thing as 'the' concept of analyticity, which we can become aware of and then simply

test for its adequacy to the facts. Rather, philosophers, such as Kant, have, after prlonged experience in dealing with necessary truths, come to feel that they fall into two quite different classes; but they have not managed to formulate the difference to themselves adequately. The difference seems to have something to do with 'containment' - but the definitions actually produced, such as the Kantian one, have failed to capture the underlying property of analytic truths properly. Can we then do no better than Chisholm ('Theory of Knowledge') and (84/5) more or less just enumerate different kinds of necessary truth which we are inclined to put together under the heading 'analytic'? Chisholm defines 'analytic' for subject-predicate statements, 'S is P' by saying that one of the following must hold for 'analytic' to be applicable:

(1) S and P are synonymous;

(2) S is synonymous with (S1. S2), S2 is synonymous with P., and S, is not synonymous with S.

(3) P is synonymous with)P1 v P2), P1 can be analyzed out of S, and P2 cannot be analyzed out of S.

This definition is unilluminatingly enumerative; but it does not enumerate anything like as many kinds of statement as one would wish, quite soundly we shall see, to call 'analytic'. Thus at p.86 we find Chisholm concluding that

logical truths are not all analytic because they are not all categorical (the key point is in fact that they are not subject-predicate in form always). Definitions other than Chisholm's and Kant's have of course been offered, but these, we shall see, are unsatisfactory in various ways. We shall next give a definition which is sufficiently and satisfyingly general, and which will not lead to the classification as 'synthetic' of truths which really belong with (i.e. have a real affinity with) other analytic truths.

We assume that all analytic truths can be understood as being of subject-predicate or antecedent-consequent forms, or else as conjunctions of statements of these forms (S-P or A-C).* We shall ignore the last, conjunctive case in our definition; if one wishes, one can say that one rises from the special sense of 'analytic' provided by the definition to the general sense by adding that conjunctions of truths which are analytic in the special sense, as well as truths analytic in the special sense, are to be called analytic in the general sense so we define as follows:-

The statement St, of form S-P or A-C, is analytic = Df. Any state of affairs to which S or A would apply would equally be one to which P or C applied. Let us take some examples; first of all 'toes are digits'. Granted a state of affairs to which 'toes' applies we can see that

*Some will wish to regard identity-statements as being reducible neither to S-P nor to A-C forms. It is obvious how the definition could be modified.

that very state of affairs would make 'digits' applicable also. In this one is just checking what falls under a concept; it is analogous to seeing whether a statement is true; nothing about analyticity is presupposed. Next take 'Redness is not softness'. The very state of affairs required to make 'redness' applicable would ipso facto render 'not softness' applicable. Contrary to Chisholm (88/9) 'Everything red is coloured' is analytic, since 'coloured' means 'red v green v yellow v .... v with a property similar to these', so that that which makes 'red' applicable, by virtue of the same feature makes 'coloured' applicable. (Chisholm, like Langford ('A Proof that Synthetic A Priori Propositions Exist'), overlooks the possibility of defining 'coloured' as we have done instead of in terms of particular colours, which is unsatisfactory because there could be a colour unlike any we put into the definition.) Notice that one could not replace our definition by saying that in an analytic truth S or A is a sufficient condition for P or C, or P or C is a necessary condition for S or A; because there are synthetic as well as analytic necessary and sufficient conditions. Thus one may have a synthetically sufficient condition (e.g. redness) for excluding applicability to the same surface of another concept (e.g. that of yellowness). On the other hand, our definition obviously allows us to talk of analytic versus synthetic necessary conditions.

And it is also, we are satisfied, an adequate (real) definition of analyticity. Any difficulty in applying it to particular statements arises purely from the difficulty of investigating what those statements mean. The connection of contradictoriness with analyticity is as follows. The denial of an analytic truth involves saying that the state of affairs making S or A applicable could exist without the existence of a state of affairs making P or C applicable; yet one and the same state of affairs is in question here, so the same state of affairs would be being said both to obtain and not to obtain.

A favourite definition of 'analytic' has been that in terms of reducibility to a logical truth by means of definitions. (c.f. the opening sections of 'The Foundations of Arithmetic' by Frege for an early instance.) This definition is unsatisfactory, for reasons mentioned by Wang (164/5) in 'Notes on the Analytic-Synthetic Distinction' - reduction, unless it is restricted to verbal transformation from synonym to synonym, might be of a synthetic character; and so, for all we are told, might logical truths. Thus the definition would at best be unilluminating. L. Cohen ('The Diversity of Meaning') also objects to Frege and his followers that

> "this criterion of analyticity takes for granted that truths of logic are analytic" (156).

However we cannot agree with Cohen's other objections to

Frege's definition. We cannot agree that

> "It begs the question against those who ... wish to take the law of non-contradiction as a first law of being - as a thesis of ontology" (156).

We cannot agree with Cohen here because, as we have seen, it is a mistake to want to use 'analytic', or to define it, in a way which is incompatible with ontologism. Cohen in effect accuses Frege of wanting to capture the bad concept of 'truth in virtue of meanings', which in fact applies to nothing, except, perhaps, statements - contingent or necessary - which are about meanings. We take it, of course, that fundamentally everybody is interested in defining a concept of analyticity which has application, more or less to what we are inclined to call 'analytic truths'. Nor can we agree with Cohen that Frege's use of the term 'definition' is question-begging,

> "because the nature of the meaning-identity involved still remains to be settled" (156).

The kind of identity is strict identity; and the nature of meaning is not entirely obscure; at the neural and psychical levels we can appreciate clearly enough how there can be strict identities of the kinds required; it is a matter of different expressions' being associated with one and the same neural or psychical correlate, of the same neural or psychical checking procedure's being

associated with this concept as with that; and so on.

Cohen writes also (154) that

> "even if a criterion of analyticity could be proposed by which all the truths of unformalized logic and mathematics would be correctly adjudged analytic, it is doubtful whether this would achieve any other result than to obscure the important differences that exist in regard to decidability and completeness between different branches of logic and mathematics".

But why should this be thought to be so? Why should one think that the results of Goedel and Church, which have to do with axiomatics, make it difficult to find a reasonably narrow sense of 'analytic' that would apply to all mathematical and logical truths? How much of logic and mathematics is analytic is difficult to answer because of the difficulty of seeing which proposed analyses of mathematical and logical truths are correct. But, contrary to Copi ('Modern Logic and the Synthetic A Priori' and 'Goedel and the Synthetic A Priori: A Rejoinder'), results about what can be established by certain deductive methods, do not show whether truths not so establishable are or are not analytic. One can place no a priori limit on the touchstones it might seem to us reasonable to adopt in validating necessary truths; one of the touchstones is analyticity, and the limitations of

deductive methods do not show anything about what is a quite different touchstone. Copi's trouble is that he fails to see that axiomatics involves axioms and rules of inference, which cannot be equated with the syntactical rules governing all mathematical and logical terms (and so governing also those occurring in statements not provable in the system). It is the idea of logic and mathematics as deduction by and from definitions in disguise which leads people astray here. Goedel and Church have shown nothing which implies that not all logic and mathematics is analytic, in any non-confused sense of 'analytic'; though, as was said, it is difficult to see how much logic and mathematics is in fact analytic.

We have to take issue with some further remarks made by L. Cohen ('The Diversity of Meaning').

> "We have to escape from talking about meanings that are themselves nothing but a p r i o r i rules of argument ... what ultimately confirms ... analyticity is not so much ... stipulative definition as the normal usage of ... culture-words..." (157).

But it is now clear to us, from our earlier chapters, that the meanings of terms to which we appeal in connection with analyticity cannot properly be called rules of argument. In accepting that 'bachelors' means

u n m a r r i e d m e n I am not eo ipso accepting any rule of argument. A sceptic about the usual deductive rules of inference is not deviant in respect of what he counts as a bachelor. Thus Cohen argues from a false premise to his result; which is that a statement is analytic when

> "the corresponding culture-sentence is a p r i o r i true in the normal usage of those who speak one of the languages in which the saying can be easily expressed" (159).

Surely there can be no good reason for dragging in ordinary usage. When a man makes an analytic statement, he may or may not be using words in ordinary ways, and he may or may not be using a concept expressible in some ordinary language as normally used; but these are matters which are simply irrelevant to the question of whether what he says is analytic. Facts about culture-words could only help validate analytic truths if analytic truths were about culture-words (which of course they generally are not); for one cannot validate an analytic truth by any other meanings than its own, which may or may not be the ordinary meanings of the words used to express it, unless the analytic truth happens to be a b o u t meanings.

So we cannot agree that (159)

> "In general, then, if a saying is analytic it is

> a p r i o r i , but it is not a p r i o r i that it is analytic, since the establishment of its analyticity requires sociological research."

First of all, someone might not accept the usual procedures for validating analytic truths, and insist on empirical checking. Then although it is contingent that a sentence token expresses an analytic truth, we have seen that an investigation of the speaker only is required to verify this. On the other hand, for reasons given in ch.5, it is analytic that an intensionally specified statement is analytic.

Cohen argues further (160-1) that

> "the thesis that all a p r i o r i truths are analytic can shed no very penetrating light on the way in which a p r i o r i truths are validated" (161),

because linguistic customs change and

> "we can always go behind such customs to enquire whether or not they are justified" (160).

But what is relevant to analyticity is what is actually meant, not whether a concept is adequate or current. If an analytic truth is expressed by inconvenient linguistic customs, one is not quarrelling with the analytic truth in criticizing the customs. There is nothing in the facts of linguistic change which makes it unenlightening to say that we often use analyticity as a touchstone in

validating a priori truths. The trouble is that Cohen confuses rules of meaning and rules of truth:

> "If there are rules of word-use... then a p r i o r i acceptance of a culture-sentence is justified by pointing to the rule that forbids its denial. Language is conceived to contain its own criteria of correctness and correctness in word-use, and analytic truths are validated by these criteria."(160).

Rules of truth do not change, and are needed in the validation of all necessary truths, as well as facts about meanings. But if rules of truth are confused with rules of meaning, it might come to seem that one cannot appeal to linguistic facts in any respect when validating a priori truths, since to do so might be to appeal to something unjustifiable (in fact a particular usage) to settle which statements are true. But, as was said, the fact about meaning does not have to be about an advisable usage to be properly usable to exhibit analyticity, and in applying the rule of truth (which must be reliable) one is not appealing to anything unjustifiable, for that is not the same as the fact about meaning.

It may be that, as Cohen alleges, a synthetic a priori judgment may come to turn into - to be replaced by - an analytic truth (161); but this is not to be understood as the claim that these judgments would both have the same

function. The analytic truth would require to be supplemented by a statement that a richer concept was instantiated than the concept which would need to be said to be instantiated to make the synthetic necessary truth cognitively valuable. We find Cohen speaking (161) of a priori truths as either being

"entrenched in human language"

or not. This makes it sound as if one and the same a priori truth can either be entrenched in language or not, and that if it is then it is analytic. But to talk of a priori truths as entrenchable in language is to commit the error of confusing logic and semantics. I can speak English perfectly without assuming any analytic truths, let alone stating them. Knowing a meaning is not the same as knowing an analytic truth. On the other hand, if the idea is that a synthetic necessary truth can come to be expressed in the form 'You may apply such-and-such a concept whenever so-and-so applies', this is only to make a point which applies equally to contingent truths - "You may apply 'wet' to anything to which 'water at 50.33 degrees Fahrenheit' applies". Does this contingent truth thereby become analytic? Of course not. One is just replacing a truth by a corresponding rule of truth. So one must distinguish:

(a) The synthetic a priori truth

(1) Its meaning

(i) The corresponding rule of truth

(x) The more general rule of truth or law used in conjunction with (a)'s meaning (1) to validate (a) or(i).

(b) The analytic truth

(2) Its meaning

(ii)The corresponding rule of truth

(y) The more general rule of truth or law used in conjunction with (b)'s meaning (2) to validate (b) or (i).

(x) and (y) are not to be found, of course, when (a) and (b) are themselves of the highest possible degree of generality.

Later (244/5) rejects quite correctly the view that usage can dictate to logic, and suggests that logic supplies criteria for appraising usages. But we must object to his saying (245) that logical laws have the function of

> "articulating the conditions of predicability and statementhood".

Certainly laws of logic generate rules of truth concerning conditions of predicability. But to say that logic articulates conditions of statementhood is to commit the conventionalist's error of thinking contradictions are meaningless, etc. We agree with Cohen that one cannot (245)

> "justify logical theory by appeals to analyticity".

- but only because analyticity is only a semantic feature of (some) logical truths, and is not a feature of the facts to which they correspond. It is not that an appeal to analyticity is an appeal to usage in some dubious sense. Rather the appeal to analyticity, when sound, is just a pointing to the kind to which a statement belongs: this facilitates validation, since we have general logical laws at hand to apply in validation as soon as we see that the statement to be validated falls under one of them. Nor, to be analytic, does a statement have to be framed in ordinary concepts or ordinary language, so there can be no hint of tying the logician to lexicography in declaring that his theorems are analytic. (All the same, for reasons adduced in ch.5, there is no point to a logical system expressed in useless terminology - though terminology need never have been used to be potentially useful).

J. Bergmann ('Zur Lehre Kants von den logischen Grundsdetzen') points out that (325-32) Kant's criterion of analyticity does not fit negative analytic truths, a fact which Kant admits just before he introduces his definition. But negative analytic truths give no trouble for our definition, as can be seen from their transformability by definition into the forms of which our definition speaks. The same needs to be said of other

genuinely analytic cases cited by Bergmann (342/3) - though not all the cases he cites are clearly analytic. At the end (344/5) Bergmann insists that analytic truths give non-trivial knowledge of objects. He rightly says that Kant gives no good reason for denying that analytic truths are about the world in general; but, as we saw in chs.4 and 5, Bergmann goes too far in saying that analytic truths are non-trivial. That is of course inevitable when 'trivial' and 'about the world' are confused. Sternberg ('Ueber die Unterscheidung von analytischen und synthetischen Urteilen') argues that (174) analytic truths must be about the world, since otherwise one has

> "a truth unrelated to reality".

This is of course sound, but Sternberg wrote too early to see all the twists through which conventionalism was to turn in order to escape ontologism, and his simple argument would not convince many recent opponents of his conclusion. The rest of Sternberg's paper would be found still less acceptable. He claims (194) that

> "There is no reality and actuality independent of thinking and knowledge ... the analytic judgment ... becomes the synthetic a posteriori judgment in and by the thought process."

We need not repeat again our criticisms of Plato.

It is the muddles dwelt on in chs. 4 and 5 which explain the difficulties philosophers feel in connection with redefining words in sentences so that they come to express analytic instead of synthetic judgments. L. Beck ('Can Kant's Synthetic Judgments be made Analytic?') concludes of such redefinition that (175/6):

> "while it may make the original sentence formally analytic, it does not give to the knowledge it expresses any logical or epistemic necessity it previously lacked".

So we cannot judge an analytic statement necessary if it is expressed in a sentence which has altered in meaning? How many sentences have not changed in meaning? How far back in time do we have to go to test this? The matter is really quite simple. If a sentence comes to express an analytic truth, it says something different from before and is made true by a different fact, even if the set of actual objects falling under the subject-concept remains the same. (c.f. ch.8.) Actually Beck restricts his conclusion (175/6) to the case where the "nominal" definition of a term is changed. But that is just another muddle. Clearly Beck is really just repeating the mistake of the Kneales (c.f. ch.6, section C), and asking us to frame analytic truths with an eye on whether their concepts are instantiated, but then assuming that somehow an analytic truth can itself state the instantiation of its

subject-concept without destroying its own analyticity.

In 'Kants Lehre vom Analytischen Urteil', Mare-Wogau draws attention to the difficulties which arise from the impossibility of giving a neat, complete definition of many empirical concepts - e.g. that of gold. To some extent the difficulties may be overcome in the light of L. Cohen's observation ('The Diversity of Meaning') that what fluctuates (162/3) is the meaning of a term from context to context; which, of course, makes for no indeterminacy in the character of a given statement (or, of course, of a statement-type determined by strict identity with a given statement). However the difficulty is not entirely one of fluctuation in meaning - a phenomenon to which Kant (A727ff.) himself draws attention, pace Cohen (162). The main difficulty is in finding words, other than the original, which suffice to fix the very complex meaning of some words. But this is only a difficulty attaching to the displaying and discovery of analyticities; it does not, for instance, undermine our definition of 'analytic'. One should note also (c.f. ch.13) that one does not need to be able to give complete definitions of terms in order to ascertain analyticity of statements expressed with their aid.

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Koppelmann ('Kant's Lehre vom analytischen Urteil'), and Siguart (section 27) and Lotze (section 67) in their Logics, give the usual objections to Kant's over-narrow definition of 'analytic'. But clearly one must resist Koppelmann's account of the reason why some examples do not fit Kant's scheme, for Kopplemann says (75/6) that in some judgments the 'real' subject is different from the subject-concept. That is obviously confused. Basically the trouble is failure to notice how existential import is injected into some subject-terms. Now 'The tigers are tigers' may seem to give trouble even for our own definition of analytic. But this is not so. 'The tigers are tigers' is not a simple S-P statement. It claims that tigers exist, which is not analytic. But 'Tigers exist' may also seem to give us trouble. Now like 'God exists', 'Tigers exist' can be analytic. (c.f. chs.4, 5 and 11.) But as usually meant it is not analytic, but means that the concept of a tiger is instantiated; which does not come out as analytic by our definition.

Borelius ('Veher den Satz des Widerspruchs und die Bedeutung der Negation') brings to the surface, and exhibits, a particular confusion which is associated with the bad definition of 'analytic' in terms of truth in virtue of meanings. He talks of the law of non-contradiction as being (386)

"contained in all thought".

Borelius departs from the idea that all ideas themselves conform to the law (375). But one can see how this becomes confused with the idea that all ideas somehow contain the law. And the confusion would be reinforced by the idea that the law is actually used in defining terms, which, pace Nagel, (c.f. ch.6, section C) is not so. Sure enough we later (387) find Borelius saying that anyone who denies the law of non-contradiction is unable to discriminate things: the law has been confused with the restriction of the meaning of a term to F rather than -F. But if I say 'F.-F', I am using 'F' and '-F' precisely in these restricted senses; and far from applying to everything, 'F.-F', it seems, applies to nothing, just as 'unicorn' applies to nothing. (Pace Strawson, Nagel, etc.) The same error as that made by these thinkers is obviously behind the following statement of Schloemilch ('Philosophische Aphorismen eines Mathematikers').

> "...the necessary truths are the fruits that the tree of knowledge brings forth by virtue of its organization, given the conditions for its normal development" (11).

Analytic truths are confused with explicative statements. This is aided by the fact that explicative statements (2) are themselves analytic; by the fact that analytic truths

hint at (c.f. ch.5) explicative statements (1), which are themselves confused with explicative statements (2); and by the fact that the sentences expressing an analytic truth also have other uses i.e. can make other statements (including those already mentioned in this sentence; c.f. ch.4). There is also the confusion (c.f. our remarks above on Kant) of making an analytic statement and actually performing an analysis of the subject-concept. All these confusions conspire to make it look as if ontologism is false. It is not surprising that the same clutch of confusions spreads right into contemporary conventionalism, as we saw. The confusions are of course sustained by the uneasy feeling that if ontologism were admitted to be true then empirical knowledge could be replaced by a priori knowledge: being about the world and being non-trivial are confused, the background to this being the failure to understand adequately how language and thought latch on to reality. (c.f. ch.4). Again and again philosophers come adrift because of these matters. To take a further nineteenth-century case (J.Fries, 'System der Logik'):

> "What we call fundamental laws of thought are the most general rules of analytic knowledge, which thus derive wholly from the forms of our faculty of reflecting. Now the reflecting

> understanding is a mere faculty for the inner re-observation of that which is in our faculty of reason, r e p e t i t i o n of the given is its only property, on its own it can thus do nothing but determine the rules of t a u t o l o g y , i.e. the rules for saying again the same thing, when ideas are given." (132)

These rules

> "flow directly from the forms of the concepts and judgments" (133)

They

> "do not in the least contribute to our knowledge of things; rather only the repetition of our own thoughts in representing things to ourselves is moulded"(136)

These passages should remind us also of the role of the 'containment' fallacy. Because Kant took the case where the predicate is a conjunct of the subject, when he defined 'analytic', and because his definition has not been satisfactorily improved upon or replaced, but actually has persisted at the back of people's minds, analytic propositions all seemed expressible in sentences also able to express semantical and explicative statements. As soon as one leaves behind the conjunctive cases, many of the illegitimate conflations immediately stand exposed.

But, pace the Kneales ('The Development of Logic'), one does not need to define 'analytic' by reference to logical truth (357/8). If one does that, the real factor underlying talk of 'analyticity' remains improperly conceptualized. By our criterion of analyticity, the syllogism involves an analytic inference, but we do not obtain this result by conflating the analytic with the logical. The Kneales recognize (358) that it would be odd to call the principle of the syllogism synthetic; but their way of avoiding the conclusion goes to the opposite extreme of ruling out the inclusion of any synthetic statements in logic by fiat; yet logic as it stands contains statements like 'a-a', which is obviously not analytic *as normally understood by logicians*. And one cannot purge actual logic of synthetic statements without a criterion other than the Kneales'.

Bolzano in his 'Wissenschaftslehre', section 148, gives a definition of 'analytic' which anticipates later ones in terms of truth 'in virtue of' form (or vacuous occurrence of predicates); such as Martin's:

> "A sentence is analytically true in L provided it is true and every predicate variant of it is true also." ('The Notion of Analytic Truth', p.30.)

Such definitions manifestly fail to go to the heart of the matter. One is left with the suspicion that contingent claims might be trapped by these definitions - very general physical laws, to take an example mentioned by the Kneales (360) - and they are also parasitic on particular ways of formulating statements (suppose e.g. 'pv-p' was replaced by just one symbol, or one symbol replaced '(pv-p).q'). But even if only analytic truths and no other statements fall under such a definition, it would remain true that analyticity itself would not have been conceptualized. This is not to say, of course, that we want an analysis of a concept; on the contrary, we want an extensionally adequate definition which specifies analytic truths more illuminatingly. Comparison with our own definition reveals how definitions like Bolzano's fail in this respect. On the other hand, his motive was admirable, inasmuch as he wished to escape from the 'containment' fallacy. This he exposes; and he exposes also the fallacy of saying that all statements with identical subject and predicate are statements of identity. We have already seen the background confusions which could lead to such a fallacy. But the property of vacuous occurrence is simply a consequence of the generality of laws of logic, and adding this to the fact that they are true is not to say much. Also involved are hazy notions of 'vacuousness' nothing

to do with the official definition. Only predicates are said to occur vacuously, but one should not jumpto the conclusion that because logical constants are not c a l l e d predicates they are non-descriptive. Why should the 'predicate variability' of logical truths be thought any more remarkable than the variability, given different restrictions on substitution, of other general laws? For further remarks on these topics c.f. our section on Pap in ch.14. There we shall discuss also the complications arising from the preference of Martin, Carnap, etc. for working with artificial languages. This will be discussed specifically in connection with Carnap, whose definition of 'analytic' is, as we shall see, circular, because it is meant to cover necessity as well. G. Bergmann's ('Analyticity') is circular in exactly the same way; as he confesses at the end of his article(92/3), he uses the concept of logical possibility. Of course that objection would drop away if they were prepared to distinguish 'analytic' and 'necessary', as one can and should; but then the other objections would remain. Among these is the difficulty of defining 'logical constant'. (c.f. the section on Pap in our ch.14.) Without a definition of that term, one is just relying on intuition in allowing variations to be made in some signs rather than others. And that intuition will just be one which

makes sure we do not end up calling 'analytic' what we do not want so to call. The ground of that want will however remain unclarified by the procedures these philosophers adopt.

We turn now to an examination of Lewis' thought on logical necessity, which is chiefly centred on the idea of analyticity. Lewis's early thought ('A Pragmatic Conception of the A Priori' and 'Mind and the World Order') anticipates the confusions of later conventionalists. To quote from the former work:

> "The a p r i o r ; represents an attitude in some sense freely taken... it prescribes nothing to experience" (169/70).

Laws of logic are said to

> "make explicit our general modes of classification"(170)

Of laws of logic it is said, all too a la Nagel or Daya ('Law of Contradiction and Empirical Reality'), that

> "If anything imaginable or unimaginable could violate such laws, then the ever-present fact of change would do it every day... the ultimate criteria of the laws of logic are pragmatic.... there are several logics"(170).

We do not need to repeat our criticisms of Nagel. What is different in the early Lewis is the clarity of the

thought-path: 'The a priori is definition; we prescribe in defining; if the a priori were true of reality we should be prescribing to reality'. Of course, the premise of this argument is false. Logic is confused with our conceptual scheme. However, at about the time when Nagel and Child ('Toward a Functional Definition of the A Priori') began to play with his earlier ideas, Lewis abandoned them and moved on to those to be found in 'An Analysis of Knowledge and Valuation', to which all the following references relate. (Gotshalk in 'The A Priori' comes near to seeing where the early Lewis goes wrong. He says (c.f. the first two pages of his article) that Lewis confused 'derived from the mind' and 'universal and necessary'. However the second is not a sense of 'a priori' at all. Pace Kant (Introduction to 'Kritik der Reimen Vernunft'), there could easily be contingent, particular propositions which one verified by an a priori procedure. Gotshalk should have said that Lewis confuses 'derived from the mind' and 'not empirically verified'.)

In 'An Analysis of Knowledge and Valuation', Lewis sees that self-contradictions are not meaningless(58):

> "A locution which genuinely had no meaning... could not conceivably contradict itself, because it says nothing".

Lewis argues that, after all, we ascertain self-contradictoriness from the meaning. But this argument does not suffice to defeat those who say contradictions are meaningless, since they can point to expressions like 'but go come' ehich are meaningless but consist of meaningful expressions, which, on analysing their meaning - we see to constitute a meaningless complex expression. Thus one needs our arguments of ch.6. Worse still, in connection with analytic truths Lewis, like almost everyone else, makes Wittgenstein's mistake, though he qualifies it:

> "while in one sense (that of holophrastic intension) all analytic statements 'say the same thing' and 'say nothing', in another sense (that of their analytic meaning) they say different things, and what they say is significantly factual" (86/7).

In choosing to say (57) that

> "An a n a l y t i c proposition is one which would apply to or hold of every possible world; one, therefore, ... which has zero intension",

Lewis is not only confusing logical and epistemic possibility; he is also going against his own view that contradictions are meaningful. For if contradictions are meaningful, as they are, an analytic truth rules out a

meaningful (epistemic) alternative, so that it becomes absurd to say that an analytic truth has zero intension. The first of the two immediately preceding equations testifies also to Lewis's involvement in the confusions exposed in our chs. 4 and 5: 'their analytic meaning' - analytic truths are confused with explicative statements(1) or other statements: 'what they say to significantly factual' - triviality is wrongly denied. We shall not repeat here our account of chs. 4 and 5.

It is interesting at last to come upon a philosopher who explicitly admits, indeed urges, that analytic truths are empirically verifiable by generalization (90/1) from objects relevant to them. At p.93 comes however the wrongheaded claim that we can validate analytic truths by reference to explicative statements (2). This is one of the matters dealt with previously. But next (96) we come to a passage which needs fresh comment:

> "Every analytic statement is such as can be assured, finally, on grounds which include nothing beyond our accepted definitions and the principles of logic. And statements belonging to logic are themselves analytic; hence capable of being certified from... meanings."

To know a necessary truth is not just a matter of knowing what it means. Some procedure is necessary to get one to

knowledge of its truth. Nor can this procedure just be a matter of noticing that the meanings of the terms in the truth make it analytic (when it is analytic), in our sense of 'analytic', which is a semantical term. Knowing analyticity is just another piece of semantical knowledge (or else explicative knowledge (1)), and a gap between this and justified embracing of the necessary truth as true yawns widely; and clearly, so long as one sees things straight. All this seems to be recognized in the first sentence of the above quotation, for it is admitted that we need to employ logical principles in conjunction with semantical facts in judging whether what we have before us is a necessary truth. Yet the other sentence of the quotation glosses over the matter: it is made to look as if we really do only have to know the meaning in order to know a logical truth. The problem of how we know those necessary truths which are not subsumable under others is simply evaded, by a relapse into a meek acceptance of the 'a priori' - 'empirical' distinction instead of a probing into the underlying situation. We shall return to the general issue at the end of our investigation.

On the other hand - to turn to a different matter - we agree with Lewis that those crude nominalists who will talk only of rules about words and not facts about

meanings are in the wrong (109 ff.) Even if, as is wrong, one held that there could be no concepts without language, it does not follow that one must always talk of words or classes of words, in the sense of mentioning which words are used. There can be no hammer-blow without a hammer, but to talk of hammer-blows is not to mention any hammer or class of hammers as being the ones involved in striking. Thus 'The concept f i v e exists' does not entail that 'five' or any synonym of 'five' exists, though the existence of the word 'five' is of course clear from the existence of the utterance in which it occurs.

Like Hintikka in 'Are Logical Truths Analytic?', Lewis commits the 'containment' fallacy:

> "If we always infallibly grasped all that is contained in our own meanings, we should always observe every entailed conclusion in understanding our premises, and never have a need for logic."(112).

Evidently Lewis forgets about inferences such as that from 'p' to 'pvq' while he is philosophizing. He thinks (154) of analyticity as 'inclusion' of meanings and verification procedures is one another - this is just another aspect of Lewis's failure to get beyond Kant's definition of 'analytic', or even to notice its defects at all. And Lewis is just as complacent as Kant in relapsing into our everyday confidence in analytic truths

rather than probing what underlies it. Lewis contents himself with a - by no means adequate - sketch of the procedures which we actually adopt (e.g. (151) experiments in the imagination), ignoring the chasms which have been open to the gaze of those prepared to look since Ancient times. No doubt the loose use of 'analytic' is partly to blame: it seems in Lewis now to involve only facts about meanings, nor to involve necessary truth, so that checking analyticity in the first sense may come to seem to be the same as checking analyticity in the second sense.

Waismann begins 'Analytic - Synthetic' by showing up some of the faults in Kant's definition of 'analytic', and, equally correctly, by dismissing the idea that analytic truths follow from their meanings or the definitions of their terms (Part 1 of the first article in the series). However Waismann oddly concedes that sometimes analytic truths follow from definitions: which is mistaken, because he does not mean it in the sense in which any statement entails any necessary statement. To know what an analytic statement follows from is in any case unenlightening, since proponents of such views generally only mean to point vaguely to some close connection between an analytic statement and its meaning,

without being able to say exactly what the connection is. At the end of Part 1 of the first article, Waismann accepts the Frege-Quine definition; we have criticized this already. Waismann is perhaps right in concluding that those who talk of analytic truths as consequences of meaning are really groping towards that definition in a confused way. Probably also they are veering in the direction of the concept of apriority (c.f. the expression 'true in virtue of meanings', which is intermediate between 'following from meanings' and 'a priori'). Somebody might say that we can know necessary truths to be true by inferring them from any piece of knowledge that we happen to have. Using such a procedure along would of course mean that the inferred necessary truths could partake of no more certainty than the empirical premise. But in any case there is a fundamental objection: one already needs to know what is necessarily true in order to perform the inference; in each case one has to show that the conjunction of the contingent premise and necessary conclusion cannot be denied without stating an impossibility, and this simply involves seeing that the contingent premise is conjoined with a necessary conclusion, so it is vain to have begun with any scheme of inferring that necessary conclusion.

Waismann gets slightly misled in Part 2 of the first article on the matter of 'turning' an analytic truth into a truth of logic. It is not just that he continues to confuse logical truths and definitions. He insists that logic is used in transforming an analytic truth into a logical truth. In reality it is a matter of transforming the sentence expressing an analytic truth so as to bring its force home to us. All the time one is going from synonym to synonum. Waismann accuses both Frege (who also mistakenly invokes logical equivalences) and Quine of overlooking the role of statements of idiomatic equivalence in reduction of an analytic statement to a logical truth. But this is covered by the reference to definition. One simply passes from one idiom to another which is more perspicuous, i.e. allows us to grasp meaning - relationships more readily.

In section 3, in the second article, Waismann makes great play with the vagueness of definition:

> "For instance, if dictionary definitions were admitted, almost e v e r y sentence might be turned into an analytic one".

What matters, of course, is whether the definition elucidates the meaning of the statement being tested for analyticity. In the same section Waismann, following Rollins ('Are There Indubitable Existential Statements?'), discusses the relationship of ostensive definition to

analyticity. We deal with Waismann's contribution during the section on Pap in our ch.14.

In the part of section 3 which is in the third article, Waismann says that it is difficult to see whether 'Time is measurable' is analytic. As he says such things as that some uses seem to indicate that it is analytic, it is clear that - like (11) Barker in 'Philosophy of Mathematics' - he is mixing up variability of a term's meaning with alleged indeterminacy of the meaning of a particular statement. He also makes the point that what we call time could cease to be measurable in practice without any change in its own nature. But such matters are, obviously, irrelevant to analyticity. In section 4 in the third article we are invited to conclude that certain statements are on the contingent-necessary borderline, but nothing Waismann says shows that this is true of particular statements. (Obviously mere difficulty in deciding whether a statement is necessary does not show that it is a borderline case.) As B. Lake says, ('Necessary and contingent statements'), one is much less likely to come to Waismann's conclusion if one studies a statement in context. One might add that the stock examples of necessary truths discussed by philosophers are produced in such a way (with the expectation that they are necessary) that the reader automatically fixes on an

interpretation which makes the statement necessary. Winch ('Necessary and contingent Truths') protests at B. Lake's conclusion. But his counter-arguments are weak. He says that we do not normally know whether our statements are contingent or necessary. Well, most people do not consider the matter, but it is not necessary to believe that people could not say if asked. A necessary truth, when thought, is commonly accompanied by an aura of necessity which sets it apart from contingent truths. Winch says also that unimaginability does not entail impossibility and that we can ask for reasons for usages. These matters are irrelevant to the issue. Winch concludes that the relationship of necessary truths to facts is obscure. Which shows that he is in a muddle, but, unlike others, knows it.

In the fourth section, in article IV now though, Waismann says there are contingent statements whose denial plunges our whole thought into confusion. But this is not even characteristic of genuinely necessary truths! It is all a matter of the psychological situation. A humble simpleton may have his thoughts thrown into confusion at the thought of some negative falsehood which another man could contemplate with serenity. Conventionalists - and others - have tried to persuade us that entertaining contradictions is confusing or worse; but it need not be; remember our calmly

rational dealing with them in ch.3, where we contemplated at length what to think on the supposition of the denial of fundamental logical laws; remember how we all use contradictory phrases to characterize objects of desire, etc. The confusion which may supervene when contradictory or other negative falsehoods are entertained is avoidable and has no necessary connection with the actual meaning of these statements. Would anybody wish to call 'No more pension money will be paid' necessary because assuming its truth would put some people's minds into a frenzy which would prevent rational thought on various matters? Perhaps Waismann deceives himself by using the phrase 'alternatives are hard to conceive'. Surely it is not difficult to think the negation of any proposition? But perhaps Waismann means by 'alternative' not 'negation' but some positive belief to act as a replacement. But that would apply to such matters as the existence of this world's colours rather than others. Clearly the discussion is getting further and further from logical necessity, and we shall leave Waismann's article-series at this point.

D. Williams('Analysis, Analytic Propositions and Real Definitions') says (78) that philosophical analysis is the search for real definitions, not analytic truths. That is an admirable policy statement, but it will not do as a statement of fact - as a real definition. As we have seen, philosophers c o n f u s e analytic statements and real definitions in their inquiries. Although he is bizarre in suggesting (passim) that all real definitions analyse the elements of a Gestalt-quality, Williams is shrewd in his observation(80) that

> "When a plausible resolutive equivalent is enunciated for the gestalt-quality, no previous definition is on hand to compete with it, and we are tempted therefore to say that this equivalence is 'what we meant all along'... That we did not mean it all along, even though we are going to mean it in the future, is proved, I think, by the facts that we previously had not, and probably could not have, enunciated such a resolutive statement, and that it can happen, and often does happen, that another analyst will give us for the same gestalt-quality another resolutive description which we can with equal plausibility declare to be 'what we meant all along'."

This passage suggests admirably a way in which analytic

truths may come to be confused with real definitions. But that is a matter which belongs primarily to earlier chapters. The main reason for examining D. Williams' articles at this point is that he expresses doubts - in 'The Nature and Variety of the A Priori' - as to whether certain statements commonly thought to be analytic really are. Being, unfortunately, a platonist-Platonist (necessary truths are said to assert "a connection among properties or universals" (88) c o n n o t e d by words (90)), Williams rejects conventionalism (85-93); and, with the same arguments as Lewis, he rejects also the view that impossible statements are meaningless. (For the latter conclusion he has also the arguments that we can believe impossible statements and introspect their meanings. These are sound, but the conventionalist - c.f. A. Ambrose's move discussed in an earlier chapter - would claim that a special sense of 'believe' was applicable, and would flatly reject the results of introspection.) Now after mentioning that many analytic propositions are instances of 'If P.Q., then P', Williams (93) complains that

> "it is not easy to pick out formal principles for all our a priori sentences".

He attends to two examples: 'If John is taller than Mary, Mary is shorter than John' and 'Being red entails being coloured'. These are both analytic by our test, and the

second example has already been dealt with in connection with Chisholm. Why do they cause Williams - and others - trouble? Partly because they are not of the form 'If P.Q, then P', which has always been the familiar and favourite paradigm, linking, as it does, in a most convenient way with all the unsatisfactory thought in terms of 'containment'. Then there is the fact that the antecedent and consequent of the first example are synonymous without having been defined explicitly in terms of one another and without 'taller than' being definable in terms of 'shorter than'. In short, within the context of discussions of analyticity such examples take the philosopher by surprise, and he does not know whether to trust in his original, entrenched but unsatisfactory concept of analyticity or to modify it. (Note: ostensibly Gasking replies to Williams in 'Mr. Williams on the A Priori', but the article is just an exposition of Wittgenstein's views as found in RFM.)

Hoche ('Nichtempirische Erkenntnis') tries to defend Kant (9/10) by saying that his talk of containment is to be understood in terms of logical implication. There are two objections to this. First, talk of analyticity is supposed to be an attempt to distinguish a (sub) set of necessary truths on the basis of purely semantical feature.

Secondly, an implication could be synthetic and then synthetic judgments would have to be counted as analytic. So Hoche's suggestion both lacks merit in itself and is far from faithful to Kant's intentions. Hoche wishes to say that in an analytic statement S implies P or A implies C. This must not be confused with views like those criticized by Waismann at the beginning of 'Analytic-Synthetic', which say that the whole analytic truth follows from something. But it could of course be objected again that synthetic necessary truths could be derived from that something just as well as analytic ones. Schlick, however, avoids this particular objection by saying ('Allgemeine Erkenntnislehre', p.70) that the derivation (from definitions) must be by the principle of non-contradiction. Clearly Hoche would have done well to make the same qualification. Schlick's 'Allgemeine Erkenntnislehre' is an early and seminal conventionalist account which requires, for the most part, no special examination, since its theses have become commonplaces of conventionalism. Schlick is much too ready to postulate definitions which would make apparently synthetic necessary truths analytic. Thus he very implausible suggests that transitivity is built into the definition of 'greater than'. The reply to this is analogous to that given, in connection with judgments of identity, to Hempel (ch.6, section C).

In 'Uses of Argument' Toulmin gives three criteria of analyticity (131). The first and third (tautology and self-evidence) are obviously hopeless. The second may seem adequate at first sight. It is (131) to the effect that in the case of an analytic statement verifying A is ipso facto to verify C. This definition would require modification to be applicable to S-P judgments. More seriously, however, it commits the absurdity of saying that one act of verification is another. A and C are different; so to verify one cannot be to verify the other. It may be replied that what is meant is that verifying A is logically sufficient to verify C. But that formulation leaves open the possibility that the sufficiency is a synthetic one. One needs to go back to Toulmin's original formulation and eliminate the reference to verification, to arrive at a definition such as our own. ('Verification' would of course have to be understood as an ideal, direct verification in Toulmin's formulation; and this already points to the fact that what is really required is the notion of applicability.) Jackson ('Are There Analytic Propositions?') tries to overcome the difficulty that a sufficient condition might be synthetic by use of the expression 'independently sufficient' (c.f. the last two pages of his article). But 'independently' just means 'analytically'; as is evident from the example the term is

introduced by, which is of an analytically sufficient condition.

One can distinguish two major tendencies in thought on analyticity since Kant. One group strove towards, but did not reach, our own real definition. The other, in view of the confusions in the development of the other tendency, followed Bolzano's lead and just gave up trying to distinguish analyticity from logical truth. Failure of philosophers participating in the first, more truly Kantian tendency went hand in hand with all the other failures of grasp of the natures of necessary truth. The second tendency, flowing from Bolzano and Frege, was from the beginning destined to fail to say anything illuminating about any set of necessary truths. Having achieved clarity in respect of analyticity, in the following chapters we shall be able to create further clarity in other areas as more and more pieces fall into place. First, however, we need to investigate Spinoza's theory of logical necessity, because the topic is closely related to the themes of the preceding chapters.

XI

SPINOZA AND RATIONALISM

Spinoza is confused on exactly the same fundamentals as Aristotle or Bennett when logical necessity is what is in question. But this does not mean that their views are identical. Although we shall find in Spinoza fundamental errors which are now familiar to us and which require no further demonstration, there are sufficiently many new points which can conveniently be made in connection with Spinoza's views to justify an extended treatment of the Spinozistic theory of logical necessity. 'Rationalism' is not a precise term. If all who make apparently necessary truths refer in ways which destroy their necessary and a priori character are 'rationalists', then Bennett is to be numbered among them. Such a criterion could scarcely be said to render 'rationalism' consistent with 'empiricism'; rather it is Bennett who is inconsistent in being at once a rationalist and an empiricist (the first tacitly, the second explicitly). Many empiricists have written as if it is possible to establish a non-trivial empiricism by reason alone (given certain concepts to work on), and have thereby argued rationalistically - in what is, for us at least, the prime sense of the term. But it is one thing to practise rationalism and another to preach it - and yet another thing to be aware that one is preaching it. Plato does not fall squarely into the class of rationalists, since he displays a strong

tendency to deny that logical necessity can be a property of any truths about the ordinary, empirical, non-given world. Aristotle sometimes concedes the need to check the concepts with which the philosopher works against experience. Among philosophers of the Age of Reason, it is Spinoza, particularly in 'Treatise on the Correction of the Understanding', who attempts most forcibly to justify rationalism.

An examination of Spinoza's 'Ethics' reveals that it is beset by problems now already familiar from our consideration of numerous philosophers, both Ancient and Modern. What is the status of the definitions and axioms from which Spinoza argues? For example, does Definition I of 'Ethics' I treat of the expression 'cause of itself', the concept c a u s e o f i t s e l f , whatever conforms to that concept, or some individual we call 'cause of itself'? Closely similar doubts arise in respect of the axioms. We have to ask ourselves which way the axioms and definitions are to be construed, and become involved in the familiar conflict between significance and relevance, on the one hand, and necessity and apriority, ~~relevance~~, on the other. According to our earlier arguments, we are faced with a choice between irreconcilables. Spinoza's language sometimes suggests a significant, ontological interpretation, which would in fact preclude the conclusions' being necessary; whilst at other times

the phraseology is more in keeping with a necessity-preserving interpretation, which would in fact rule out ontological significance. The two kinds of phraseology are mixed up together, frequently in the same sentence. This suggests that Sprinoza has not divided his axioms and definitions into necessary and ontological ones (as would be consistent with the aim of proving ontological conclusions), but is, rather, confused on the question of the way in which his pronouncements are to be interpreted. In any case, as long as it is conceded that at least some of the definitions or axioms must be interpreted ontologically, in a way that makes it highly problematic to regard them as necessary, then the rationalist's problem exists, and so Spinoza requires our attention.

Spinoza's Definitions have the verbal form 'By x I understand....' (or something synymous), and thus differ from his Axioms, but not in a way which rules out any of the four alternative interpretations we have noted. On the other hand, many of the Axioms could not be construed as definitions of any sort. But even with these Axioms the fundamental problem remains. Consider e.g. Axiom II of 'Ethics' II; it reads 'Man thinks'. Does this mean the same as 'Whatever conforms to the concept m a n thinks' (which might be held to express a necessary truth) or does it mean 'What we call "man"

thinks' (which is not necessary)? Further evidence that Spinoza did not clearly distinguish the roles of his Axioms and Definitions is provided by a letter from Spinoza to de Vries. In it he writes (314) that a true definition differs from an axiom or proposition only in that it deals purely with essences or modifications of things, not eternal truths. That this attempt to state a difference is, moreover, muddled is easily seen from the fact that it suggests an opposition where there is none: a statement about an essence may be an eternal truth. The truth is that all we find in Spinoza in this area is a tendency to classify a basic premise as a Definition if it is of subject-predicate form.

> Let us consider again Definition I of 'Ethics' I,
>
> "I understand that to be C A U S E O F
> I T S E L F (c a u s a s u i) whose essence
> involves existence and whose nature cannot be
> conceived unless existing."

(The Latin original ended: 'nisi existens'.) This provides an excellent example of the ambiguities which great minds fall victim to in embracing rationalism. On the one hand the Definition may be construed as a definition of 'cause of itself', with no commitment as to whether it is instantiated, whilst on the other hand it could purport to describe an existing entity which could

not be conceived unless it existed. Consider also Definition IV of 'Ethics' I:

"An A T T R I B U T E (a t t r i b u t u m)
I understand to be that which the intellect
perceives as constituting the essence of a substance".

This Definition is noteworthy for the clarity with which it expresses confidence in a harmony between thinking and its objects. Spinoza seems to feel no need to ensure that the intellect is successful in perceiving the essence of a substance. And this is partly because he confuses unmotivated, arbitrary contemplation of an essence (which may in fact be of an actual substance) with apprehension that such-and-such an essence is instantiated in some substance. However the uncompleted work 'Treatise on the Correction of the Understanding' attempts an elaborate justification for assuming the harmony which we have just cast doubt upon. We next attend to the various confusions which Spinoza tries to exploit in that work. (unless otherwise indicated, subsequent references are to standard sections of 'Treatise on the Correction of the Understanding'.)

At V.26 we are told that 'when the existence of an individual thing is not known its essence also is not known'. This assertion seems to indicate that sometimes Spinoza was aware that one cannot assume a priori that

familiar meanings have familiar individuals falling under them. Nevertheless there is a dominant tendency in Spinoza to assume that sense-perception is not needed to establish the harmony of our ideas with the essences of things. As is well known, the ontological argument, together with the identification of God with reality as a whole, is the chief support of Spinoza's optimism. Yet the ontological argument is really only a single instance of the general rationalistic conclusion. Spinoza is aware that in practice we cannot deduce the nature of the world, in all its detail, from the existence of God. It is not clear how far he thinks we can get in that enterprise; of the fourth mode of perception - perception through essence alone - Spinoza says at IV,22:

> "But the things which I have been able to know by this knowledge so far have been very few."

To some extent Spinoza thinks we rely on sense-perception for knowledge of individuals, to some extent he thinks that, in principle, deduction from the existence of God is possible, and thirdly, in philosophizing, he tends to commit rationalistic errors independently of the ontological argument. It is noteworthy, with respect to the last, that, in 'Ethics', although God is introduced at the beginning of the work, premises not about God are

used, and later chapters introduce fresh premises concerning their special subject matters

In a letter to de Vries (316), Spinoza declares that we never need experience to prove a definition true, except where the existence of the thing cannot be inferred from the definition (as in the case of modes). Here, of course, real definitions are in question. What is striking is that in the same letter Spinoza goes on to say that experience cannot teach us the essence of things. Then how is experience able to disclose whether a definition is true? Perhaps Spinoza is not quite so confused as appears, for he may mean, like Aristotle, that particular acts of perception cannot disclose all that is comprehended by a particular conceptual specification of an essence.

Be that as it may, at VIII we are introduced to the programme of discovering which ideas are true (i.e. are instantiated by familiar things) purely by an examination of their internal properties; and it emerges that the idea of God is not the only idea supposed to be susceptible to such treatment. In VI and VII we are introduced to the plan of deduction from a given true idea, which, in view of Spinoza's acceptance of the ontological argument, one would expect to be the idea of God. But there is a gradual slide to the programme of surveying ideas in turn, with a view to eliminating 'false, feigned, and

doubtful ideas' (VIII.50) on the basis of a consideration of their internal characteristics. And this venture begins most happily, for Spinoza reminds us that there is many an entity 'whose nature implies a contradiction if it exists' (VIII.53). Thus Spinoza is well aware that we can declare that some ideas are not instantiated on the ground that the ideas in question are self-contradictory. Furthermore, as he indicates in the same passage, he countenances additional impossibilities which are not self-contradictions. We shall discuss this standpoint later in the chapter. Now we are concerned with the fact that to 'impossible idea' Spinoza opposes 'necessary idea', defining the latter as the idea of a thing 'whose nature implies a contradiction if it does not exist'. Normally one would distinguish impossible ideas, such as 'round square', and possible ideas, such as 'large square', but a category of necessary ideas would not normally be distinguished. One might suggest 'square or not square', but one could not say a priori that there is something square or not square. All one can say is that either squares exist or they do not. If one had to suggest another candidate for description as a 'necessary idea', one might choose 'square square'. But of course one would not be entitled to conclude a priori that there are square squares - there might be no squares. The same goes for 'existent God', where 'existent' is a

conjunctive constituent of the definition of 'God'. (We shall examine Spinoza's versions of the ontological argument later.) Thus, for any (just) plausible candidate for the description 'necessary idea', Spinoza's definition in terms of necessary existence is unsatisfactory. One cannot assume that, because there are ideas whose instantiation can be denied a priori, there are also ideas whose instantiation can be affirmed a priori.

At VIII.53/4 Spinoza asserts that once one sees the necessity or impossibility of something one can 'feign nothing concerning it' (VIII.53). This is a plausible claim, which often is overlooked because of obsession with the possibility of doubting a necessary truth in general (i.e. including the case where the necessity has not been appreciated by the thinker). Aristotle mentions philosophers who have affirmed contradictions recognized as such, but contradictoriness is not the same as impossibility. Even those who believe these to be co-extensive should acknowledge this. Certainly it is more plausible to say that seeing a truth as necessary is the same as being unable to feign its falsehood, (on account of some property of the truth), than it is to say that seeing a truth as analytic is the same as being unable to feign its falsehood, (on account of the analyticity). Being unable to feign the contradictory seems common to logical and psychological necessity, whilst the former kind of

necessity seems to be characterized by the psychological compulsions's being founded on certain objective features of the truth in question. As we become more aware of these features, no doubt we increasingly predicate logical necessity of a truth without worrying about actual occurrence of an associated psychological compulsion, and in that case 'necessary' comes to mean e.g. 'analytic'. Analyticity is no more logical necessity, in the original sense of 'logical necessity', than past constant conjunction is physical necessity, in the original sense of 'physical necessity'. However one should not lightly be satisfied with an account of logical necessity in terms of psychological compulsion plus objective internal properties of the truth in question. For on this account the necessity itself does after all remain purely psychological. To avoid this one has to make the necessity underlying the truths we call 'necessary' an objective feature of the world, of which the statements in question are true. We do not discuss the merits of such a move at this point. Here we wish merely to point out that, foolish though it would be, feigning would then once again be compatible with acknowledgment of necessity (or impossibility), so that Spinoza's treatment would be defective on this score.

Even if we accepted Spinoza's claim, we should not thereby be committed to the view that we could not be

mistaken about truths asserting that something was impossible or necessary. Spinoza does not make the mistake of saying that we should be so committed; but he does slide into the still less pardonable error of inferring, quite wrongly, that we cannot fall into error over any necessary truth (VIII.54). In effect Spinoza confuses

(a) If necessity is perceived, feigning is impossible.

and (b) If a truth is necessary, feigning is impossible.

One might argue that if one really does grasp a necessary truth, then one ipso facto sees that it is necessary. Some philosophers indeed make it a necessary condition of the applicability of 'grasps the necessary truth' that the necessity is appreciated by the person concerned. But there is every reason to suppose that 'grasps the necessary truth' can viably be as free of this restriction as 'grasps the truth', for the necessity of a truth is distinct from, though related to, the meaning of the sentence expressing it. There does not appear to be any sound reason for insisting that a person could not be blind to the necessity of truths which he contemplated or employed with complete understanding. All in all Spinoza goes too far in trying to make out that there are large areas where we

cannot possibly be mistaken.

Next, at VIII.55, we find one of the typical rationalistic movements of thought:

> "the more in detail a thing is conceived, the more clearly it is understood, and the more difficult it is to ascribe it, through want of attention to the order of nature, to any other thing than itself".

similar is VIII.58:

> "the less men know of nature, the more easily they can feign things; just as that trees speak, that men are turned in a moment into stones, that ghosts appear in mirrors, that of nothing something is made, that the Gods themselves are changed into men and beasts, and infinite other things of this kind".

The first of these two passages manifestly conflates conceiving and predicating. It wrongly implies that our mistakes about nature consist in regarding a thing as other than itself. Both passages, given the context of the programme under discussion, overlook that sense-experience is the only means we have of deciding w h i c h complex ideas to form and w h e r e to apply them to the world. Even when we have formed an adequate stock of complex ideas, we should not have any difficulty in

feigning that the world might not have been as it is. If we abandon our present concepts in favour of richer ones, so that e.g. 'tree' is defined with absence of speech as a conjunctive constituent of the concept, we shall still be able to say 'Where there are trees there might have been slightly different plants, with the faculty of speech' or ' What we call trees might have been able to speak'. However one might envisage conceptual modifications which made even these sentences express self-contradictions. Then indeed we could not feign unless we contradicted ourselves or created new concepts. Thus far Spinoza is justified in saying that we should find feigning difficult. But that is not so if we are able to refer directly to the de facto objective correlates of our talking and thinking; though this invaluable institution could also be made to disappear. (c.f. our earlier remarks on the reference of necessary truths)

At VIII.60 Spinoza suggests that we should be God-like if we could create 'ideas which do not belong to anything'. Now it is a fact that we cannot imagine a colour not found in the spectrum - or, at least, we may grant that this is nearly the case - and so on for other simple ideas. But it is even more incontrovertible that we can form complex ideas not instantiated anywhere. And even if we could not do this, there would remain the

little matter of applying the ideas correctly. Clearly Spinoza is trying to prove too much at this point. Indeed at VIII.61 he goes on to talk of making deductions from fictions (so that he concedes that there are fictititious ideas.)

At VIII.62 we read:

> "In no wise, therefore, must we fear to feign anything, provided that we only perceive the thing clearly and distinctly."

Insofar as we do feign,

> "no attention has been paid to the nature of subject and predicate".

Here again concepts are confused with objective essences in re, or else an ill-founded unrealistic assumption of harmony is made. To some extent Spinoza is simply making the point that we need a clear grasp of meanings if we are to avoid contradicting ourselves and succeed in constructing necessary truths. But these matters are confused with the issue of a methodology for avoiding error in our general knowledge of nature. By VIII.64 Spinoza has concluded that fiction cannot be simple, as there is no room for confusion in respect of simple ideas. But of course we can both contradict ourselves while using simple concepts and also misapply them, even though, as a matter of psychological fact, we can barely have uninstantiated simple ideas. Furthermore at this point

Spinoza is writing as if complete clarity of a complex idea would reveal it as self-contradictory if it were fictitious. (c.f. the first of the two quotations with which we are now dealing.) Yet as a rule Spinoza acknowledges that this is not so. Once again he is imagining that the mind penetrates the total nature of the correlated objects when it clarifies an idea. If the idea of an object does comprehend all the properties of the object, then any erroneous predication will be self-contradictory. But, apart from anything else, ideas do not comprehend all the properties of their instances, even in a confused way.

At the end of VIII.64 we find an example of the rationalist's disease of enthusiastically over-generalizing and misconstruing a valid point in such a way that rationalism begins to seem feasible. Spinoza has noticed that insofar as a thing is square it cannot be circular. But he moves this example to the falsehood that whenever we can combine simple ideas clearly, i.e. without contradiction, the resulting idea will be true. In so moving he is erring in several ways already mentioned, and also by overlooking the variety of functions of simple ideas that one may encounter. For instance, one could have a complex idea of something which had some square and some round components.

At VIII.65 we have a vague admission that reason

alone cannot reveal to us all truths:

> "where the thing is clearly conceived we see that if that thing which is clearly conceived, and also its existence, be in itself an eternal truth, we can feign nothing concerning such a thing; but if the existence of the thing conceived be not an eternal truth, we must only take care that its existence be compared with its essence, and that attention is paid at the same time to the order of nature".

This passage leaves unclear which truths are to be reckoned as eternal truths; and it also suggests that the eternal truths can constitute important knowledge, a view which is rendered more plausible by the doctrine that existence can be known a priori. (This view we shall soon be discussing.)

At IX.69/70 we are back to more extravagant claims:

> "there is something real in ideas where-with the true are distinguished from the false".(IX.70)

This conclusion, towards which Spinoza continually steers, is here drawn as a result of extraordinary reasoning in the preceding section:

> "For if some workman conceive a building properly, although this building has never existed, nor ever will exist, the thought will be true and will be the same whether the building exists or not.." (IX.69)

Here correspondence of a thought with reality is confused with the correspondence of a thought with itself. This confusion is no doubt due to a chronic insensitivity to the intensional use of language, which results in an inability on Spinoza's part to distinguish between thoughts and their objective correlates, if any. Taken seriously, this line of thought leads to a drastic idealism, according to which thought creates its own objects. It is in this light that one needs to consider the following passage at IX.71:

> "if we suppose that the understanding has perceived some new being which has never existed,... and from this perception to have deduced correctly other perceptions, all those thoughts would be true, and determined by no external object, but would depend on the power and nature of the intellect alone."

(c.f. XV.107 which says that to get rules for finding definitions we need 'a knowledge of nature' or 'a definition of the understanding and it powers'. We cannot accept that this idealism is well-founded; and it is not clear that Spinoza is consistently an idealist. Given his capacity for confusion one need not expect to be able to make consistent sense of everything he writes.

As long as one admits that one can think and perceive with the senses at the same time, moreover, there remains the possibility of erroneous but non-contradictory thought, even granted idealism, for one could have a thought about what one was perceiving. Spinoza, on the other hand, tends to drift into the strictly Platonist attitude of regarding the realm of thought as answerable only unto itself. We need say no more on this subject now.

At XIV.102 Spinoza says:

> "there seems to be no small difficulty to surmount in order that we may arrive at the knowledge of the individual things, for to conceive all things simultaneously is a thing far beyond the power of human understanding".

He goes on to hint, by alluding to the senses, that rationalism will not provide knowledge of individuals (apart from God and the attributes, one may take it). As previous quotations have shown, this is a view to which Spinoza frequently tends. It is a reasonable tendency, but it is disastrously vague, not effectively checking rationalism. As the passage just quoted shows, Spinoza inclines to the belief that the difficulty of rationalistic knowledge of individuals is simply a matter of the difficulty of conceiving them all. The real difficulties, which would undermine the whole of rationalism if exposed,

are thus avoided; and the palpable practical failure of rationalism is faultily diagnosed. Furthermore there is an error in implying that necessary truths do not treat of individuals - we have already noted how they do so. The real difficulty is that we cannot a priori discover what exists and which hypotheticals have relevance to the actual world.

We have already discussed VIII.53, but the passage requires further consideration in a different connection. In that passage he defines the possible as something

> "whose existence, that is, its nature, does not imply a contradiction whether it exists or does not, but the necessity or impossibility of whose existence depends on causes unknown to us, while we feign its existence".

Thus Spinoza is inclined to adopt the view that all a priori knowable necessary connections are analytic, identical and that there are other necessary connections which, in practice, are only empirically discoverable. (It will be recalled that impossibility is defined with 'implies a contradiction'.) But once more we are here dealing only with a tendency in Spinoza. A letter to von Tschirnhaus (365) is quite revealing. Spinoza tentatively and casually concedes that 'only one thing' follows from a definition of a simple thing or thing of

reason. Allowing for distortions arising from an embracing of the unfortunate containment theory, we may say that Spinoza concedes provisionally that certain inferences are analytic or tautologously transformational. But he says that this is not so if the definition is of a real thing.

> "For from the mere fact that I define God as a Being to whose essence belongs existence I infer several of His properties, namely that He exists necessarily, that He is unique, immutable, infinite, etc." (365)

It now seems clear that this exception is made in the case of real things only because the nature of the thing is somehow supposed to enter wholly into the definition itself - in the ways we have already noted. For why should not simple things be the subjects of synthetic necessary connections? Only because Spinoza is half importing the full nature of the object into its definition (in connection with 'real things'), in order to achieve the appearance of a synthetic necessary connection, by being ambivalent on the issue of whether what is thought is analytic. There are no complexities to import in the case of simple things, so that the illusion is not possible with them. Fundamentally Spinoza senses a necessity only where there is a partial or whole

identity of antecedent and consequent. He does not notice that the most plausible candidates for the title of genuinely synthetic connection occur precisely in connection with qualities traditionally regarded as simple, such as colours.

On account of the abundance of vacillations and confusions, then, it is objectionable to suggest that Spinoza sought to justify rationalism by a wholehearted insistence that we can have a priori knowledge of synthetic necessary connections. Such an avowal is more characteristic of recent rationalism, e.g. the thought of Ewing and Blanshard. If one believes in synthetic necessary connections, one is certainly believing something which would help to justify rationalism. How far the belief would be halpful depends on the nature and extent of the synthetic necessary connections believed in. It is not common to claim insight into a necessary connection between a concept and its being instantiated. Yet unless this is claimed full-blooded rationalism could not possibly be justified. For experience would otherwise be needed to attain a starting-point for deduction, or to show which synthetic necessary hypotheticals were relevant to the actual world. To obviate these difficulties one must hold that it is possible to gain insight into a synthetic necessary connection between a concept and its being instantiated - in the actual world. (Once one had

established the instantiation of one concept, e.g. the idea of God, one might proceed to infer, analytically - from a rich concept - or, synthetically, further interesting conclusions.)

Clearly we should next examine Spinoza's versions of the ontological argument. These are given underneath Proposition XI of 'Ethics' I, which is Spinoza's version of the conclusion of the ontological argument and which reads as follows:

> "God or a substance consisting of infinite attributes, each of which expresses eternal and infinite essence, necessarily exists".

We can note forthwith that Spinoza here neglects to specify the identity of the God supposed to be proved to exist with the God held to be known to us in other ways. But this difficulty is taken care of, in Spinoza's case, by his identification of God with a l l that is. However the difficulty emerges anew when the partial features of God are deduced: it is not a priori clear whether knowledge of these will be knowledge of states of affairs in the world as empirically revealed to us. For example, we wish to gain further insight into the emotions with which we are already fleetingly acquainted, and it is not guaranteed that any conclusions we actually draw from the existence of God will apply to these so-called emotions rather than to others hidden from us.

The first of Spinoza's proofs argues that if God did not exist then His essence would not involve existence, which is absurd. It is clear that this argument does not involve the assertion of synthetic necessary connection between being the concept of God and being instantiated, but, rather, commits the usual confusion of hypothetical and categorical-existential interpretations of the sentences about God which are under consideration. So the usual criticisms apply, though their force is not quite as readily appreciated when, instead of the claim that 'God exists' is necessary, we are presented with the claim that 'God does not exist' is impossible. 'God does not exist' is obviously not self-contradictory if it means the same as 'The concept of (an existing) God applies to nothing', which is generally what is meant. To think otherwise would be to fail to see that 'of (an existing) God' is used intensionally, to give the concept; which it is not self-contradictory to deny to be instantiated. But other interpretations of 'God does not exist' are possible, and these need to be examined. 'Insofar as anything is an existent God, it is non-existent' is indeed self-contradictory, but its denial does not entail the categorical assertion that God exists, so that such an interpretation does not serve Spinoza's end. Finally, if 'God does not exist' is categorical and purports to treat (ext.) of God - i.e. if there is a

commitment to God's existence - then again we have a contradiction, for God is said both to exist and not to exist. But the denial of this contradiction is 'It is not the case that God exists and does not exist', which is far from being the categorical 'God exists'. (Spinoza overlooks the fact that the existential commitment, which is brought in to create a contradiction in the denial of existence, has to be whisked away again, illegitimately, to make the denial of the denial entail the required categorical statement that God exists. In this he is deceived by the fact that the sentences are not naturally interpreted in the way required - required, that is, by the ontological argument itself.)

We have seen, then, that Spinoza's first attempt to prove Proposition XI of 'Ethics' I does not really invoke synthetic necessary connections, but on the contrary tries to rely on analyticities and self-contradictions. Otherwise the proof would have read somewhat differently claiming that we can apprehend a synthetic necessary connection between a given concept and its being instantiated. The premise would have been that the idea of God exists, and it would have been claimed as synthetically necessary that if this concept exists then so does God. Unfortunately (as Locke noted) our power to

apprehend synthetic necessary connections is even prima facie rather severely limited. It must be emphasized that Spinoza himself really does not claim to apprehend necessary connections until he is conceiving identities, there being a transition to more significant claims through a process of confusion. These significant and not logically necessary claims accordingly take on an aura of logical necessity, and so an air of synthetic logical necessity is born. But let us once again remember Spinoza's claim at 'Treatise on the Correction of the Understanding' VIII.53, where he remarks, in effect, that all a priori known necessity is known simply by application of the principle of contradiction to a statement. Spinoza thus seems, on the whole, to believe that, however alike they may be in themselves, analytic and synthetic necessary connections differ in respect of their knowability. And unknown connections are useless when it comes to carrying out the rationalist's programme in practice. Of course nothing is clearer than our failure to find any reliable procedure of apprehending synthetic necessary connections, except perhaps in certain restricted areas, such as the exclusion of one colour by another (see elsewhere). In fact, although some rationalists invoke synthetic necessary connections, it would be no less hopeless to invoke direct intuition of the necessary existence of

certain objects or states of affairs. But if philosophy proceeded in proclamations of the form 'I apprehend that it is necessary that...', this would not be reasoning, and the name 'Rationalism' would no longer be appropriate to the activity.

Immediately after the proof we have just discussed, Spinoza offers two additional proofs for Proposition XI of 'Ethics' I. The key to the first of these is its claim

> "that that must of necessity exist concerning which no reason or cause is granted which could prevent its existence".

This is an eminently dubitable principle. Apart from all else, we receive no guidance as to w h i c h concept of God it would show to be instantiated; certainly we cannot admit that all possible concepts of God are instantiated, for this would involve contradictions. Clearly one could raise such an objection against any form of the ontological argument, and there is no more palpable sign that the argument is radically unsatisfactory. The proponents of the ontological argument rely on our failing to notice other possible definitions of God besides their own favourite one. The last of Spinoza's versions of the ontological argument provides yet another illustration of the disastrousness of insensitivity to the intensional use of language. The sentence containing the mistake reads as follows:

> "If then that which now necessarily exists consists only of finite things, hence finite things are more powerful than a being absolutely infinite; and this, as is self-evident, is absurd."

One might just as well try to prove the existence of unicorns by alleging that, if unicorns did not exist, we should be landed with the absurdity of mice more powerful than unicorns. The sense in which we might admit that God is more powerful than finite creatures is the sense of these words in which we are talking of ideas. There is no absurdity, either, in holding that only finite things exist, and that these are therefore the most powerful things that there are, though they are not as powerful as God w o u l d be if he existed.

Proposition XXIV of 'Ethics' I asserts that

> "The essence of things produced by God does not involve existence".

By way of proof, Spinoza offers the following remarks:

> "This is clear from Def.I. For that whose nature (considered in itself) involves existence is its own cause, and exists merely by the necessity of its own nature."

It is worth while to expose the difficulties that underlie these claims. Spinoza does not wish to distinguish causal and logical necessitation. Yet there is a sense in which they must be distinguished, even if we grant

that the necessitation itself is the same in both cases. We must at least distinguish the necessitation which holds between (perhaps partial) identicals (in the numerical sense) and other necessitation. We may regard existence as part of the essence of anything which exists - not just of God - and the existence of external causes is irrelevant to this matter. One could only argue as Spinoza wishes if the two kinds of necessitation could not affect the same entities simultaneously - yet of course they can. One can appreciate why Spinoza desires the conclusion that existence is not part of the essence of things produced by God. He thinks that everything but God falls into this class, and, as his procedure involves confusing essences in re and concepts (or essences ante rem), consistency in this would require him to advance an ontological argument for the existence of unicorns.

It is perhaps worth noting that, at 'Treatise on the Correction of the Understanding' VIII,54, Spinoza gives an example which militates against the usual attempt to refute the ontological argument by means of the slogan, "'Exist' is not a predicate." Assuming that 'non-existent' is a conjunctive constituent of the definition of 'chimera': we do not wish to describe the concept c h i m e r a as incoherent; so why should we prohibit defining 'God' in terms of existence? And is not 'Chimeras exist' self-contradictory?

Let us now turn to another matter. It is noticeable that some of Spinoza's turns of phrase smack of psychologism. As an example we may take Axiom VII of 'Ethics' I:

"The essence of that which can be concenived as not existing does not involve existence."

One may drift into psychologism in one's formulations if one fails to notice the ambiguity of sentences of such forms as 'One must conceive of so-and-so in such-and-such a way'. One can conceive bachelors as married in the sense that one can predicate marriage of bachelors, but this does not entail that one can form the concept of a married bachelor (though one can), and nor does it entail that one can form the concept of bachelor without having the concept of being unmarried as one of its conjunctive constituents. This third really is logically impossible. Our point is that the same words may be used to make this correct claim as are used to formulate psychologism.

However, a deeper isore remains. A thinker in the platonist sense may find it psychologically impossible to think a contradiction or to form a contradictory concept. This will be so if he thinks in 'copying' images. It will be like trying to draw a frog that is not a frog. It is logically impossible to insert a feature into a mental picture and omit it at the same time; but one

cannot say that it is logically impossible to think contradictorily in the platonist sense, for not all such thinking is of the 'copying' cariety. It should additionally be noted that if one is idealist enough to identify the world with one's thought-contents, and furthermore does this in the case of those which are not 'copies' (though in conformity with platonism), then one is driven to the conclusion that contradictory states of affairs may exist. No doubt such idealists - e.g. Plato- thought in terms of a copy theory in this connection. But this theory is not fully adequate, so that Platonism is subject to a highly destructive criticism, apart from those adduced in ch.2.

XII

THE PHENOMENOLOGISTS AND INTUITION

The present chapter will be concerned with evaluating the contributions of the Phenomenological Movement on the subject of logical necessity. In the present chapter we shall focus attention on Husserl, and in the following one we shall deal with other phenomenologists. We begin with Husserl's attack on psychologism in LU, Part I.

As Husserl sees it (52) the argument for psychologism is simply that logic talks constantly of judgments, inferences, concepts, etc., which are psychological matters. To the upholder of psychologism it seems just a matter of common sense that if a discipline deals with psychological entities then it is psychology. Actually there is no need to grant to the psychologist, as we shall here call the upholder of psychologism, that all logic deals with judgments, inferences or concepts in any sense. We can systematically eliminate such references, as e.g. in the following series:

(1) 'From the judgment that p one may infer the judgment that (pvq).'

(2) 'If the judgment that p is true, then the judgment that (pvq) is true.'

(3) 'If it is the case that p, then it is the case that (pvq)'.

In case (3) it is envisaged that 'p' and 'pvq' range over

states of affairs, not judgments (statements). In short there is no need for logic to specify states of affairs indirectly via judgments about them; in logic as elsewhere one can effectively replace 'it is true that p' by 'p'. Thus not only can there be necessary truths not about judgments, inferences, concepts, etc., but about anything whatever; furthermore logic itself need not have a character which invites psychologism.

Husserl alludes (53) to the prevalent retort to psychologism, which was that it is the analogue of taking morals from life. Husserl comments (54) that the psychologist could retort that thinking as it should be is just a special case of thinking, and therefore a part of psychology, The psychologist we add could reinforce his position by saying (correctly) that the 'ought' of rationality is not a moral 'ought' but is purely descriptive - one can use the 'ought' of rationality without prescribing any form of rationality without prescribing any form of rationality. It can be construed as indicating how to speak truly and avoid falsehood. For in this area there are in practice no competing norms, and we are content to 'naturalise' 'ought'. Not because we all always want to be rational, but because we are agreed on the norm to which we wish to have discourse compared. We find it convenient to

let 'One may not say "p.-p"' mean 'Any person saying "p.-p" says something which conflicts with a true law of logic'. Husserl says that it is useless to accuse psychologism of circularity (57):

> "since logic, as a science, must itself employ logical methods, it would fall victim to the same circularity". (c.f. also 166/7.)

Husserl thinks that the general problem of circularity can be overcome by saying (58) that logic presupposes itself as a norm, not as premises. Yet Husserl himself writes (49) that

> "Every normative discipline requires the knowledge of certain non-normative truths".

Either logic is arbitrarily set up as a norm of truth and falsehood or the correctness of the norms is deduced (which is circular) or we appeal to self-evidence or some non-deductive (and hence not logically certain) justification of them is produced. (This is a matter to which we shall return later.)

Next Husserl reviews the prima facie differences between logic and psychology. Psychology has inexact or at least merely inductive laws, whereas logic embodies insights into strict and necessary validity (61-3); causal laws are different from logical ones (64-9); psychological but not logical laws imply the existence of mental facts (actually this may be only a background

presupposition, one should say)'(69); psychological and logical laws differ in formulation (70); abstraction from particular cases is different in kind in the two disciplines (74-6); there would be the absurdity that logical laws of truth would arise and pass away in accordance with those laws, if psychologism were true(77). Next (79/80) comes a misguided criticism of Mill.Husserl springs on him for saying ('A System of Logic', 2, 7, 4) that the principle of contradiction is a genalization from such empirical facts as that light excludes darkness. Husserl protests that the law of non-contradiction does not speak of 'exclusion'; but that is only a verbal point: one could reasonably say that Mill was talking of the fact that light never occurs in the absence of light. As psychologism would presumably identify logical and psychological impossibility, Husserl dwells (80-103) on the fact that we do sometimes have contradictory beliefs. But Husserl cannot justly (165/6) accuse psychologism of erring by taking "that which unifies and applies to all science to be a sub-section of science"; it is obvious that on any view logic must be seen as one discipline among many. As to the charge (105/82-7) that psychologists fail to differentiate blind conviction and self-evidence - that is a matter which will occupy us increasingly in the remainder of our investigation, the present chapter included.

Our first - one could say the - major criticism of Husserl is directed against the inference which he makes from his protracted analysis of psychologism in LU.I. Husserl concludes (LU.I. 168/9) that logic does not deal with psychological phenomena but with "the ideal". He thus accepts the psychologist's claim that if logic dealt with psychological phenomena then it would collapse into the science of psychology. As we saw, he began by introducing the argument for psychologism without criticizing its validity. Husserl is thus bound to excape psychologism by taking the typically Platonist step of declaring that logical truths deal with a special kind of object. In fact, of course, one should resist both the pschychologist's inference and Husserl's Platonist step. Different disciplines can study the same objects (compare geographical and geological interest in rocks); and Platonism is, as we saw in ch.2, an unsatisfactory theory. For reasons already mentioned in the present chapter, it is wrong to say that logic treats only of psychological entities; but it is wrong to say that it does not deal with them at all. Logic is distinguished by what it says about psychological entities - and then of course there is that aura of necessity which characterizes logical as opposed to psychological truths.

It would not be to the point to deny that logic treats of psychological entities on the ground that it

treats of sentences or statements. A sentence comes to express a true or false statement only in virtue of factors which are, in a broad sense, psychological (psychical, neural or behavioural). Marks in themselves have no truth-value and do not express any kind of fact. Indeed once psychologism is divested of its fundamentally in-essential association with introspective psychology, there does not seem to be much difference between it and some forms of conventionalism. As Chisholm ('Theory of Knowledge') points out (82), conventionalism does little more than replace the psychologist's talk of thought by talk of language; to the alleged impossibility of thinking a contradiction corresponds the alleged meaninglessness of contradictory statements, and so forth. However Chisholm goes too far in suggesting that the only difference between psychologism and conventionalism (82/3) is that conventionalists tend to dabble in such obscure phrases as 'true in virtue of meanings'. For where the conventionalist talks of arbitrary rules the psychologist talks of fixed laws of the human mind.

Husserl admits at the end that the psychologist will simply deny that laws of logic differ from psychological laws. Thus the controversy suffers from the same inconclusiveness as the standard quarrels over conventionalism. In both cases the way to break the deadlock and reach the truth is to stop prodding at

necessary truths in an attempt to make them reveal their true character and to show how one can construct different kinds of statement, show which ones are required and relied on in inference, and so forth (c.f. ch.6, section C where we go through the necessary procedures in connection with conventionalism). If one does not adopt the radical approach, the mistaken theorist just accepts all the paradoxes one puts before him as revelations of the true character of necessary truths. One needs to force him to distinguish two different kinds of statement by building up each afresh, so that it is quite clear what the resultant kinds of statement are like. Having been faced with a clear distinction, the mistaken theorist will be less likely to give a mistaken account of what we call necessary truths. He will see them with fresh eyes and be able to distinguish them from other things. Thus we have to show the psychologist how we can make statements to the effect that one judgment is true whenever another is, and so on, and that these statements about judgments are different from statements to the effect that we cannot help making such-and-such a judgment when we have judged that so-and-so, etc. For good measure, we can remind the psychologist of how we can refer to states of affairs directly instead of talking of the truth-values of judgments. Then we show the

psychologist the relevance to inference of one set of statements and the irrelevance of another set, and he will see that everything points to the fact that what we call necessary truths are identical with the first set, whilst he has been confusing them with statements in the second set. Having performed the analogous tasks in connection with Platonism (ch.2) and conventionalism (ch.3), we do not need to go into details in connection with psychologism, since all the moves are tediously obvious now. Let us return to our examination of LU.

Husserl ends LU.I (182ff.) by accusing the psychologist of confusing ideal evidence, ideal possibility, etc. with psychological evidence, psychological possibility, etc. This is a satisfactory enough observation if 'deal' is interpreted as 'logical'. But Husserl (189/90) says that ideal evidence contrasts with psychological evidence by being essential to the ideas contemplated, not an extrinsic feeling. Thus is heralded the claim that when I see that it is logically necessary that p I intuit a necessitation, and do not merely feel confidence in my belief that it is logically necessary that p. But it would scarcely be an improvement on psychologism to hold that what one intuits is a necessitation of one part of a momentary thought by another located in an individual mind. Let us see how

well Husserl can overcome the Platonist's and Aristotelian's eternal dilemma in trying to reconcile the conflicting demands for intuitive evidence of necessitations and preserving the relevance of necessary truths to the world in general (c.f. chs. 2 and 3). (From now on references to LU are to pages of Part II.)

From the days of his very first publication, Husserl was aware that a 'simply copying' theory of thinking is not true. This realization finds its expression in the early pages of LU.II.

> "judgments belonging to the higher intellectual sphere cannot be made without linguistic expression."(5.)

We may leave aside the tendency of those philosophers who are obsessed with the given to fasten on words as the vehicles of thoughts once there are no psychical entities left to take on the rôle. The main point is that the admission that simple platonism is false obviously makes the embracing of Platonism all the more difficult, if one has Husserl's requirement that knowledge of necessary relations among universals be intuitively self-evident. Psychical experiences, concedes Husserl (5), may not give the meaning of a term but are sometimes only the

> "m e a n i n g - f u l f i l m e n t (in the latter respect as illustratory or evident-making

intuition)".

Thus we find talk of (6)

"the logical in its subjective realization"

Yet we are said to (6)

"grasp the pure law insightfully, and recognize that it is grounded in pure forms of thought".

Thus Husserl - quite rightly - throws away the advantages which postulation of universals seems to have; but then the question arises of what point there is in postulating them at all if they themselves are no more given in thought than the necessary facts which necessary truths actually treat of. Husserl, and other Platonists, like the psychologists, simply overlook that e.g. 'If p, then q' says that if it is true that p then it is t r u e that q; so that it simply does not occur to them to tie the truth of necessary truths to the world in general. That is one of the origins of the universal as an entity that floats mid way between thought and fact - the theory of universals reflects a failure to take seriously the claim of a necessary truth that when A is t r u e C is t r u e (or when S a p p l i e s P a p p l i e s). It is this failure to notice that this 't r u e' ('a p p l i e s') asserts a relationship of the constituents of the necessary truth to the ordinary empirical world that makes Platonism continue to seem

reasonable when its genuine (if insecure) advantages have been thrown away. Now how can Husserl say we "grasp the pure law unsightfully" (6) if (6/7)

> "the evidence attaches to the actually activated word-meanings"?

Is this not to go back to the view, rejected at the end of LU.I, that we have a feeling of necessity which cannot be identified with an objective necessitation? We are told (7) that phenomenology is needed to

> "make the logical ideas, the concepts and laws, epistemologically clear and distinct".

Logical concepts must be abstracted from intuition and thereby (7)

> "be confirmed again and again... We want to trace everything back to the 'things themselves'."

and will not be content with mere verbal understanding. It may look as if Husserl is saying that in phenomenology we genuinely intuit universals, so that only ordinarily would we have to be content with pseudo-self-evidence. But he talks of abstraction from intuition (c.f. the above quotations), which is not the phrase one would choose for genuine intuition of universals. What he actually has in mind will emerge presently.

Later in LU.II.(63ff.) Husserl says there can be

meaning, etc. without images. This is correct if 'images' is reserved for cases of crude copying. But (71-2) he says that images are needed to make clear and differentiate meanings which tend to "run into one another". But this could only make sense if there is another determinant of meaning apart from any intensional act. Just before (68-70), Husserl says that arithmetical signs have "game meaning" like chessmen. This shows that, in a confused way, Husserl is on the scent of the fact that one has to recognize either neural or behavioural factors in connection with some meaning. Then images will be "fulfilments" of meaning in this sense as well as of meaning determined by non-copying intensional acts. - It cannot be said that the meanings of non-copying intensional acts "run into one another" unless there is some ulterior factor determining meaning, by comparison with which the intensional acts can be said to be inadequate in performing the task. Such realizations obviously shoot further holes in Platonism as well as platonism. For it emerges that, in the case of many statements, we never do make intuitive contact with the actual contentor with what we feel constrained to regard as the actual content, when we notice that what we count as verifying and falsifying the statement is not properly determined by the psychical content in these cases. So far, then, Husserl has not

only been unable to overcome the difficulties of Platonism - he has come up against the difficulties of embracing the doctrine to begin with; since in many areas of discourse it seems impossible to say with any plausibility that the requisite Platonic ideas - one doing justice to the real meaning of what we say - are revealed to us, even if we practise phenomenology.

In LU.II Husserl talks of "eidetic, generalizing abstraction" (221) rather than phenomenological reduction. He says (221) that he does not mean concentration on one individual aspect rather than another. Thus what he means is that we take an image and either leap from it to a non-copying intensional act or else regard the image as a model for all things of its kind. He insists that in such acts of abstraction "the universal is itself given to us" (634). We are not concerned at the moment with the usual objections to Platonism, but rather with the status of the admission which Husserl makes immediately afterwards that it would be absurd to say such a thing in connection with the mental model of a steam-engine (635/6). The point is that we could use such a mental model to determine a set of objects, but the mental model would be inadequate to the meaning of 'steam-engine' which is non-psychically determined. How, then, on Husserl's theory, could we verify necessary statements about steam-

engines, in a sense of 'steam-engines' to which no intensional act is ever adequate?

Husserl says (579) that "in individual empirical cases" we try to unite different contents into one image and fail, but that actual failure - perhaps through lack of strength of mind - does not prove necessary failure in any case. Now Husserl cannot wish to say that the position would be any different for universals. Rather he has to say that we intuit the necessitation. But as we can think impossible propositions, why does he not say that we are acquainted with logically impossible states of affairs? Whatever abstraction or phenomenological reduction may be taken to be, it is quite clear that it can be applied to impossible thoughts just as well as to any others. If certain mental operations can carry me from mere subjective failures of thought to objective necessities, then equally they can carry me to objective impossibilities. That is the consequence of non-copying Platonism (c.f. ch.11). And Husserl does explicitly (599) identify self-evidence with mere givenness to the mind (of the state of affairs in question). Thus, contrary to the usual objection, 'self-evidence' not only does not really guarantee necessary truth; on Platonism, the only theory which makes talk of self-evidence seem unproblematic and acceptable and intelligible, one is led into saying

that impossibilities self-evidently obtain! (At 594 Husserl says that self-evidence is "complete agreement of the meant and the given".)

In LU.II Husserl embraces a Bolzano-Frege type definition of 'analytic'; we need not criticize that further. Nor need we repeat our criticisms of the view (671/2) that

> "Laws which do not mean any matter of fact, cannot be confirmed or refuted by any matter of fact".

Nor can Husserl show that the problem of the validity of logical laws for the real is a "pseudo-problem" by saying that supposing the logically impossible is "absurd" (672). It is not meaningless, and we need to know the ground of any absurdity that there might be felt to be. This Husserl fails to reveal. It is no use his appealing to what we "see evidently" (673) - on his view we see the obtaining of impossible states of affairs! He says that it is absurd to talk of the logical possibility of the impossible (673). But, apart from anything else the sceptic about logical laws need only speak of the e p i s t e m i c possibility of logical impossibilities occurring. Nor is that the only area in which Husserl echoes Wittgenstein's mistakes. He also appeals (674) to what words mean. At best this could be pointing out certain analyticities,

which of course is no help at all when necessary truths are put in question (and one could also deny that analytic truths are necessary).

Let us now turn to the First Book of 'Ideen zu einer reinen Phaenomenologie und Phaenomenlogischen Philosophie'. There (13) Husserl stresses that generalizing abstraction can proceed from a sense-experience as well as from an image. As no word in ordinary language may be suitable for expressing the kind of essence in question, one might resort to using the word 'This', but of course not in the usual way, but rather to express the particular character of that which one incorporates into one's thought. One can compare the process to holding up an object and saying 'Things like this are...'. The mind fastens on to the content and uses it to determine a whole class of similar objects. Husserl says (14) that the abstracted essence is

"a new king of object"

relative to the particular content from which one started. This may mean either that one is using it in a new way, or that one is leaping from it to a now-copying intensional act. These are the legitimate interpretations; but Husserl's way of putting it makes it look as if we somehow make direct intuitive contact with all the objects falling under the idea which we achieve by the process of abstraction. That of course is an illusion,

and one which Husserl does not exactly embrace, since he thinks Platonistically. But in fact, of course, nothing can overcome the brute fact that in generalizing abstraction one at best contemplates a simple instance of being so-and-so. The fact that one uses it to determine a whole class of identical things does not detract from the individuality of what I actually have before me. So seeing what is necessitated in the sample before me cannot reveal to me eo ipso what is necessitated in the remaining instances. Any more than it can reveal to me any other facts about the remaining instances. Husserl overlooks this by taking refuge in Platonism. It might be said that instances must conform to what is given to the mind if they are to be instances at all. But then one would need to know a bridging necessary truth - which moreover is partly about instances, and not a universal, and so contradicts Platonism. And in any case, it is altering our ordinary meanings to say that a thing does not instantiate a concept unless it enters into the same necessary facts as some instance one is contemplating. Hence the account would not do for the statements which we actually make. Furthermore, it is being over-generous to Husserl to allow that in all cases the instances determined by the sample will be identical with the sample. Intensional acts have 'faint'

contents and, in many case, contents which are not simple copies of what falls under them. We should have a genuine qualitative identity only when the generalizing abstraction departed from a pure sense-experience, and, at that, departed from it without leaping to a non-copying intensional act. Chisholm certainly does not overcome the fundamental difficulties. In 'Theory of Knowledge' he writes that (75) we

> "come to know what it is for a thing to be blue... we are able to see that being red excludes being blue, and that this is necessarily so".

Either there is an unexplained gap between knowing what blueness is and knowing that all its instances exclude red, as well as the one we might be contemplating; or else this knowledge is supposed to be gathered when we find out what blueness and redness are, in which case the problem is shifted back to that stage. Only vague talk can more or less conceal from us that at best only facts about a single sample are given to us intuitively. The only sense in which we "get beyond" the sample is that in which we use it to determine a class.

Ritzel ('Ueber analytische Urteile Eine Studie zur Phaenomenologie des Begriffs') draws our attention (315-7) to the existence of analytic truths (of S-P form)

which have a subject-term which is not susceptible to being defined by another complex expression which is synonymous. One of his examples is 'A needle is pointed'. In practise, at least, we cannot find an expression, with 'pointed' as a conjunct, which means the same as 'needle'. Yet we can appreciate the analyticity of 'A needle is pointed'. (We assume, of course, that one so uses 'needle' that it would be incorrect to call a thing a needle unless it were pointed. Some people may not use 'needle' that way; but they could find other examples to illustrate Ritzel's point.) As our own definition of 'analytic' would lead one to expect, we can ascertain the analyticity of 'A needle is pointed' merely by noticing that any state of affairs which would make the subject-concept applicable would itself make the predicate concept applicable; we do not have to be in possession of a definition.

Pfaender ('Logik', 164 ff.) mocks those who would regard necessary truths as imperatives. As he says, such a view would turn logic textbooks into impertinences, whatever it was one said was commanded by a necessary truth. Furthermore the prescriptions which necessary truths are turned into by the command theory are frequently poor advice. Pfaender (326) points out that 'A=A', if taken to prescribe preserving the meanings one's symbols

have to begin with, would constitute a prohibition of altering a word's meaning; which is scarcely sound advice, as conceptual change is very necessary. Pfaender in fact (334) embraces ontologism, but his account is unilluminating, consisting in the dogmatic pronouncement that necessary truths are "directly evident", it being "of the essence of objects" to obey logical laws. He does not show how a fact about objects not presented to us can be "directly evident".

Pfaender claims (339) that one does not need to examine anything but the judgment in order to verify an analytic statement, but that the position is different for synthetic necessary truths. The fact is, however, that, in practise, both kinds are verified without any attention to the objects which the statements treat of. And in view of his general ontologism, how can Pfaender think there is any difference between the kinds of case when the question of a strict verification is raised? He is misled by the dangerous 'formal' - 'material' distinction.

Patočka ('La Doctrine Husserlienne de l'intuition eidetique et ses critiques récents') does nothing to overcome the fundamental difficulties, which we [redacted] pointed out in ch.12. In fact he embraces some of the least satisfactory essentialist views of the phenomenological

movement. He objects for instance (32) to a denial that every essence consists of necessarily related elements. How could we reconstruct fossil animals if the essence Horse did not consist of necessarily related elements? asks Patocka (32)! For the rest, Patočka contents himself with a sketch of the method of free variation (23), for him

> "trying to imagine things otherwise than as they usually are; one must make an effort to transform different aspects of the thing and combine all the changes the object is susceptiable of without ceasing to be itself".

The method of free variation presents us with an extension of the procedure which we adopt sometimes to see whether a sentencd expresses a necessary truth. We make an experiment in imagination. That is unproblematic when construed as a making-intuitive to ourselves of the meaning of the sentence. Or, rather, it is relatively unproblematic; for, of course, the psychical representation is often inadequate to the real meaning of the sentence, and this might lead us into error (c.f. the case of 'west of'). However it is quite a different matter to construe the method of free variation as a trouble-free method of ultimately verifying necessary truths, as opposed to discovering that a sentence expresses a truth of a kind which we take to be

necessarily true. Construed in the former way, the method fails for reasons outlined in chs. 2, 3, 11 and 12. The reason why the former and latter ways of taking the method get confused is that in making the meaning of a sentence clear to ourselves we are liable to run through a whole series of psychical representations, seeking one which would be of a counter-instance to the statement under consideration. Thus I might try to think of all the ways in which a thing can fall under the concept m a n to see whether 'Men are human' is analytic. Superficially this may seem like a series of intuitions of necessary facts, but it is obviously distinguishable once one makes the effort.

Stumpf too ('Erkenntnislehre') confesses himself unable to elucidate how we can "become aware of the universal in the individual" (177). The answer is of course that we do not do so. One can say not only that we may, in the way Husserl describes, use the individual to represent its kind; one can say also that the individual acquaints us with a kind; but one cannot say that the individual of itself reveals to us what is true of all other individuals of the kind. Stumpf cites as an additional mystery our "perception of the necessary in the contingent" (177). But this is a confusion. It is true that if no facts existed there would be no

necessary facts. It is true that 'Men are Men' is made true by men's being men and that men might not have existed. But the necessary fact is not the contingent fact; it is not co-extensive with it.

It is clear that the phenomenological movement does not help us to understand logical necessity. On the contrary, its account is vitiated at the base by its Platonism combined with its attempt to make Aristotelian intuitive induction acceptable to us. Thus our harvest in ch.12 has necessarily been a slender one.

XIII

PUTNAM, QUINE AND GRADUALISM

A - PUTNAM

Putnam's very influential 'The Analytic and the Synthetic' begins with a point which is not intimately connected with the main themes of the article. He says (360) that it is not adequate to draw the 'analytic' - 'synthetic' distinction by reference to the (alleged) fact that a person who rejects an analytic truth is said not to understand the language. The reason he gives for saying this is that the distinction could exist even if there were no such terms as 'understand' or 'analytic', so that no account may mention these words. This is so; and one might add that we should not say that denial of an analytic truth showed lack of understanding of the language expressing it in all circumstances: the truth might be too complex to be easily verified, or an acknowledgedly analytic truth might be denied for philosophical or other reasons, or out of frivolitybut this is not the place to enter at length into the relationship of analyticity and mastery of a language, for we do so at other places.

The first part of the article consists of 'preliminaries', which turn out to be somewhat dogmatic in character. They serve to sketch Putnam's position. He declares that there are no deep, philosophical synonymies of the kind required e.g. by phenomenalist philosophical analysis. Translationism is wrong: there are only trivial synonymies of the kind exemplified by 'bachelor'

and 'unmarried man' (362). At 363 it is asserted that there are no linguistic rules apart from lexicographers' ones. (But does this mean, we may ask, that all linguistic rules are already to be found in dictionaries, or that any rules still unrecorded by lexicographers are nevertheless lexicographical in character? The former is dubious; the latter is trivial in the present context, since the phenomenalist analyst could claim that he was a lexicographer more talented than those called lexicographers.) At 364 we are reminded that not all stipulations are arbitrary. At 364/5 we are told that between the analytic and the synthetic fall

(a) laws of logic

(b) laws of natural science

(c) framework principles.

As an example of (c) Putnam cites the statement that the world is over five minutes old. It is not analytic, he says (363), but on the other hand an isolated experiment cannot verify it. Abandonment of a framework principle would involve complex alterations to the body of our knowledge to preserve consistency (365). This, says Putnam (365), derives from the fact that such principles are so deeply embedded in our theories (in a broad sense). He links the fact that we have an analyticity such as 'One knows only if one has evidence' with the fact that we do not have much of a theory about knowledge and evidence (365).

Although he does not deny that there are analyticities, he agrees broadly with Quine, "... we have a conceptual system with centralities and priorities... More or less

stipulation enters, more or less systematic import. But any one of these principles might be given up, farfetched though it may seem, and perhaps without altering the meaning of the constituent words" (366). On the other hand, if a (trivial) analyticity is abandoned the words do change their meaning (366). "But the revision of a sufficient number of principles, no one of which is by itself analytic in quite the way in which 'All bachelors are unmarried' is analytic, may also add up to what we should describe as a change in the meaning of a word" (366). As in Quine, our conceptual scheme is said (366) to confront experience monolithically, with meaning inseparable from collateral information. (Thus we find in Putnam the strawsonian tendency to conflate 'a system of concepts' and 'a system of beliefs', but with some attempt to justify the strange practice.) We now have Putnam's position before us, and it remains to be seen how far his argumentation, to which we next turn, supports his claims.

Proper argument begins at 370. Putnam is impressed by the fact that Einstein revised definitions as well as synthetic statements. "It would clearly be a distortion of the situation to say that '$\text{kinetic energy} = \frac{1}{2}mv^2$' was a definition, and that Einstein merely changed the definition. The paradigm that this account suggests is somewhat as follows: 'kinetic energy', before Einstein, was a r b i t r a r i l y used to stand for '$\frac{1}{2}mv^2$'. After Einstein, 'kinetic energy' was a r b i t r a r i l y used to stand for ... This account is, of course, incorrect" (370).

Putnam fails to establish anything here. One could reply to Putnam that, if Einstein changed the meanings of the words used in physics, then he did not abandon analytic truths but merely made an alteration in which analytic truths based on the definitions, physical theory is to contain. We find new analytic truths in physical theory not because the old ones have been refuted, but because they are no longer relevant once we have framed physical theory in new concepts found only in the new analytic truths. Putnam, we saw, admits that a change of meaning occurs when an analytic statement is rightly rejected, and he has so far said nothing to disprove that that is just what was going on when Einstein revolutionized physics. True Einstein did not 'merely' change definitions: he aimed to make concepts fit their real subject-matter better than they had hitherto done. True we do not arbitrarily retain the same words after changing their meaning: the same real subject-matter (in nature) is involved. But neither of these facts need be denied by Putnam's opponents, however often they neglect them in practice, and however disastrous that neglect is from other points of view. The talk of 'arbitrariness' which goes on among upholders of the 'analytic' - 'synthetic' distinction is, insofar as it occurs, part of a mistaken account of the nature of analyticity. They wish to connect analyticity with the relationship of a word to its meaning, which is conventional. That this account of analyticity is wrong-headed is irrelevant to the question of whether there is a sharp 'analytic' - 'synthetic' distinction.

Similar remarks may be made when Putnam says at 371:

"Conventionality is not 'a lingering trait' of the statements introduced as truths by stipulation."

Ignoring the confusion of conventionality and analyticity, we may say that if a sentence ceases to express an analytic statement and comes to express a synthetic one, this does not detract from the sharpness of the distinction in the sense intended, namely that at any one time it is decidable whether a given statement is analytic (not: whether a given sentence expresses an analytic statement: though this thesis too is unaffected by Putnam's reasoning).

At 372 Putnam turns to a different example. He says that principles of geometry, too, cannot be empirically overthrown until a whole new successful conceptual scheme is at hand. Till then men cannot conceive the falsity of the prevailing geometry. That is why it seemed analytic that parallels cannot meet, he declares. Now Putnam is right in saying that sometimes before we can state the truth (economically) new concepts have to be forged. This is not always the case when we give up an error in exchange for true belief: as things are, Britons can change their minds about their rules, for instance, by substituting one well-known adjective for another in an utterance of the form 'Our politicians are ...'. But the fact that (non-analytic) statements can be dichotomized in this way does not show any more about the 'analytic' - 'synthetic' distinction than do a thousand other possibilities of dichotomizing synthetic statements. We have merely been shown a practical difficulty

in giving up some synthetic falsehoods, and even then only on the assumption that we shall not be content merely to negate the falsehood, but shall demand a positive replacement. Putnam's reference to inconceivability in connection with such statements is both over-dubious and too vague to serve his purposes. It is highly doubtful whether the absence of a positive alternative is sufficient to prevent conception of the negation of a statement; and in any case only a vague and psychological sense of 'inconceivable' is involved here. Strangely enough Putnam himself concedes (375) that:

> "There is all the difference in the world between a principle which can never be given up by a rational scientist and a principle which cannot be given up by rational scientists merely because of experiments, no matter how numerous or how consistent."

Yes, indeed, the difference is so great, as it turns out, that possession of the second of these characteristics is just not sufficient to make a statement quasi-analytic, and it is indeed totally irrelevant to the 'analytic' - 'synthetic' distinction.

If geometrical concepts are made sufficiently rich to render geometry analytic, then one may well have to give up one geometry for another on the ground that only the new one is r e l e v a n t to the actual world. In this sense analytic truths can be overthrown, and here too there may be a need to forge new concepts before a new theory is available. One could even replace an inadequate (because irrelevant) analytic theory by a synthetic theory. Putnam,

like so many others, has failed to grasp these points and has consequently become confused by the history of natural science; he does not see that the historical facts he draws attention to are compatible with a sharp 'analytic' - 'synthetic' distinction. At 375/6 Putnam says that Hume wrongly thought geometry more privileged than optics, whilst Reichenbach wrongly thought that optics was more privileged than geometry, whereas in fact both face empirical test together as equals. We shall ignore the question of Putnam's faithfulness of interpretation (that is not part of his aim). The important point is that the sense in which a (legitimately deployed) analytic theory faces experience is in respect of its relevance, not its truth, so that the mere fact of confrontation with experience does not suffice to blur the 'analytic' - 'synthetic' distinction. (Even 'Bachelors are male' faces experience for a test of its relevance - it would be replaced if the concept b a c h e l o r turned out not to be instantiated.) In the temporal sense. analytic and synthetic principles do face experience together, and also both kinds are subject to revision; but in different ways respectively. (c.f. our remarks on Leibniz.)

The depth of Putnam's confusion is sharply revealed at 375/6. He rightly says that it is anachronistic of Reichenbach to say that Hume should have appreciated that 'straight line' is defined in terms of 'light-ray'. But (376) he protests that we should not say that 'straight line' has changed its meaning over the centuries. Rather, he advocates, we should say that though in Hume's day geometry

seemed analytic, the upholders of Euclidean geometry had false beliefs about actual straight lines. The key word here is 'Rather'. Putnam regards as incompatible two 'alternatives' which are in fact compatible. Certainly the Euclideans had false beliefs about actual straight lines - that which we so call. If their geometry was ever really analytic, they will have had rich geometrical concepts, based on these beliefs, and not conforming to their subject-matter in the natural world (as it happens). Thus we should indeed say that the meanings of certain geometrical terms have changed, granted the rest of Putnam's account. Putnam seems to wish to deny change of meaning when the subject-matter in the natural world stays constant, But obviously it is the intensional sense of 'meaning' which is relevant in discussions of analyticity, so that Putnam's suggestion is harmful. Would he say that the meaning of 'witch' has not changed over the years, in the sense of 'meaning' which is relevant when it comes to deciding whether sentences containing 'witch' express analytic truths? Whether we wish to say that a change in meaning must be called a change to a new concept, or whether we do not, we must not deny that a change of meaning may have occurred! In the present case we certainly should say that 'straight line' has altered in meaning.

At 377 an allusion is made to Putnam's article in Philosophical Studies, 1957, on Three-valued Logic. He says that it is a mistake to suppose that a switch to three-valued logic involves a change of meaning of the logical words, since a core meaning is preserved and the thesis would be

trivial if any change in the use of a term constituted a a change of meaning, But it is quite clear that 'analytic' will be defined in terms of absolutely strict identity of meanings, so that Putnam's pointing to a core sense which is preserved is relevant. Nor should we confuse the trivialization of a thesis of Putnam's with a trivialization of the sharp 'analytic' - 'synthetic' distinction! The first triviality does not entail the second. However, Putnam adds a further point; he says that changing from a two-values to a three-values logic has a profound impact on which inferences one finds valid. What is this supposed to prove, though? One could hold that both the old and new logic are analytic, but that the second has come to be seen to be relevant to actual discourse in a way in which the old was not. This would suffice to account for the importance of the change, without any departure from the thesis that there is a sharp 'analytic' - 'synthetic' distinction. Once again Putnam fails to defeat his opponents, and, though he notices things they habitually miss, he himself construes them in a confused way.

At 377/8 it is reiterated yet again that Einstein's redefinitions were not just arbitrary, and at 379 we perhaps begin to learn why Putnam keeps insisting on this fact:

> "In the case of a law-cluster term such as 'energy', any one law, even a law that was felt to be definitional or stipulative in character, can be abandoned, and we feel that the identity of the concept has, in a certain respect, remained."

(A 'cluster' term is, in Putnam's work, a term whose meaning conforms to the family resemblance doctrine of Wittgenstein; a 'law-cluster' term is a cluster term defined in terms of certain scientific laws.) Now if a scientific law defining a cluster term is given up, there is no need to cease using it to define a law-cluster term, though that term will be as useless to science as 'ether' is. But presumably Putnam has it in mind that the definition of the law-cluster term is also altered. So all that Putnam is saying is that there may be a point in dropping the strict identity requirement for concepts, given that they can be complex and subject to minor modification. But the fact remains that 'analytic' is defined with the strict identity condition a n d t h e r e i s n o t h i n g i n t e l l e c t u a l l y s u s p e c t i n t h i s. It is convenient to drop the strict identity condition in the history of ideas, but inconvenient if we wish to define 'analytic'. One cannot properly condemn the 'analytic' - 'synthetic' distinction by casting doubt on the universality of the convenience of a certain convention, even when that convention is involved in defining 'analytic'. Thus when Putnam proposes (380) that we should say that 'Bachelors are unmarried men' has been abandoned, and become non-analytic, only if the meaning has changed so far that the extension of 'bachelor' has altered - then our reaction must be that this proposal rests on conventions incompatible with those needed either to state or to oppose the ordinary 'analytic' - 'synthetic' distinction. The proposal is irrelevant. Or will Putnam object that it begs the question

to postulate such a fine distinction between different meanings? One hopes not, for to do so would be to convert a misapplied progmatic suggestion into a licence for vagueness and a prohibition on laying down certain conventions, whatever one's purposes. Putnam confuses attacking the 'analytic' - 'synthetic' distinction with a misguided attempt to prevent our stating that distinction.

A new phase of Putnam's argument begins at 382. We can invent a language and rule that some of its sentences are not to be given up, he says, but do we do this in rational inquiry, and what purpose could it serve? Or, as he puts his question at 383, why should some sentences fall outside the monolith? He goes on to offer a rationale. Some strict synonymies cannot hurt, he says (383), and they facilitate intelligibility and brevity. But (384) how can we be sure that such a policy would not be mistaken, might we not be blocking the activities of an Einstein? Putnam's reply to these objections he has imagined is as follows (384): we must be sure to have strict synonymies only for words (like 'bachelor') which are not law-cluster terms. Now if a law-cluster term really is defined in terms of a cluster of laws, it neatly will be strictly synonymous with the defining formula. The reason why one will be unable to extract any single element of the defining formula and predicate it analytically of the subject specified by the law-cluster term in question - 'the reason for this is that the term satisfies the family resemblance doctrine; i.e. the reason is the same as that which makes 'cows have horns'

synthetic. The reason has nothing to do with strictness of synonymy, which is in no way detracted from. Thus unless he is to be taken to be talking nonsense, Putnam must be talking of the strictness with which we resist upsetting a (strict) synonymy. And it follows from our preceding arguments that this matter is irrelevant to the sharpness of the 'analytic' - 'synthetic' distinction: changing a definition is not the same as giving up an analytic truth, and even where one does the latter, it is recognizably different from considering a falsification to have occurred.

Possibly Putnam has fallen into the error of regarding criteria which are neither necessary nor sufficient conditions for applying a word as conditions which we h e s i t a t e to make necessary or sufficient. This would explain his erroneous linking of family resemblance and loose synonymy. But in reality the fact that possession of horns is criterial for 'cows', for example, does not consist in one's hesitating to make it a necessary or sufficient condition. We do not hesitate to make it neither; and we insist that it be criterial.

It is quite clear that Putnam shares a fundamental error with many Oxford philosophers (among others). He tends to make the Aristotelian mistake of regarding analytic truths modified by an injection of existential import as analytic. Or, as one might also say, he fails to see that one cannot make a sentence correlate directly with states of affairs without destroying the ability of that sentence to express an analytic truth. Because he regards as analytic truths state-

ments which are actually functioning in quite different ways. Putnam thinks that analytic statements can be falsified, not merely shown to be irrelevant (failing to distinguish sentence and statement, Putnam is almost bound to fail to see when the same sentence is and is not expressing an analytic truth. On the other hand, since he keeps talking of meaning himself, Putnam cannot consistently prevent our drawing the distinction.) It is only on account of such confusions that Putnam imagines that proper adherence to an analytic truth can even potentially endanger the progress of science. (Of course such a danger would arise if the scientist practised as Putnam preaches; the point is that there is a legitimate way of using analytic truths which carries no such risk and no need to blunt the 'analytic' - 'synthetic' distinction.) The upshot is that we may dismiss as irrelevant all Putnam's speculations as to whether we can know that we shall never have to modify some of our definitions (384 ff.).

There are however, some further remarks which do still require consideration. At 392/3 Putnam offers the following criteria for analytic truths which directly embody conventions (rather than the consequences of conventions):

(1) Being of the form 'A if and only if B', where 'A' is a single word.

(2) Holding without exception and being a criterion for being an A.

(3) There being no other criterion for the word.

(4) 'A' is not a law-cluster word.

It is now clear that inclusion of (4) rests on a muddle.

(3) would rule out the very 'bachelor' example which Putnam admits as being 'recognizably' analytic; for an unusual criterion operates for 'bachelor' in (e.g.) 'bachelor of arts'. (2) calls analytic truths criteria, which is nonsensical, and (2) conjoined with (1) manifestly fails to be sufficient for analyticity, if 'criterion' is being used normally. (1) seems capricious, since analytic truths directly embodying conventions need not be of the form stipulated, and 'A' need not be a single word. (Putnam would perhaps regard 'Bachelors are unmarried' as embodying the consequence of a definition, however; he just does not make himself clear on this point.) Putnam even goes so far as to suggest that the definition of 'kinetic energy' cannot generate analyticities because the definition is not a consequence of the definitions of 'kinetic' and of 'energy'! Such are the absurdities which flow from a refusal to draw distinctions in 'intensional' terminology! Putnam gives no reason for refusing to allow us to define phrases separately from their constituent words; he simply refuses to acknowledge a clear possibility merely because he is unwilling to draw and apply the 'intensional' distinctions required in handling the resultant situation.

At 396/7 we are treated to a catalogue of r e a s o n s for a r b i t r a r i l y accepting analytic statements as true! (Obviously conventionality and analyticity are again being confused at this point.) The reasons Putnam offers in this connection are as follows: analytic truths are non-inductive, not affected by isolated tests and have no

'systematic import'. The third is presumably the same as the second (at any rate no distinction is made out by Putnam), and is said to entail immunity from revision on 'theoretical' grounds. It should scarcely need stating that satisfaction of these standards does not really suffice to make it safe to hold a statement immune from revision; one might select any statement, neglect to verify it inductively, and, provided it was a 'framework principle', in the sense of being immune to isolated testing, refuse to revise it. But Putnam himself regards framework principles as neither analytic nor immune from abandonment, so that he fails by his own standards. The reasons given by Putnam fail to justify immunity to revision or a regarding of statements in question as analytic; and (arbitrary) immunity and analyticity may not in any case be equated.

A side-issue is Putnam's doubt as to whether natural languages have linguistic rules which permit one to regard any sentence at all in a natural language as expressing an analytic truth. He calls rules of natural language 'implicit'. G. Maxwell tacitly corrects Putnam on this score in 'The Necessary and the Contingent'. There he reminds us that we in fact appeal to natural language to the rules of our natural language (398). Actually Maxwell could and should go further, and point out that the rules to which we appeal are often recorded (e.g.) in dictionaries, and so exist independently of appeals to them just as the rules of an artificial, formalised language do. In the

remainder of his article Maxwell talks rather aimlessly of the role of reconstruction in the generation of analyticities (399-403), and says (404) that ambiguity and vagueness cause trouble for the 'analytic' - 'synthetic' distinction when statements are expressed in natural language. This is satisfactory insofar as it amounts to a reminder that we may devise new analyticities not (readily) expressible in natural language, even though some analyticities are expressible by such ordinary-language sentences as 'Bachelors are unmarried'. It is doubtful, though, whether ambiguity and vagueness cause any trouble to the 'analytic' - 'synthetic' distinction as such, though ambiguities sometimes make it difficult to assess whether a given sentence is expressing an analytic truth. Certainly Maxwell gives no adequate grounds for his complaints.

Returning to Putnam's article; let us attend to some further considerations of a general kind. We noted that at 362 Putnam denies the existence of any 'deep' or 'philosophical' synonymies - a recurring theme in Putnam's writings. Superficially this may seem to be in agreement with our own structures directed against contemporary and other philosophers. We need to notice that in fact, though, Putnam has not reached the truth in these matters. His hostility towards certain linguistic philosophers' enterprises is justifiable, but Putnam has not apprehended the correct way of justifying his hostility. As we saw, he shares in the mistake of treating analytic truths as if they were able to perform tasks incompatible with

their analyticity. He does not see that even if philosophers could discover unsuspected synonymies, these could not be 'deep' or 'philosophical', whichever terms they connected. He does not see that a surprising analyticity would be just as trivial as the most commonplace one. And he fails to see this because he tries to let sentences express analytic and essentially non-analytic truths at once.

The other article by Putnam which we are to consider was written in connection with an artical by Donnellan, whose paper we shall next consider. In 'Necessity and Criteria', Donnellan summarizes his first point as follows (section III):

> "Now the crucial question is this: Can the sailor first learn the zoologist's use of the word 'whale' and then, by discovering that the criteria for 'mammal' are included, come to see the necessary truth? I should think the answer is 'No'. The way he learns the zoologist's use, if it i s a different use, is through being taught the necessary truth. He may be told that whales m u s t be mammals - in a tone of voice which shows that a defining condition is being indicated. Or he may be told that zoologists classify the whale as a mammal - the word 'classify' possibly indicating that he is being told a difining condition ... Once the sailor has learned and accepted the fact that whales are classified as mammals it becomes

plausible to say that he includes among his criteria for applying the word 'whale' the criteria for the word 'mammal'."

From his own juxtapositions and equations we can see that Donnellan is confusing necessary truths and definitions. One does not, for instance, go to a dictionary to discover a necessary truth. Let us assume that the zoologist does make being a mammal a condition for applying 'whale' - an assumption which is not established by his classifying whales as mammals. Donnellan's case - against Lewis - collapses as soon as we see that the sailor is taught the criteria by hearing a definition, not a necessary truth; and that the sailor cannot test whether a necessary truth is being altered till he knows the critera. A complicating factor is that the sailor may be told that 'Whales are mammals' expresses a necessary truth and then inductively infer the meaning of the sentence from that fact. But to say that 'Whales are mammals' expresses a necessary truth is not to say that whales are mammals - and the sailor cannot understand or verify the latter claim till he knows the criteria underlying the use of the words. That is the conclusion that Donnellan quite misguidedly wishes to resist.

Donnellan's next point (section IV) is as follows:

"... it seems to me misleading to say .... I have a d i f f e r e n t concept just because I do not include among my criteria for, e.g., the word 'platypus' the criteria for the word 'mammal'. For

I am prepared to do so if an acceptable dictionary tells me that the platypus is a mammal."

On the contrary, it is misleading not to say one has a different concept if one would change one's concept, as Donnellan says, if one found out what standard usage was. The source of Donnellan's confusion is to be found in what he says just beforehand in section IV:

> "I know that every sentence of the form 'Dodecahedrons have n edges' expresses either a necessary truth or a necessary falsehood, but I may be ignorant of what number to substitute for 'n' to obtain the necessary truth."

Thinking of this case as a parallel, Donnellan says it is wrong to say that the sailor, in the first case, regards 'Whales are mammals' as contingent, because he will know that the sentence expresses either a necessary truth or a necessary falsehood. What Donnellan overlooks is that the sailor can both express a contingent statement by 'Whales are mammals' and know that, as others use the words, either a necessary or impossible statement is expressed. The only sense in which one's use of the terms is tied to the dictionary use (in all the cases) is that one is prepared to conform to the dictionary use, even if one finds it is different from one's own. Now in the 'dodecahedron' case I may not be able to use the term at all until I learn its meaning (from a dictionary or in another way).

Then I can no more express a truth of any kind by using the

word than can a parrot. But that is quite consistent with my knowing that in standard usage a certain sentence containing the word expresses either a necessary truth or a necessary falsehood. (But that, as was pointed out above, does not mean that I can verify a necessary truth without knowing what it means.) Of course we can say with Donnellan that (section IV) the original sailor "cannot discover that whales are mammals by inspecting his own criteria", because his own criteria are irrelevant to the necessary truth; but the fact remains that he cannot verify, or understand, the necessary truth until he brings to bear the relevant criteria.

In section V of his paper Donnellan discusses such examples as 'Cats are animals' and 'Blue is a colour'. Here he tells the usual conventionalist's story that one

> "does not yet understand those words if doubts about these truths remain".

We have already refuted this claim, which Donnellan wishes to use to prove that

> "the doctrine of pre-existing connections is again inadequate".

Donnellan is struck (sections V and VI) by the fact that we can "more easily" use 'whale' without the mammalism requirement than 'cat' without the animality requirement. But this only comes to the matter of which features of a concept are major features. One c a n modify any concept; but some modifications change the

original concept so much that one may wish to say that the concept is different even in the less stringent sense of 'different'. But that does not entitle one to say what Donnellan says in section VI:

> "Just because the mammalism requirements are so easily detachable, it becomes dubious whether we can say with confidence that they are, even for the sophisticated, necessary to the correct application of the term".

The masculinity requirement is "easily" detachable in the case of 'man', but we can say with certainty that it operates as a necessary condition. If there are grounds for the doubts in the 'whale' case, they are of a quite different order from "ease" of detachability.

Donnellan's conclusion is that though meaning and fact differ, change in meaning is not always different from change in belief (section VII). None of Donnellan's arguments supports such a conclusion. Besides those already mentioned, he has the argument (section VI) that the same sorts of consideration may induce changes of either kind - which is true, but does not show that the different kinds are not different; and he also points out (section VII) that we cannot always say what is preserving and what is changing meaning - but ignorance does not establish indeterminacy in the facts not known about.

Now let us examine Putnam's reaction to Donnellan's

article in 'It Ain't Necessarily So'. The important point is that he does not expose Donnellan's confusions and conflations, but, rather, proceeds to fresh ones of his own. Which suggests that he shares Donnellan's confusions. Certainly their conclusions are very similar. In section I of his article, Putnam writes:

> "It is important to distinguish 'analytic' truths of the sort 'All cats are animals' from analytic truths of the sort 'All bachelors are unmarried', in part because the former tend to be l e s s necessary than the latter. It might not be the case that all cats are animals; they might be automated!"

Putnam distinguishes two alternative possibilities:

> (i) Some cats are animals, some automated.
>
> (ii) There never have been real cats, but only fakes directed from Mars.

He suggests that in case (i) we should all agree that the automated were neither cats nor animals, and that in case (ii) we should call the automated 'cats' still, but not 'animals'. He concludes (section I):

> "What is not clear is which of the available decisions should be described as the decision to keep the meaning of either word ('cat' or 'animal') unchanged, and which decision should be described as the decision to change the meaning."

Presumably Putnam is not simply complaining that he does not know whether animality is made a necessary

condition for applying 'cat'. After all, he begins section I by writing:

> "The 'analyticity' of 'All cats are animals' or, what is closely related, the redundancy of the expression 'A cat which is an animal', seems to depend on the fact that the word 'animal' is the name of a semantic category and the word 'cat' is a member of that category."

The inverted commas which Putnam puts round 'analyticity' in the present connection thus does not seem to stem from a questioning of the premise that 'All cats are animals' fits into a semantic category which is among those requiring the description 'analytic'. Rather, the inverted commas seem to stem from the idea that 'All cats are animals' is "l e s s necessary" than other analytic truths. But as the semantical property analyticity is quite different from necessity, there is no need to let an alleged non-absoluteness of necessity detract from the propriety of ascribing analyticity. On the contrary, it would be positively wrong to let this happen. Putnam, like so many others, is a victim of a loose usage of 'analytic', which tends to make it connote necessity. But of course Putnam is also wrong in saying that 'All cats are animals' is "l e s s necessary" than 'All bachelors are unmarried'. When it expresses an analytic truth (the case Putnam calls " 'analytic' "), the sentence 'All cats are animals' expresses a statement which is absolutely necessary,

and the occurrence which Putnam mentions does not falsify it, since the entities which are not animals do not fall under the subject-concept of the analytic truth. On the other hand, if Putnam means to be talking of the statement that what we call cats are animals - that is in no degree necessary or analytic. So Putnam must be confusing 'Cats are animals' involving reference (1) with 'Cats are animals' involving reference (2). We must conclude once again that he is confusing analytic truths with others, and misconstruing the former in a way which is typical of the lowest philosophical traditions.

Putnam oversimplifies the descriptions of what would happen in cases (i) and (ii) (c.f. the above exposition of Putnam). Let us indicate reference (1) and reference (2) by means of numerals. In case (i) - only some cats (1) are automated - we should indeed say that all the automated were neither cats (2) nor animals (2). However we might extend the meaning of 'cat' and 'animal' to cover automated as well. In case (ii) - all cats (1) are automated - we might call all cats (1) 'cats' but not 'animals'. But that is only because in the total absence of cats (2) there would be little point in refusing to change the meaning of 'cat'; whereas the existence of other animals (2) might make it advisable to restrict 'animal' to animals (2). However there would also be considerable convenience in continuing rather to apply 'animal' as before, at least with reference (1) - c.f. the 'r i s i n g' sun, which

does not in face rise - or even with reference (2) after an extension of meaning. Putnam is clearly quite wrong in saying that is unclear which of such decisions concern meaning changes - on the contrary, that is just what such decisions are about; the facts are quite clear. It is Putnam who does not w a n t to make the very necessary distinctions. He is also quite wrong in his claim (c.f. the above quotations) that 'Bachelors are unmarried men' is less likely to require revision than 'All cats are animals'. What we call bachelors may turn out to be non-bachelors (2) just as easily as what we call cats may turn out to be non-cats (2). But neither of the analytic truths expressible by the respective sentences is in the least liable to require a revision of its truth-value under the sorts of conditions Putnam has in mind.

Section II of Putnam's 'It Ain't Necessarily So' is no less revealing of the fundamental errors in which he is entangled. Putnam says that in the nineteenth century the following statement (G) "had the status of a necessary truth":

> 'One can see as many distinct disjoint places as one likes if one travels far enough along a suitable path.'

This, points out Putnam, is true in any Euclidean world but not in any Riemannian world. He says that (G) is necessary "relative to the body of nineteenth-century knowledge" - (G) is a statement for which one was "not

expected" to "give much of a reason" for holding to. Putnam says that it is not reasonable to say that (G) has changed in meaning. As his section II is, moreover, headed 'Synthetic Necessary Truths', we may guess that he has in mind a synthetic interpretation of (G). Not it is true that (G) used to be put forward as a synthetic necessary truth. That just shows that some truths people considered synthetic and necessary are in fact false. But that does not make it reasonable to say that (G) was necessary relative to a body of knowledge. No theory can be the theory it is without all its theses - but that does not make it reasonable to introduce Putnam's concept of relative necessity - for at most any thesis can enter into a body of (putative) knowledge. Nor is Putnam's talk justified by the fact that something "inconceivable within the Euclidean framework" has turned out true. Statements about the botanical properties of strawberries cannot be denied within the Euclidean framework, but that does not give them a special status for those who operate with a Euclidean framework. In short, Putnam gives a wrongheaded account of the status of (G) in the nineteenth century. The attribution of necessary truth to it had nothing to do with the factors Putnam mentions. Pace Putnam (section III), there are plenty of major theories which have, or had, no alternatives ready-made and at hand, but not all of them seemed synthetically-logically necessary. (G) is in fact more like 'If A is west of B and B is west of C, then A is west of C'. The refutation of apparently

logically necessary truths raises important questions which we shall be dealing with in our remaining chapters. But Putnam does not raise these questions, and he is side-tracked by confusions.

Putnam realizes (IV and V) that one cannot establish anything significant by showing e.g. that talk of time-travel is self-contradictory on the ordinary meanings of the terms, But he quite wrongly compares the wrongness and superficiality of the linguistic philosopher to the wrongheadedness of having boldly asserted in the nineteenth century that infinitely many places exist (section V). The nineteenth century men were speaking falsely. The linguistic philosopher speaks trivially. The linguistic philosopher does not have to be shown that analytic truths may turn out false, but that we should be interested in the self-contradictoriness only of the whole range of possible statements about what we should call time-travel, or else of such statements about what we should call time-travel as are based on adequate concepts. (Thus the philosopher must either exhaust all possibilities within a certain range or else study the adequacy of concepts even to establish a significant negative conclusion. If he is not prepared to do so he should become a lexicographer; for all he has to say is - which words ordinarily express contradictions. Thus e.g. it is quite superficial to say that it is self-contradictory to talk of bodiless persons (c.f. Strawson and others) unless one has done more than

merely uncover ordinary meanings. Certainly those who speak of bodiless persons do not mean to be interpreted in a way which makes their talk self-contradictory, and one must approach what they mean through an understanding of the peculiar content of their own theories. Nor will it do to handle such problems in terms of identification. For we can identify things indirectly - e.g. Martians by their radio-signals. So an entity can exist apart from the features whereby we identify it.)

Finally we must criticize Putnam for linking as closely as he does in section V of his paper the factors of whether an isolated experiment can overthrow a theory and whether an alternative theory is to hand. Isolated experiments could refute Relativity Theory; but it would be used until an alternative theory was available. One must not confuse use of a theory with belief in its truth. After all, we still use Newtonian theory in many situations, because it is familiar to us and approximately true. Clearly it is a great pity that such a vigorous opponent of the superficialities of linguistic philosophers should fall into so many confusions. This is particularly true in connection with the mistake over analytic truths which he shares with linguistic - and other - philosophers. It is true that he uses the confusion to twist the tails of the linquistic philosophers. He shows how the statements they are conflating analytic truths with may be overturned. This is much to the anguish of the linguistic philosopher since

he cannot expose Putnam's conflation without exposing his own - they are the same conflation. But it would also have been better still if Putnam had exposed the conflation - then his arguments against linguistic philosophy would have been valid and the pretentions of linguistic philosophy would have been cut off at the root. Putnam (section V) does want us to go the whole way, and contemplate giving up as false analytic as well as synthetic beliefs (c.f. his remarks on the possibility of doing so in Quantum Theory). But he confuses this radical departure from ordinary practice with giving up as false analytic truths which there is manifestly no reason to regard as falsified. Putnam sketches only situations in which it would be advisable to revise the meaning of 'Cats are animals', not situations in which it would be advisable to reject as false the statement which that sentence originally expresses.

B - Q U I N E

Quine's views have already been examined to some extent in chapters 6 (section C) and 8. In the present section we shall be dwelling on Quine's 'Two Dogmas of Empiricism' and the associated literature of other philosophers. First we shall examine 'Two Dogmas of Empiricism' intensively. (To avoid tedium White's similar 'The Analytic and the Synthetic: an untenable Dualism' will not be considered explicitly.)

From the beginning Quine fails to distinguish the

semantical property analyticity from logical necessity (or logically necessary truth):

> "Kant's cleavage between analytic and synthetic truths are foreshadowed in Hume's distinction between relations of ideas and matters of fact, and in Leibniz's distinction between truths of reason and truths of fact ... truths of reason are those which could not possibly be false." (20)

Having swung from analyticity to logical necessity, Quine promptly swings back to analyticity again:

> "In the same vein we hear analytic statements defined as statements whose denials are self-contradictory. But this definition has small explanatory value; for the notion of self-contradictoriness, in the quite broad sense needed for this definition of analyticity, stands in exactly the same need of clarification as does the notion of analyticity itself." (20)

There is justice in the complaint about defining 'analytic' with 'self-contradictory'. But we saw in Chapter 10 how the idea of self-condradictoriness actually fits in. The only trouble with it is that the usual paradigm of self-contradictoriness is the form 'p.-p', and it is not quite easy to see how to carry the notion over to cases like 'It is not the case that red is not yellow'. But, as we showed, it can be done. Furthermore one must suspect from Quine's conflation of analyticity and necessary truth that he similarly conflates self-contradictoriness and impossibility. No wonder, then, that the "quite wide" (20)

notion of self-contradictoriness "needed" (20) should seem elusive! It is always difficult to crystallize two quite different ideas into one.

Speaking as if Kant had not himself mentioned self-contradictoriness in connection with analyticity, Quine goes on (20/1) to criticize what he regards as 'the' Kantian definition, in terms of containment of the predicate in the subject. He gives two criticisms. The first (20) is correct - it is that Kant's difinition

> "limits itself to statements of subject-predicate form".

Quine's other criticism is that

> "it appeals to a notion of containment which is left at a metaphorical level".

The trouble is rather that the definition is inadequate when 'containment' is construed literally, as of course it may be, and also when it is construed as a metaphor for implication (implication not being a semantical notion and also covering synthetic implications).

Next Quine deals with the theory of intensions:

> "Once the theory of meaning is sharply separated from the theory of reference, it is a short step to recognizing as the primary business of the theory of meaning simply the synonymy of linguistic forms and the analyticity of statements; meanings themselves, as obscure intermediary entities, may well be abandoned." (22).

Here Quine seems to suggest that a Frenchman who speaks neither Dutch nor German could learn the primary facts

about the meanings of Dutch and German expressions by being shown the correlations set out in a Dutch-German dictionary. Even if this information were supplemented by a list of German and Dutch analytic statements, the Frenchman would in fact be unable to discover the meaning - in the primary sense! - of a single Dutch or German word. Quine is just parading his usual refusal to come to terms with the intensional use of language. We noticed briefly the underlying misunderstandings in chapter 1. Nor is it reasonable of Quine to suggest that talk of synonymy of expressions is less obscure than talk of meanings. Why should not synonymy be the relationship of two expressions to the same entity? On the other hand, why should the fact that a word has such-and-such a meaning be construed as a fact involving the relationship of a word to an object? We are free to try alternative interpretations in both cases. Quine seems to think that eliminating a noun in favour of an adjective is a great step forward. That could seem to be so only to one with a very crude view of the way words represent. Quine might just as well have suggested that we do away with feet when we rephrase our talk of feet in terms of footedness. Thus Quine wishes to regard syntactics as a substitute for semantics only for the most confused of reasons. And he eliminates the intensional use of language in a way which certainly prevents our saying what the intension of any word is, but also in a way which does not eliminate talk of intensions but only synonyms of the noun 'intension'. For though

"'W' and 'X' mean the same/are synonymous" does not give the intension of 'W' or 'X', it does mention that they have the same intension in common.

All this is directly relevant to Quine's subsequent discussion of (22/3):

(1) No unmarried man is married.

(2) No bachelor is married.

He calls (1) a logical truth because it

> "is true and remains true under all reinterpretations of its components other than the locigal particles" (22/3).

Of statements of the kind to which (2) belongs, Quine says (23) that

> "We still lack a proper characterization";

since reduction of (2) to a logical truth requires

> "putting synonyms for synonyms",

synonymy being

> "no less in need of clarification than analyticity itself".

Now we have already rejected as inappropriate the Frege-Quine definition of 'analytic' in terms of reducibility to a logical truth - c.f. our chapter 10. Analytic truths are so reducible; but to point this out is to miss the heart of the matter. Now we have seen that Quine thinks we have a "proper" (23) account of analytic statements of the kind to which (1) belongs. Yet that account employs the term 'reinterpretation', which means the same as 'change of meaning'. Why should the use of this term be

philosophically unobjectionable? If we did not know of Quine's crude confusions and misunderstandings we should have to come to the conclusion that he is joking. For how could sameness of meaning be obscure if difference of meaning is intelligible? One would expect a total parity here. Who can tell whether Quine's whim would lead him to condemn as obscure our own definition of analyticity? Whatever he would say, the fact is that it is no more suspect for a philosopher to give an account of something, using words like 'meaning', than it is for a philologist to do so. Anything can be called obscure in philosophy (or in inquiry generally) - for the thinker aims to throw more light on the matter in hand. We may achieve great clarity on a certain issue by talking in terms of physical objects - at a later stage, elsewhere, though, the nature of physical objects will be declared obscure, and a new process of clarification will begin. Admittedly the second investigation may have repercussions on the first - an inadequacy may emerge in the first. But is this likely in connection with analyticity? Whatever the character of the complex of dispositions, etc. constituting a meaning turns out to be, there seems to be no reason to suppose that two words might not be connected with exactly the same complex, and thereby be synonyms. Nor does there seem to be any doubt that (c.f. our definition of 'analytic') one and the same state of affairs could render S or A and P or C applicable. Once one allows there are meanings, furthermore, there is no problem about talking of synonymy,

given that s t r i c t synonymy rather than some elusively loose notion is involved. 'Strict' just means the same in e v e r y respect, so there is no problem in specifying respects. States of affairs are no more problematic than things, relations, essences, etc. They are just aspects of reality determined as falling under certain concepts. On the other hand, one cannot very well do without talking about meaning at all. One can s a y that one subscribes to such-and-such sentences, and so on; but one subscribes to sentences only qua having a certain meaning. Thus e.g. I subscribe to 'The world exists' only insofar as it means what it means in English, or means something else that I believe. One must not be misled by crude linguistic manipulations. But in fact Quine is quite prepared to use intensional terminology in his own exposition. For instance, in the short middle paragraph on p.44 of his article we find the following terms used during his positive account of gradualism (as his own view has been called):

> "conceptual", "science", "predicting", "conceptually", "definition", "posits", "comparable", "believe", "consider", "error", "believe", "conception", "posits", "myth".

We have included only obviously intensional terminology in this list, and that is already enough to show, if anyone doubted it, that one cannot avoid intensional terminology altogether in any philosophy dealing with topics such as our own. Thus one is thrown back on the strange insistence

that talk of sameness of meaning is obscure, even though talk of difference of meaning is not obscure, according to Quine's admission. This objection of Quine's is not obviously applicable to our own definition of 'analytic'; and the objection is not supportable any way, as we saw. (Note: as Strawson points out in 'Propositions, Concepts and Logical Truths', Quine needs 'synonymy' to define 'uniform substitution' for logical truth itself!)

Quine's next move is (23/4) to describe and reject Carnap's definition of 'analytic' in terms of state-descriptions. Quine makes the now familiar objection . . that it (23)

"serves its purpose only if the atomic statements of the language are ... mutually independent".

The position is actually somewhat more complex than Quine shows. If 'state-description' is defined more or less by a mere enumeration of terms which are in fact analytically mutually independent, then the resultant definition of 'analytic' is totally unilluminating - one might just as well have given a list of analytic truths. If 'state-description' is defined in terms of what is logically possible, then one will trap synthetic along with analytic necessary truths, as well as make the mistake of trying to define the semantical in terms of the logical. (Carnap's definition, in 'Meaning and Necessity', is discussed also in chapters 10 and 14).

We may agree with Quine that (24)

"the 'definition' which is the lexicographer's report of an observed synonymy cannot be taken as the ground of the synonymy".

That is obvious to all but the most confused. But of course we reject Quine's assumptions (24) that synonymy is to be explained

"in terms relating to linguistic behaviour"

and that the relevant kind of synonymy is

"grounded in usage" (25).

Both of these assumptions are obstructive, as we saw in chapters 6 and 10. In chapter 6 we saw that talk (intensionally-) of meaning does not correspond to anything in (what we call) behaviour that could be said to be constitutive of meaning. Behaviour is not of the requisite character. In chapter 10, following the lead of L. Cohen, we noticed how allegations of a lack of sharpness in the 'analytic' - 'synthetic' dichotomy often spring from confusions such as those between the meaning of a particular utterance and the variable meaning of a word-type, and between use and usage. As Cohen points out specifically in connection with Quine (c.f. chapter 6 of 'The Diversity of Meaning'), whether a particular statement is analytic depends on what it itself means. One needs to know the content of the particular judgment. As Cohen points out (c.f. the middle of his chapter 6) one may simultaneously embrace a gradualism in respect of a statement-type comprising not strictly identical statement-

tokens. But this is just a matter of the statement-type's consisting partly of absolutely analytic and partly of absolutely non-analytic statement tokens.

Explications, conceived as refinements on ordinary usage, are just as irrelevant to analyticity as dictionary entries. Neither kind of formula tells us what a particular statement means. So we need not dwell on the fact that, in Quine's sense of the term, an explicative definition

> "owes its explicative function ... to pre-existing synonymies" (25).

But we do need to ponder carefully the following passage (26), wherein Quine discusses

> "the explicitly conventional introduction of novel notations for purposes of sheer abbreviation. Here the definiendum becomes synonymous with the definiens simply because it has been created expressly for the purpose of being synonymous with the definiens. Here we have a really transparent case of synonymy created by definition; would that all species of synonymy were as intelligible."

How synonymy can be less obscure in cases where stipulation occurs is left unclear by Quine. How long after stipulation does the greater clarity last? What would be the impact of the discovery that 'bachelor' was equated with 'unmarried man' by stipulation in some past century? How long-lasting was the perspicuity of the synonymy of

the defined symbols of 'Principia Mathematica' with combinations of primitive symbols? Probably what Quine is really thinking of is the ease with which synonymies recently stipulated can be established. But that of course is irrelevant to analyticity - it has nothing to do with ease of discovering it. And a stipulation of synonymy is just as irrelevant to analyticity as a dictionary entry - it does not tell us (itself, directly) what a given statement means. There is a gap between the stipulation and the statement that another given statement uses words as stipulated. So Quine's concessions in connection with stipulated synonymy are confused.

Next (29/30) Quine argues that interchangeability s a l v a v e r i t a t e is no guarantee of synonymy in a purely extensional language; whilst (31)

> "If a language contains an intensional adverb ... 'necessarily' ... or other particles to the same effect, then interchangeability s a l v a v e r i t a t e in such a language does afford a sufficient condition of cognitive synonymy; but such a language is intelligible only in so far as the notion of analyticity is already understood in advance."

(We must register a protest at the renewed conflation of logical necessity and analyticity. However that is a minor point in the present context.) Now it is not true that one needs the concept of analyticity to understand

an intensional language; but one certainly needs to understand some intensional terms - e.g. those by which 'analytic' is defined. But we have seen that Quine cannot afford to bring all such ideas in question - earlier it seemed he was unclear only about synonymy. The main objection to the interchangeability *salva veritate* account of synonymy is that it is unilluminating. Interchangeability (outside autonymous contexts only, of course) is a merely consequential property of synonymous expressions. Quine and others tend to regard definitions as adequate if they are free of positively objectionable features and no counter-instances can be found. But that is a negative if not half-hearted attitude. In fact one needs accounts and definitions which are positively illuminating in a way that definitions in terms of interchangeability never are. (c.f. our remarks in this connection in chapter 1). Sometimes Quine asks such questions as (30)

"Does the adverb really make sense?"

in connection with supposedly obscure talk. This suggests that it does not matter what the meaning is, but only whether the talk has sense at all. In fact however there are several possibilities:

(i) Intensional talk has sense but we cannot represent it to ourselves adequately at the psychical level.

(ii) We do not know which more complex expressions are synonymous with certain intensional expressions.

(iii) We lack an adequate account (real definition) of that which we call meaning, synonymy, etc.

(iv) Actual intensional talk is confused or meaningless.

Now (i) and (ii) should not worry us too much - there are dozens of expressions which are obscure in these senses; e.g. we do not know for sure how to define ordinary numerals or 'physical object'. But we are confident enough that such terms have sense to use them in explanatory talk. So it is with accounts such as our own of analyticity. One must always break off explanations somewhere: one cannot go on checking the propriety of one's procedures indefinitely. Even (iv) need not worry us: we can deviate from ordinary talk once we discover it is confused or meaningless; and we can, and often do, use reference (1), and insofar as we do so we are as sure as we ever can be that we are not talking nonsense. We need not be worried over (iii) so long as analyticity itself is not one of the matters we lack an adequate account of - it is not a serious matter if we give a true account of analyticity in terms of things of which we lack an adequate account. Thus e.g. it would be wrong of a scientist to refuse to countenance an account of some process in terms of basic particles whose nature was not known. One must not ask for all problems to be solved before accepting a step on the way to a state of total clarity.

Next (33) Quine points out, obviously correctly, that

we do not advance matters by calling all the analytic truths of an artificial language 'semantical rules'. He might have added that to do so is positively erroneous. Similarly with Quine's charge (34) that "true according to semantical rules" is an unenlightening definition of 'analytic' because 'semantical rules' remains unclear. The definition is positively erroneous. People like Martin think that one obtains particular clarity if one operates with virtually enumerative definitions of the elements of an artificial language. They talk of 'controlled' study of language (c.f. Martin's 'On "Analytic"' and 'The Notion of Analytic Truth'.) But of course all that becomes clear is w h a t one is going to call 'analytic', etc. - not what it is that genuinely prompts the desire to apply the term (for it is no coincidence that the term 'analytic' is chosen for use by Martin and the others). However Quine himself is not entirely free of the fault he finds in others; as Pap ('Semantics and Necessary Truth') writes (237)

> "Quine himself is perfectly satisfied with a definition by enumeration of 'logical constant'".

Quine's view that the 'dogmas' of reductionism and a sharp 'analytic' - 'synthetic' distinction are "at root identical" (41) is a product of hazy and wild thinking. Quine starts from the idea that 'verification' might be used in an attempt to define synonymy (37/8). Then he says that (41)

"The dogma of reductionism survives in the supposition that each statement, taken in isolation from its fellows, can admit of confirmation or infirmation at all."

These are very tenuous connections. 'Verification m i g h t be used to define synonymy, reductionism connects each statement with its own particular set of possible experiences. Suppose I wish to verify that it is raining. I seem to look out of the window and see rain falling - but perhaps I am undergoing an hallucination. If i count my experience as verifying that it is raining, then I assume that I am not undergoing an hallucination. 'In this sense statements other than that to be verified are brought to bear during the verification. But that only shows that it may be unclear which state of affairs obtains (genuine or hallucinatory rain or, as is possible, both). It certainly does not follow that there either i s or is not a state of affairs corresponding to the individual statement taken on its own. And nobody should want to define 'meaning', etc. except in terms of an i d e a l verification in which a state of affairs is, as it were, revealed to us infallibly. (c.f. chapters 6 and 10 for further remarks on verification.) Equally it is clear that just as 'analytic' need not be defined with the aid of 'verification', so too 'verification' in the sense in which it begins to become relevant to 'analytic' has nothing to do with reductionism. For one may well, as a transcendentalist about the physical

world, deny that sense-experience can provide an ideal verification. Again a phenomenalist might reply to Quine that supplementary statements have a place in verification only as assumptions, and that they could be dispensed with if one were prepared to prolong experience to the point where sufficient experience for verifying 'It is raining' (say) had been gathered. In sum, Quine is far too vague about the sense in which supplementary statements are involved in verification. For all that he shows, our choice in the matter of which of our beliefs to modify in the face of recalcitrant experience could spring simply from imperfect data.

> Quine tries to link the two 'dogmas' in another way: "as long as it is taken to be significant in general to speak of the confirmation and infirmation of a statement, it seems significant to speak also of a limiting kind of statement which is vacuously confirmed, i p s o f a c t o, come what may; and such a statement is analytic" (41).

In this passage an intimate relationship of reductionism to the view that statements are verifiable in isolation is simply - wrongly - taken for granted. Furthermore 'come what may' (41) must mean 'come what logically may', which is not semantical and lets in synthetic necessary truths. That could surely have no connection with any dogma of empiricism. Talk (41) of 'vacuous', 'ipso facto' confirmation, by contrast, is just self-contradictory, as is talk of (41)

"the extreme case where the linguistic component is all that matters"

for the truth of a statement. The self-contradictoriness of such talk follows obviously from our examination of conventionalism in chapter 7, section C. But such talk need not be invoked in connection with analyticity, so again Quine is being very hazy in asserting a link between the two 'dogmas'.

It is difficult to see how it could be that (52)

"The unit of empirical significance is the whole of science"

if individual statements are not units of significance. After all, the whole of science could be conceived as one great conjunctive statement. When one tested that conjunct, one would make assumptions about hallucinations, measuring rods, etc. just as in present-day ordinary verification procedures. Again, science (or at least the totality of our beliefs) might have been much smaller in scope than science as it now actually is - as small in fact as individual statements in present-day science. Why should such small units of significance coalesce when they become more than one in number? Cannot they be kept apart? Quine's position is too insubstantial for a reply from his own standpoint to be possible. He really only has the quite inconclusive point about supplementary assumptions during verification. Of course it is odd, also, that he should speak of "science" (42) as the unit of significance, he leaves the non-scientist in a most unfortunate position

as far as the significance of his utterances goes. And the following point also needs to be made. There can be no move from the utterance to a larger unit of significance in the case of commands, exclamations, and other non-descriptive utterances. It would surely be odd if 'Fetch the milk!' were significant in isolation but not 'You are about to fetch the milk'. Of course for all utterances there is such a thing as contextual determination of meaning; but then what the context determines is the meaning of a p a r t i c u l a r, i s o l a t e d s t a t e m e n t.

> "No particular experiences are linked with any particular statements in the interior of the field, except indirectly through considerations of equilibrium affecting the field as a whole"

says Quine (43). Now it is true that individual experiences require very many supplementary assumptions in order to verify highly theoretical judgments. But this is just a function of the extent to which judgments may relate to many more than just the few individual experiences contextually taken to verify them. Once again we may say that only lack of data prevents our being able to select just this statement rather than some other (both significant in isolation) for revision. We may agree with Quine that (43)

> "Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system".

But this is true only in the sense that in practice veri-

fication is not infallible or God-like - e.g. while I collect sufficient data for 'p' in fact, later I can postulate a memory defect, etc. It is not shown that no state of affairs c o u l d answer to a statement taken in isolation. (Of course one can doubt anything; but presumably Quine does not wish to argue at the ultimate sceptic's level.) Furthermore Quine overlooks that any s y s t e m can be adhered to come what may just as well as any individual statement; so he has again failed to show that a system is a unit of significance as an individual statement is not. This bears out our doubts about Quine's dogmatic postulation of a fundamental cleavage between systems and individual statements.

As we just agreed,

> "...no statement is immune to revision. Revision even of the logical law of the excluded middle has been proposed as a means of simplifying quantum mechanics; and what difference is there in principle between such a shift and the shift whereby Kepler superseded Ptolemy, or Einstein Newton, or Darwin Aristotle?" (43)

Or Aristotle the sceptics against whom we saw him arguing in chapter 3. We seem to have come full circle. Yes one can choose to deny the laws of logic. The sceptics against whom Aristotle argued did just that, and now some Americans are suggesting that we should try doing the same in a more sophisticated way. But our ability to choose to deny logical laws does nothing to show that there is not

a sharp 'analytic' - 'synthetic' distinction. To say that it does show this is like saying that imperatives are not fundamentally different from descriptions since both can be uttered. If we revise analytic statements - i.e. come to disbelieve them - then we are revising statements of such-and-such a semantical character; but no light is cast on that semantical character or the issue of whether it actually exists. To think the opposite is to commit all those errors of conventionalists who seek to connect analyticity with monstrosities such as 'truth by stipulation', 'immunity to revision', etc. But of course the root cause of the unsatisfactoriness on Quine's side, as well as the conventionalists', is the failure to distinguish analyticity and necessity. Because of this failure Quine is ill-placed to reply to those who would say: 'Perhaps some analytic truths are revisable - but then they cannot be necessary. It could not be rational to revise a genuinely, necessary truth'. We have to distinguish not only analyticity and necessity, but also our ability to choose to deny a necessary or analytic truth and the rationality or irrationality of doing so. We shall discuss the matter further in chapter 16. But it is already clear that nothing about revisability has anything to do with the sharpness of the 'analytic' - 'synthetic' distinction; which can scarcely fail to be sharp if we form a dichotomy in the proper way, defining 'synthetic' by 'not (analytic or self-contradictory)'. (It is obvious from chapter 10

how 'self-contradictory' is to be defined.)

One complication can advantageously be mentioned at this juncture. Not only must we distinguish revising the meaning of and revising our belief regarding an analytic truth. Furthermore we must distinguish the case where we revise the meaning of an analytic statement by passing to another statement from the case where we pass from an analytic statement to a meaningless expression. One can certainly tinker with a body of theory to the point where it serves as a prediction machine but contains no meaningful expressions any longer. Obviously the mediating procedure which leads us from data to predictions need not in principle be a matter of applying rules of inference based on truths (in turn based on facts of course). Using a scientific theory can come to be nothing but a more complex version of consulting an oracle or entrails. Altering the theory can come to be like learning that it is more efficacious to hold the entrails in a certain way. We have to be careful that alleged denials of logical laws are not really just steps on the road to a science of meaningless formulae, no more meaningful as a whole than entrails. In such a case analyticity and necessary truth drop out in a way no more mysterious than their absence from entrails.

Having assured ourselves of the weakness of Quine's position let us examine the literature connecting with Quine's 'Two Dogmas of Empiricism' - starting with Weitz's 'Analytic Truth'. Weitz points out that there are many fields in which we cannot do what Quine says we cannot do

in connection with 'analytic'. As Chisholm (87) points out in 'Theory of Knowledge' one cannot argue from mere ignorance to Quine's drastic conclusions: one needs a generalization about what conditions must obtain for the 'analytic' - 'synthetic' distinction to be tenable, and to establish such a generalization one would need positive knowledge as difficult to obtain as that which Quine says we lack. Weitz (490-2) also attacks the idea that analyticity must be conceived as transformability into a logical truth. But (492-4) he lacks an adequate positive alternative: he proposes going by people's differing reactions to analytic and synthetic statements, an alleged difference in mode of learning, etc. - just stock conventionalist lines of thought. Weitz is quite wrong in thinking we learn analytic truths by learning usage. And one can give up an analytic truth or cling tenaciously to a synthetic truth, without altering their characters. As Alexander ('Necessary Truth') notices, it is precisely such tenacity which admits of degrees (307/8). However Alexander too suggests unsatisfactorily that necessary truths can be known from meanings along, and thus differ sharply from contingent truths (508-514). Although he does not go into the matter, it is clear that Quine could and would reply that embracing an analytic truth cannot be sharply distinguished from embracing an ontological assumption, and that one in effect fails to consult experience only because one makes an assumption about a whole class of truths to hold true. We have seen the

difficulties there are in holding that we know even analytic truths purely from their own content.

Grice and Strawson begin 'In Defense of a Dogman' by stressing the general agreement on the part of philosophers in applying 'analytic' to members of an open class (141-5). This argument against Quine will not do. Philosophers do not agree to a tremendous extent even today. And if one trusted all the distinctions particular cliques agreed on one would be very much in the wrong. Even agreement about new members of an open class can rest on confusions - and we have seen that philosophers have involved themselves in dozens of confusions over analyticity. Again at one time people agreed considerably on a class of synthetic necessary truths - now no such general agreement obtains. Next (145-50) Grice and Strawson complain that Quine fails to consider a wide enough class of possible types of explanation. But this protest too ill becomes Oxford philosophers who would restrict philosophy to conceptual analysis. Quine in fact stresses that philosophy cannot, any more than anything else, be purely conceptual. Admittedly he arrives at this conclusion in an unsatisfactory way - but in fact the result is that he is far more open-minded than Grice and Strawson in respect of possible kinds of explanation. Quine, for instance, would be much more prepared to consider the possibilities that the 'analytic' - 'synthetic' distinction exists but

lacks application, or that we have not conceptualized an actual difference properly. Nor of course are the conventionalist explanations of 'impossible' which Grice and Strawson offer acceptable (149-53). (Clearly in this paper too they, like Quine, are confusing the 'analytic' family with the 'necessary' family. We do not need to enter into this matter again.) Grice and Strawson next criticize Quine for saying that stipulated synonymy is clearer than other synonymy. But their criticisms are inadequate. They think synonymy by usage is prior. This is the use theory at work. It is clear to us from ch.6 that use is prior to usage - this emerges for psychically and neurally based meaning alike. If Crusse says 'I shall use "W" to mean frog', he assumes only that his words have meaning; he assumes nothing about a synonymy - he creates one. Certainly, as we saw, Quine writes unsatisfactorily on this matter; but Grice and Strawson fail to expose the real unsatisfactoriness, and fall into error themselves. Grice and Strawson suggest (151-6) definining synonymy in terms of verification and falsification by the same experiences g i v e n a s s u m p t i o n s a b o u t t h e t r u t h v a l u e s o f o t h e r s t a t e m e n t s. They fail to show that this is not tantamount to accepting the system as a unit of significance and thereby destroying the analyticity of individual statements in

isolation. On the contrary, they propose the definition as being in accord with Quine's principles instead of exposing the confusions underlying his esponsal of those principles. Grice and Strawson also miss the point that one needs to think in terms of an ideal verification if in terms of verification at all. If one does not, then non-analytic truths are netted by one's definition, since an experience indirectly verifies much more than it verifies merely by falling under a concept. Finally, Grice and Strawson (155-8) rightly distinguish changing or dropping concepts from changing one's beliefs. But one can scarcely say that they have managed to get to the bottom of the mistakes which make the gradualists deny there is a difference.

Peach, in 'A Non-Descriptive Theory of the Analytic', notes in effect that one cannot argue from the fact that tenacity in maintaining a statement to be true is a matter of degree to the conclusion that analyticity is also a matter of degree (349-60). However Peach's main aim is to suggest defining 'analytic' in terms of our willingness to apply predicates in various situations (360-7). This will not do. Willingness to apply a predicate correlates with its applicability (which, we saw in ch.10, is what really counts) only insofar as we wish to apply predicates correctly. Thus e.g. I am very willing to apply 'bachelor' to married men in order to

deceive someone. But Peach avoids this objection by insisting that one should be willing to apply P wherever we are willing to apply S if 'S is P' is to be analytic. But even this is liable to counter-instances. I may apply P to deceive somebody and be unwilling to apply S because it would, for some reason, enrage him.

Mates ('Analytic Sentences') distinguishes between difficulties with the sense of 'analytic' and difficulties with the reference, and rightly says Quine muddles them (527-31). It is very plausible to suggest that people do mean something by 'analytic'. We saw in ch.10 how people have failed, however, to conceptualize the underlying situation adequately. They mean something and there is a distinction - and what is wrong is the inadequacy of the conceptualization. Mates, anticipating Grice and Strawson mentions agreement as to what is analytic and he also mentions that people's attitude to analytic truths differs from their attitude to synthetic truths (530-4). Both of these points are susceptible to the kind of criticism with which we began our examination of Grice and Strawson.

Bird ('Analytic and Synthetic') gets into a muddle over the bearing of facts of usage or use on analytic truths (230-5). Like Perkins and Singer in 'Analyticity', wrongly counting facts about what a statement means as part of verification, he says the 'a priori' -

'empirical' distinction is not sharp. We can certainly see difficulties in it - to be cleared up in ch.16 - but one cannot settle the matter in Bird's way, since all along the issue is what one needs to know in verification, i.e. apart from the meaning of the statement in question. However Bird does not go on to embrace Quine's conclusion regarding analyticity. But he gets into another muddle (233-5) when he says that it is improper to define 'analytic statement' in such a way that analytic statements are never made false, only rejected in favour of other statements. He objects that one could do the same for 'synthetic statement'. But of course the fact of the matter is that we do employ a strict criterion of identity for both kinds of statement, only this has nothing to do with a building of irrefutability into the definition of 'statement'. To think so is to muddle up semantical and logical notions. It is just that in fact what seems to some like rejecting an analytic statement as false may turn out to be embracing an alternative analytic truth.

Next we turn to Pasch's book 'Experience and the Analytic'. He has no difficulty in (12-20) showing that one can uphold reductionism and the view that there is a sharp 'analytic' - 'synthetic' distinction independently of one another. But the core of Pasch's book is not satisfactory. He wrongly insists that (21) Kant defined

'synthetic' by reference to whether a statement is about experience - there is no such uniform tendency in Kant and it is precisely at the stage of definition that Kant fails to make the mistake Pasch attributes to him. Pasch rightly argues that Lewis can offer no behavioural account of criteria - inclusion - but Pasch is too unquestioning in his acceptance of the behaviourist requirement (27-33). Pasch does not go far enough in saying (40) that

> "it could be claimed that there are non-logical words that lack descriptive significance"

and vice versa. As we shall see in the next chapter, logical words are descriptive. Pasch repeats Quine's criticism of the view that the problem of the nature of analyticity can be cleared up by the procedures of Martin, Carnap and the others (50-8). But Pasch tries to tie the matter to some vague talk about "context" and "internal" and "external" questions. For instance (79) he insists that the artificial language practitioners should show that their language provides a "proper context for explication". But that does not capture their fault. After all, those artificial languages do contain typical analytic truths, so their failure cannot be blamed on a wrong choice of "context". Nor (81) is it relevant that an artificial language is a "closed system".

For the rest, Pasch embraces a moderate form of Quine's gradualism which has no features which need detain us at this stage.

Katz (' Some Remarks on Quine on Analyticity') suggests (41) that 'analytic' be defined on the basis of constructs from linguistic theory and list-tests be used on people (50/1) to establish analyticities. He notes that (51/2) complex necessary truths would not be selected by people, from the lists. Quine ('On a Suggestion of Katz') says the last difficulty could be overcome by employing chains of reasoning, testable step by step. (In fact many people could not grasp even the simplest steps since the statements would sometimes be too complex for them. Quine overlooks this.) It is left to Wilson to point out (in 'Linguistical Butter and Philosophical Parsnips') that Katz's theory is quite bankrupt, relying on dictionary-entries as ultimates in a way refuted by Quine originally, assuming that all statements are of S-P form and introducing 'idea' as a theoretical term a la Locke (62/3). Quine, in his retort to Katz, was incomprehensibly lenient in insisting (54) only that scientific statements will come out by Katz's test as neither analytic nor synthetic. One could add that there is considerable naivety in supposing that overt tests' being used establish the purely behavioural character

of synonymy. The procedures are tests in virtue of non-behavioural factors. The same lapse occurs in 'Analyticity', by Perkins and Singer - as we saw in ch.6 verification is not really a behavioural process at all, though it may seem like one if one dwells only on behavioural aspects. In 'On Certain Confusions in the Analytic-Synthetic Distinction', Eberode says the distinction breaks down where we have not quite made a certain feature a criterion for applying a word (485-8). But in fact in such a situation a statement is synthetic, for what is not quite a criterion is not a criterion.

In 'Analytic-Synthetic' Bennett suggests building up a notion of analyticity in terms of indispensability of a statement relative to an argument. This suggestion obviously need not detain us at this stage.

In 'Analytic/Synthetic" Walsh argues that one must show the boundaries of one's concepts and their interrelations in analytic statements in order to have a self-conscious grasp of the conceptual structure one is applying. But this confused statement obviously does not cut any ice against Quine as it is meant to. Analytic truths lack the character Walsh suggests they have, and other truths can (and do) do the job Walsh says, implausibly, needs to be done if thought is to be coherent.

In 'The Analytic and the Non-empirical' Moravcsik argues that 'analytic' is a cluster-term. But he wrongly identifies the analytic via the necessary with the immune to revision - we have seen all three to be distinct - wrongly equates analyticity with truth by meanings, wrongly thinks 'Blue is a colour' is not analytic in the (semantic) sense generally used, and wrongly thinks there is a special category of analytic truths depending on the permissibility of certain grammatical transformations (he overlooks that the permissibility derives from the same consideration as in other cases, viz. necessary truth-preservation).

Herburt ('The Analytic and the Synthetic') insists that analytic truths are untouched by Quine's arguments about the unit of verifiability; and Bohnert ('Carnap's theory of Definition') insists that definitions (he must mean analytic truths) are not revisable; but neither shows where Quine goes wrong, and so are unable to counter Quine's point that necessary truths are as much part of any system as contingent truths.

The conclusion that necessary truths do not differ from contingent truths as much as is generally believed is indeed correct. But unfortunately Quine's argument for the conclusion involves the very conflation of necessity and analyticity which is now generally responsible for failure to accept Quine's conclusion.

Moreover it is especially dangerous to stress the likeness of analytic and synthetic truths without pointing out that all the fomer are trivial. As with Putnam, vaguely to stress the 'continuity' of the 'conceptual' and the ontological is to issue a new invitation for outrageous philosophizing.

XIV

PAP'S CONTRIBUTION

In this section we investigate all those views of Pap on logical necessity which are not already dealt with in connection with Hume, Leibniz, Locke, the problem of synthetic necessity and the paradox of analysis. Unless otherwise stated, references are to pages of 'Semantics and Necessary Truth', which embodies several of Pap's earlier articles and renders attention to his other more peripheral books superfluous.

Thus we begin at ch.5 of 'Semantics and Necessary Truth', wherein Pap proposes (95)

> "to regard 'synthetic' as a synonym for 'not analytic and not self-contradictory', and to examine whether the independent definitions of 'analytic' and 'a priori' commonly given warrant Schlick's thesis of the logical impossibility of the synthetic a priori".

Pap notices (95) the uselessness of taking some definition of 'synthetic a priori' which is self-contradictory and leaving the matter at that. Specifically, he notes that it is fatuous to claim to settle the matter by defining 'synthetic' with 'empirical'. But Pap's own methodology is not above criticism on this issue. He alludes to the fact that 'synthetic a priori' is a traditional term, the implication no doubt being that we must not impose a

definition, but discover the ordinary meaning of the traditional term(95). In the passage we have quoted there are references to common meanings again. But Pap is being unrealistic in postulating the existence of normal, unconfused, shared concepts in this area. (We have noted sufficiently the doubts, inadequate models and mistaken assumptions which have always governed our use of the terminology now in question.) More important still, Pap - here and always - mistakes the import of any discovery of self-contradictoriness on the basis of ordinary meanings. He fails to see that legitimate philosophical interest is rather in self-contradictoriness on the basis of a d e q u a t e c o n c e p t s and also on the basis of possible concepts belonging to a family. Regarding the latter, it should be noted that: if we knew that 'synthetic a priori' was self-contradictory on every interpretation that was not too different from traditional ones, then a more radical criticism of a certain kind of theory would have been made, than if we had noted a particular contradiction in a particular exposition or a contradiction on the basis of ordinary meanings. Regarding the establishment of contradictoriness on the basis of adequate concepts, it should be noted that there may be several alternative adequate concepts of the 'synthetic' and 'a priori' families, only some of which yield a contradiction in talk of the synthetic a priori.

We need not repeat the background theoretical points in detail here. We need only note that Pap is a victim of the usual errors and confusions throughout his work. He selects (95) a definition of 'a priori' which combines, he thinks, 'clarity with conformity to traditional usage':

> "A proposition is said to be true a p r i o r i if its truth can be ascertained by examination of the proposition alone or if it is deducible from propositions whose truth is so ascertained, and by examination of nothing else".

He then (95/6) notes that there is no reason to suppose that it is self-contradictory to suppose synthetic truths may satisfy this definition, given that 'synthetic' is understood in terms of irreducibility to logical truth. This is quite correct as far as it goes, but, as we have noticed, Pap mistakes the import of his move. He does not see the need to test the adequacy of his definition of 'a priori' - the need to ask whether and which truths satisfy it - if anything fundamental is to be achieved. He is content to note the 'clarity' and 'conformity to traditional usage' of the concept. He does not see the pointing out of a consistent concept of the synthetic a priori as a counter-instance to the thesis that n o c o n s i s t e n t s e n s e c a n b e m a d e of talk of the synthetic a priori; rather, he fails to see the need to

consider all members of a family of concepts, and takes his stand on 'clarity' and 'conformity to traditional usage' alone. He attributes (96) the mistakes of his opponents on this issue not to these mistakes in methodology which he shares with them, but to their shifting from a vague sense of 'analytic', the same as that of 'a priori', to the stricter one which makes their thesis of the self-contradictoriness of talk of a synthetic a priori less trivial. We may agree with Pap when he argues that C.I. Lewis is unsatisfactory in precisely this way (97-103), but Pap is ill-armed against the neopositivists who claim to 'discover' that 'the' concept of the synthetic a priori is self-contradictory, for he wrongly concedes the legitimacy of appeals to 'ordinary' meanings. Incidentally it becomes clear that the real issue, not actually expressed by either opponent, is bubbling below the surface without subjection to rational scrutiny. Pap launches into an account (considered elsewhere) of examples he considers synthetic and which his opponents consider to be analytic. Different beliefs lead to a difference in concepts, and to a difference regarding which concepts are to be championed as being 'the' concepts, as well as an attempt to discredit the opposing concepts on purely conceptual criteria. The situation resembles any other

argument between parties who are deeply reluctant to face their real grounds of disagreement, and who therefore transfer their altercation to a more comfortable sphere.

We do not need to recapitulate here our conclusions regarding those candidates for the title 'synthetic necessary' which are typified in the example 'Nothing is red and green all over'. But Pap recommends additional candidates for the title (which he negligently, but here harmlessly, fails to distinguish from the title 'synthetic a priori') - and we must assess what he says in this connection. Pap would have us declare explicative statements synthetically necessary, in order to escape the paradox of analysis (104-6). We need not repeat our general criticisms of such a move; however a few errors remain to be exposed when it comes to the application of the move to the problem of synthetic necessity. Pap asks (105):

> "But does it as much as make sense to say of the statement 'the concept m a n is identical with the concept r a t i o n a l a n i m a l ' that it 'can be assumed on grounds which include nothing beyond our accepted definitions and the principles of logic'?"

Pap has poor arguments for giving a negative answer to

this question. He claims that any justification of the necessary substitution operation would be circular, involving the very explicative statement in question(105). Yet in fact, of course, as Pap himself notices a few lines later, a metastatement about that statement is what is actually required, not that statement itself. Quite apart from this, the charge of circularity is confused. We can talk about words in talking of substitution operations; then we are making obviously synthetic statements; yet one could not say that this destroyed the claim of the object of the substitution operation to be analytic. And, whether one talks of words or not, a synthetic statement, about the statement which happens to be under consideration in the particular case in question, is what is actually required in the substitution operation. (c.f. our remarks on the paradox of analysis on this issue.) Finally, Pap offers the unsound argument that since one points to the explicative statement to justify calling the associated material mode statement 'analytic', the two kinds of statement 'cannot be characterized as "analytic" in the same sense' (105). To this we need to reply that one does not simply point to the explicative statement as suggested; and that in any case 'analytic' is not, and need not be, defined, for the purposes in hand, in terms of the statements used

in the substitution procedures. (In fact, the statements appealed to will be of the same kind, if one ignores the difference in order of those metastatements) so Pap has no good reasons for his accusation (105) that

> "it is only the subtle shift from 'a priori' to 'analytic' and back again that permits Lewis to characterize explicative statements as likewise analytic".

In this matter it is Pap who loses control over the meaning he is giving to 'analytic'.

Pap's third category of candidates for the title of 'synthetic necessities' is composed of 'the principles of logic themselves' (106). Pap's thesis would be trivialized, and false, if 'analytic' were interpreted in terms of logical truth itself; so (106/7) he uses 'analytic' to mean reducibility, by definitional substitutions, to a contradiction, of the denial of the statement in question. He complains (106/7) that the reductions cannot be effected without appeal to logical principles, in addition to definitions. Thus he says that the law of excluded middle is definitionally equivalent to '(p)-(-p.--p)', but that this reduces to the law of contradiction only by employment of the laws of double negation and commutativity of conjunction (106/7). He gives (107) an additional example:

> "translation into the primitive notation of '-' and '.' will transform the axiom of P r i n c i p i a M a t h e m a t i c a , p v q q v p , into -(-(-p.-Q).-Q.-P), and it is not obvious without further axioms (such as commutativity of conjunction) that the latter is an instance of the law of contradiction".

In fact neither of these examples really supports Pap's view '--p' is defined as being false when '-p' is true and true when '-p' is false. If this statement is elaborated by reference to the definition of '-p', we obtain the synonymous statement that '--p' is defined as being false when p is false and true when p is true. Thus Pap errs in saying, as he did also in connection with Leibniz, that 'p' is not synonymous with '--p'. He errs also in refusing to regard '-p.p' as a contradition, and as a synonym of 'p.-p'. In both mistakes he has confused difference in symbolization with difference in meaning. Perhaps also he mistakes the import of the fact that the transformations can be effected by means of rules of inference, which are indeed not definitions. To correct misapprehensions here, we may allude to the fact that p is synonymous with p - definitionally equivalent to p - yet the rule of inference from p to p is not itself a definition. Still wider of the mark is the following footnote (107):

> "it would not be relevant to invoke the t r u t h - t a b l e test here, since this is no g e n e r a l l y e f f e c t i v e test of logical truth."

But, on Pap's own framework, logical truth is not what is in question at this point - a different definition of 'analyticity' is in use. On the other hand, the truth-tables are relevant in their defining role, and of course Pap's remark in the footnote just quoted cannot detract from this. Nor can we agree with Pap (1o7/8), that it would be objectionable that, on the view he is opposing, the law of contradiction itself would not in turn reduce to some other formula. He claims (108) that his opponents would be committed to saying that the law of contradiction is

> "valid because it cannot be denied without being denied; and, surely, even false propositions have that property".

This is not so; they should say that the law cannot be denied without the law's being denied, and this is not true of all statements whatever, but is peculiar to analytic truths in the sense in question.

Given that his treatments of explicative statements and colour incompatibilities are, as we have seen, also not by any means entirely correct, we must conclude that Pap's treatment of synthetic necessary truth is

radically defective. However we have not yet exhausted the topics of ch.5; we turn to the remaining ones next.

> Pap wishes us to accept that it is impossible "to find a meaning of the expression 'theoretically irrefutable by experience' which at once differs from the meaning of 'not capable of being self-consistently denied' (i.e. strictly analytic) and effectively serves to distinguish a priori from empirical truth" (111).

Pap points out (111/2) against Nagel that his criterion of apriority is defective, since

> "this method of 'saving' propositions in the face of apparent exceptions by suitable linguistic conventions is equally applicable to propositions ordinarily regarded as empirical"(112).

Pap also effectively criticizes (115) the view of Lewis (in 'Mind and the World Order'),

> "according to which it is the mark of an a priori proposition 'all A are B' that if we find, empirically, that the concept B does not apply to x, then we are determined to retract A as likewise inapplicable to x. What Lewis unfortunately overlooks is that this pragmatic criterion does not allow us to distinguish strictly analytic from empirical truths. It

> is obvious that high confidence in the truth of 'all A are B' will manifest itself in just such behaviour regardless of whether the source of this confidence is empirical or logical evidence*.

So far Pap has not said enough to establish his main thesis (i.e. that expressed in the initial quotation in the preceding paragraph). It is clear from his treatment of synthetic necessities that he believes in non-contradictory impossibilities, and it might be objected that 'logical impossibility of empirical refutation' will perform the task which Pap denies can be performed. But Pap has additional arguments which, if valid, would establish his thesis. For he holds that empirical laws may not be refutable, on account of a tendency to insert a 'caeteris paribus' clause and on account of the facts to which conventionalist theorists of science point (116-8). One may rejoin that a 'caeteris paribus' clause makes a statement irrefutable only when it makes it vacuous, non-empirical any way, since otherwise certain circumstances would be left as refuting ones. One may rejoin to the scientific conventionalist - who, of course, is not the same as the conventionalist theorist of logical necessity - that refutability b y o r d i n a r y p r o c e d u r e s is all that is intended in the statement of the criterion. Pont the conventionalist

can sceptically question our belief in what are ordinary procedures and what their results actually are. He could also say that empirical refutation of a priori truths is a logical possibility, since ordinary procedures could (in the epistemic sense) lead to the rejection of a priori truths. Pap, however, failes to pursue the matter as far as this, and his own defense of his thesis is inadequate. He fails to see how sceptical one must be to accept it, and his own reasons do not suffice.

Pap is led to the problem of iterated modalities by the following chain of reflections (119):

> "But let us make one more effort to see clearly what, on the above definition, we are saying about a statement in calling it 'true a priori'. So we mean that any rational person could be brought to assent to the statement by just carefully explaining to him what the statement means (by definition of 'rational', of course, a rational person would be able to follow a formal demonstration)? If so, then 'p is a priori' would be a prediction of psychological reactions, and we would only be warranted in saying, with regard to any given p, 'the evidence makes it probable that p is a priori'. Now,

that 'p is a priori' should itself be an empirical statement would be an innocent consequence if it were meant in the sense of 'this sentence is presently used to express an a priori proposition'. But this very statement about usage suggests that 'a priori' is directly predicable of p r o p o s i t i o n s, though derivatively of sentences that express a priori propositions. And would any philosopher be willing to admit that once we know which p is expressed by a given sentence, it is still a q u e s t i o n o f e m p i r i c a l f a c t whether p is a priori? Should we not say, rather, that necessity is an i n t r i n s i c property of a proposition in the sense that it would make no sense to suppose that a necessary proposition m i g h t n o t h a v e b e e n necessary?".

(By 'a priori' Pap here means 'verifiable purely by attention to meanings, supplemented by deduction if required'.)

At this stage we do not need to dwell on the mistakes of supposing that there is only one-way of construing the modal sentence about the proposition, and that there is no way of construing it which makes the judgment expressed contingent. But let us consider what Pap says, assuming that mode of reference for 'It is necessary that p' which is a prerequisite for, though, of course, no guarantee of, necessity in the judgment expressed. It must be said

that Pap's careless conflation of apriority and necessity has now become something worse than merely careless. Because the necessity of p is (apparently!) a property of p, it seems to fall within the category of those facts which can be ascertained a priori. Even so, the necessity of 'It is necessary that p' would not really follow, for necessity is not the same as apriority - any more than it is the same as analyticity - and only his conflation could make Pap's inference seem acceptable. It is clear from the final sentence of the preceding quotation that Pap desires to think in a Leibnizian way about propositions; but this is no sound basis for asserting that necessary propositions are necessarily necessary, for the general reasons which emerged in our criticism of Leibniz. We have also criticized in general terms the practice of saying such things as that it is s e n s e l e s s to suppose that a necessary proposition might not have been necessary. The same criticisms rule out Pap's argument from the

> "semantic assumption that 'necessary' as predicated of propositions is a t i m e - i n d e p e n d e n t predicate, where a 'time-independent' predicate is defined as a predicate P such that sentences of the form 'x is P at time t' are meaningless" (120).

In fact, we have seen, it is not merely meaningful but also sometimes true to say that a proposition is necessary at such-and-such a time, however unnatural such talk may seem.

Pap argues quite correctly that one can fail to see complicated entailments without construing the sentences involved differently from those who see the entailments (122). Again quite correctly, he notes (123) also that if one adhered to the view that correct interpretation and verification coincide in the case of necessary truths, then one would hence come to the conclusion that complex first-order necessary truths, as well as modal truths, were not really necessary. However, neither of these two valid points saves Pap's positive arguments from inadequacy. Nor do his remaining points, which are also negative ones. He shows (125/6) that Leichenbach's argument, (in 'Elements of Symbolic Logic', §34), from the fact that we may err in trying to verify 'It is necessary that p', to the contingency of modal claims - he shows that this argument simply confuses psychological certainty and logical necessity. And he also points out that Reichenbach and Strawson (in 'Necessary Propositions and Entailment-Statements') vitiate their efforts by failing to distinguish judgments about sentences from judgments about propositions.

We have now concluded our examination of ch.5. A more thorough and positive treatment of iterated modalities, as well as of the various matters on which our criticisms of Pap hinge, will be found in our relevant separate sections. It is now time to turn to ch.6 of 'Semantics and Necessary Truth', which is entitled 'The Concept of Logical Truth', and which is of interest because so many appeal to the concept of logical truth in trying to give an account of logical necessity.

> "A logical truth is defined by Quine as a true statement containing only logical constants essentially." (130.)

Pap offers several good criticisms of Quine's definition.

> "If we could first determine in some way that S is true, then, provided we have antecedently enumerated a list of terms to be counted as 'logical constants', it would be easy enough to determine thereafter whether S is logically true. But the definition is silent about a relevant decision procedure. In other words, the definition can at best be used to determine a statement already known to be true as logically true..."(131.)

Furthermore (131/2) the criterion would admit as logical

truths many statements (e.g. the axiom of infinity) which are not necessary. This would be so, continues Pap (132/3), even if we used Quine's pragmatic, gradualist criterion of necessity, since many complex logical truths would be so hard to verify, that we should not be very unwilling to surrender them. (However, one might wonder why one should find a difference in extension of 'logically true' and 'pragmatically necessary' objectionable)

Again,

> "Quine's definition would still leave us with the troublesome question: by what criterion are we to distinguish logical constants from nonlogical constants?"(133)

This question leads us to the heart of ch.6, which is based on Pap's paper 'Logic and the Concept of Entailment' (Journal of Philosophy, 1950).

Pap criticizes definitions of 'logical constant' by enumeration, on the ground that definitions by enumeration as such fail to analyse the intended meaning (133/4). He also (134) criticizes the usual recursive definitions on the ground that they begin with an enumeration. These condemnations of definitions involving enumeration are too sweeping insofar as they reject the idea that intended meanings may in no instance be so conveyed. On the other hand, Pap is far too narrow when he supposes that illumination could come only from analysis of

'intended meanings'. All the same, it is patently true that an enumeration of logical constants would not help us towards any illuminating thought about logical necessity. And it must already be apparent that no definition of 'logical constant' is likely to help us, since to understand logical necessity we need, at best, m o r e that an understanding of a certain kind of word to be found in logical truths. However, let us press on.

Pap notices how unilluminating it is to say that logical signs are 'purely formal' (134). The intelligible uses of 'form' are in connection with an inference (see below) or a sentence, in the latter's case to

> "point out what it has in common with other sentences" (134).

Thus no word would be formal as such; two sentences could be said to be formally similar because of their involving the same descriptive expression (134). All this is quite correct, and one needs to add only that the tendency to talk of logical words as 'formal' generally springs from some crude and false theory of the kind which states logical truths to be 'contentless'.

Next Pap looks for a definition of 'descriptive term', since if

> "an independent definition of 'descriptive term' were at hand, a logical term could simply be defined as a non-descriptive term. It will

appear, however, that such an independent definition presents grave difficulties".(134.)

That such a task proves even more difficult than a definition of 'logical term' should not be surprising, for it is in fact the rough grouping of certain logical words which first suggests the 'logical' - 'descriptive' dichotomy. And one must in fact protest at the use of 'descriptive' for contradictory of 'logical'. That choice of terminology gives a misleading impression which plays into the hands of those whom Pap has just been criticizing in connection with their use of 'formal'. If logical words were not descriptive - in the ordinary sense of this term - then one could after all find a respectable sense for 'formal word'.

Pap says (134/5) that it is no use to define 'descriptive', or, as we should preferably say, 'non-logical', in terms of referring to an o b s e r v a b l e feature of the world. He complains (135) that

"we have no clear criterion of observability. Are numbers, for example, observable features of the world?".

He should go on to mention that in reality the position is just as dubious for all other logical terms. Only the crudest idea of the 'contentlessness' of logical truths can make it seem otherwise. For instance, 'not'

modifies the meaning of 'pink' in 'not pink', in such a way as to make it a matter of observation whether 'not pink' applies to this sheet of paper - analogously to the way in which 'after' modifies the meaning of 'noon' in 'after noon'. One can point to an instance of 'not' just as readily or as difficultly as one can point to an instance of 'after' (which is presumably non-logical). Thus Pap does not go as far as he might have done on this particular point.

We may agree fully with Pap's next piece of argument (135):

> "Again, it would not be illuminating to define descriptive terms as those terms that may function as substituends for variables, where variables are divided, say, into individual predicate, and propositional variables. For if the logician were asked why, for example, no connective variables, i.e. variables taking connectives as values, occur in his system, he would presumably reply that connectives are not descriptive terms."

The key point here is that, in thinking about permissible substitutions, the logician imagined would be relying on a prior classification of terms. If not, then he could not in principle rule out substitutions for

logical words: such a logic is possible, since one could invent expressions to range over several logical words, and use them in sentences to replace, e.g. 'p materially implies, and has the same truth value as, p'.

Next (135) Pap looks at the following definition: 'T occurs as a descriptive term in argument A, if A would remain valid, respectively invalid, if any other syntactically admissible term were substituted for T in all its occurrences'. Pap has two objections. The first is a poor one, running as follows:

> "this definition makes it impossible to define a valid argument as one such that the implication from premise to conclusion is true just by virtue of the meanings of the logical constants involved" (135).

It has long been evident from our investigations that such a definition of 'valid argument' would be exceptionally objectionable, one which we should not uphold Pap's second objection, on the other hand, is devastating. He produces (135/6) a neat counter-example, obviously generalizable:

> "the identity-sign occurs inessentially in arguments of the form 'if x=y and y=z, then x=z; x=y and y=z; therefore x =z': any other relation could be substituted for

identity here, and the argument would remain valid, since it is in fact just a special case of 'if p, then q; p; therefore q'." (135).

Pap also produces a case of essential occurrence of a non-logical word: 'x is a trianble, therefore x has three sides'. As he points out at the same place (136), there are many words which sometimes occur essentially and sometimes occur inessentially; 'triangle' and '=' are just such terms.

Pap criticizes Reichenlach ('Elements of Symbolic Logic', §§55) for relying on a distinction between 'denotative' and 'expressive' terms (136/7). But Pap conducts his criticism unsatisfactorily. He allows that 'or' is 'expressive' if we write 'p or not-p', condemning such talk only in connection with the notation 'or (p, not-P)'. We noted another instance of such confused and misguided fascination with notation in examining ch.5 (in connection with the issue of reducibility to a contradiction). This imperfection is, however, unimportant, since Reichenbach is, indeed, even more in the wrong than Pap suggests, in connection with the term 'expressive'; and, as Pap does mention, he also falls foul of the counter-examples produced (136/7).

The production of those counter-examples leads the reader naturally to consider defining 'logical term' as 'term occurring essentially in some tautologies'. Pap realizes that one will have such a thought, and devotes a footnote to the proposal (137). He points out that defined terms still yield counter-examples, mentioning 'All bachelors are unmarried men' as an instance of a tautology in which a non-logical term occurs essentially. He also notes that, if one banned defined terms, then one would be banning defined logical terms among them, and, also, (137/8) obtaining a predicate not applicable to natural languages.

Next Pap considers the definition of 'logical constant' in terms of 'essentially occurring in formally valid deductive arguments'. He objects (138) that

> "the definition is circular, since an argument is said to be formally valid if it is valid by virtue of the meanings of the logical terms alone."

Unfortunately Pap is here appealing to just one particular definition of 'formally valid', and to one which is contaminated by obnoxious views at that. We can eliminate the obnoxious element in the definition by defining 'formally valid' as 'valid whichever syntactically admissible, uniform variations one might

make in the descriptive terms'. This still leaves the circularity, but before we can exculpate Pap from serious error we need to discover whether alternative definitions of 'formally valid' might not be possible. What leads to talk of 'formal validity' is just that feature which we have incorporated into our definition, when it is contrasted with the case of 'material validity' (as in the inference from 'A is triangular' to 'A has sides'). Nevertheless the following definition is open to us: 'valid whichever syntactically admissible, uniform variations one might make in *s o m e* of the terms, but not in all of them'. (And remember that Pap has already noticed that the sound idea expressible by 'formal' is that of *s o m e* uniformity or other in a class of sentences - a uniformity which remains constant while *t h e r e s t* alters. It is unfortunate that he fails to keep this in mind). Using our newest definition, we should obtain a definition of 'logical constant' in terms of 'essentially occurring in valid deductive arguments which remain valid whichever syntactically admissible, uniform variations one might make in some, but not all, of its terms'. Fortunately for Pap, this definition is also inadequate, and cannot adequately be improved on. To escape circularity we have formulated the definition indefinitely in terms of 'some'

variations in terms; but, of course, one might fail to make variations in descriptive terms; and so counter-instances are possible. To remove this difficulty we should have to go back to using 'all descriptive', and should hence return to the circularity problem.

Next (138) Pap notices that if 'extended' and 'coloured' are counted as non-logical words, then the inference from 'x is coloured' to 'x is extended' must be counted as material. This is a welcome conclusion if 'material' is opposed to 'formal' as in the above-favoured definition of 'formally valid'. But Pap is confused. The example just mentioned is also an example of an implication which is material in the sense of being a synthetic necessity. This is irrelevant to the matter in hand, yet Pap puts 'synthetic' in brackets after using 'material' in his exposition. He gives other examples which should be considered material only in the relevant sense (that opposed to the sense of 'formal'), but he seems to regard them as entirely comparable with the first-mentioned example, which is material in both senses. He goes further seriously astray:

> "If a nonlogical constant occurs essentially in an inference, then the only way in which the inference can be shown to be f o r m a l l y valid is by replacing that constant with its

> definiens; thus the inference from 'x is a father' to 'x has at least one child', in which 'father' occurs essentially, can be translated into the formal inference from 'x is a man who has at least one child' to 'x has at least one child'". (138).

This is a sensible passage only if 'material' - 'formal' means the same as 'synthetic' - 'analytic'. But of course on this sensible interpretation it is irrelevant to the matter in hand. Pap's confusion spoils several pages of his criticism of Quine's definition of 'logical truth' (138-43).

The passage just quoted should additionally raise doubt in our minds in a more indirect way - doubt, that is, as to the adequacy of Pap's treatment. It will be recalled that he mentioned, and refuted, the attempt to deal with the problem raised by defined terms by banning definitions. But Pap himself has now hinted at a more subtle way of attempting to deal with the problem. One could define 'logical constant' as originally suggested, but with the qualification that the inferences (or arguments) involved in the test should have each defined term replaced by its definiens. One would then count a defined term as logical only if its definiens (also) occurred essentially in the inferences. Thus one would

avoid the trouble presented by 'If A is a bachelor, then A is an unmarried man', since only 'bachelor', but not its definiens, would occur essentially in any cases. But this, like our other criticisms of the Pap of ch.6, is not a matter of fundamental importance; since his first objections on other grounds still stand - including the identity-case counter-example.

In a masterful footnote, Pap disposes of yet another widespread idea about logical words (143/4):

> "It should not be supposed that the mentioned difficulties can easily be overcome by defining logical constants as those terms which are dispensable for logical discourse about a n y subject matter. For surely it is not necessary, for example, to use 'or': 'p or q' can be replaced by 'not neither p nor q'. And if it should be replied that at least the primitive logical constants satisfy the above definition, one would overlook that no logical constant is intrinsically primitive; it is only c h o s e n as primitive."

The only possible criticism of this refutation is that it could be still more devastating. For in the ordinary sense of the words one can talk logically without using logical words, so that the thesis which Pap is attacking can additionally be said to be circular, since by

'logical discourse' only 'discourse using logical words' can be meant.'

Pap has a less satisfactory footnote on Popper's definition of 'logical constant' (144). Pap refers us to McKinsey's criticism; though he does add that Popper's definition is fundamentally unilluminating, because it uses the term 'deducible', which is a term just as much in need of definition as 'logical constant' or 'logical truth'. This is a kind of criticism which is long overdue from Pap, since many of the definitions considered earlier introduced such terms as 'inference', 'argument', or 'tautology' - all of them needing to be understood in deductive ways. Before turning to Pap's examination of Wittgenstein's definition of 'logical truth', let us take a more adequate look at the issue between Popper and McKinsey. In his review of Popper's 'Logic without Assumptions' and 'New foundations for Logic', McKinsey (115) points out that Popper makes a mistake during one of the stages of his attempted definition of 'logical constant'. Popper wants to define the class of logical signs as those which can be defined by 'inferential definitions'. Popper introduces the idea of 'absolutely valid' inference: an inference is said to be absolutely valid if every transformation of the language which always carries statements into statements, and which carries the premises into true statements, also carries the

conclusion into a true statement. Both McKinsey and Pap point out that only explicitly circular arguments satisfy this definition. McKinsey goes on from there to say that one cannot define logical terms by means of the notion of absolutely valid inference (this is obvious) whilst definition in terms of ordinary inference would be circular, since 'ordinary inference' would need to be defined with 'logical constant'. This last point of McKinsey's is weak: there is no need to define 'inference' in terms of 'logical constant'. Popper himself mentions the familiar alternatives, rejecting some (section (3) of 'Logic without Assumptions') only because of their inclusion of modal terminology. (Popper is one of those who thinks one 'explains' modality by finding formulae which do not mention it - whence his preference for his own definition of 'valid inference', which runs thus:

> "An inference is valid if, and only if, every form-preserving interpretation of it whose premises are all true has a true conclusion".

c.f. (e.g.) 'Logic without Assumptions' (264).) Why, though, should we accept the assumption that only logical words are 'inferentially definable', i.e., as it is put in section (5) of 'Logic without Assumptions', 'in terms of deducibility'? Surely we can capture the 'Logical

force' of any term by such a means. No doubt it would be in the course of segregating the relevant category of inferential definitions that the circularity McKinsey talks of would actually occur.

> Pap reminds us (144) that the early Wittgenstein "produced an explicatum for the concept of logical truth which, if it were adequate, would have the virtue of making all questions of logical truth in principle d e c i d a b l e ; the concept of the t a u t o l o g o u s t r u t h - f u n c t i o n ".

Pap then goes on to tell the familiar story of the inadequacy of Wittgenstein's definition, which we need not labour. Let us simply note that Wittgenstein's definition cannot be applied outside the propositional calculus, and that not all logic reduces to that calculus.

Both Wittgenstein's and Carnap's definitions turn out, also, to be unilluminating: 'logical truth' is defined as truth under any logically possible circumstance. Carnap uses the term 'state description' ('true in all state descriptions'), but, as Pap points out (151), to be unobjectionable this must be understood as excluding logical impossibilities. However the matter is not as simple as this, as Pap realizes; since Carnap does not claim to give an ordinary, general definition of

'logical truth' (151-3). Carnap defines 'state description in L' with reference to the elements of a particular language L, in such a way that logically impossible state descriptions are excluded by the specifications, but not by use of modal words which could lead to the accusation of circularity. In the face of this, Pap declares (153:)

> "The charge I wish to make good is simply that Carnap's concept of L-truth is not applicable to natural languages and hence in no sense clarifies the meaning of 'logically true' as predicated of statements of natural languages".

It is obvious from the foregoing that this charge is just. But should Pap refrain from pressing other charges? One could scarcely say that Carnap has provided an illuminating definition for artificial languages either. Circularity is avoided by mere enumeration, and impossible state descriptions are avoided partly by placing gravely restrictive conditions on the character of the language - restrictions which have no other motive than to facilitate avoidance of the impossibilities by a simple, ad hoe means. (E.g. the predicates are confined to 'simple' one). All that happens is that our interest in logical truth is pushed more into the background: it becomes less clear what is going on when we segregate logical from non-logical truths, and attention is

focussed on the membership of just one set of the entities with respect to which we are curious. Pap notes something which is a consequence of all this. He says that idealized physical concepts (e.g. that of the ideal gas) are of practical use - can be used in solving everyday problems (153). He proposes (153) to show that nothing analogous is true of the concept of L-truth, and in particular that it cannot be used to settle disputes over statements of which it is controversial either to deny or affirm analyticity (153-6). This is obvious enough, in general terms, from a concrete study of Carnap's theory (with its restrictions which Pap, too, has not failed to notice). Hence it it is unfortunate that Pap ties his discussion of the point to a particularly dubious claim, which could have been avoided. He rejects (154/5) a disjunctive definition of 'coloured', on the ground that

> "'coloured' is capable of conveying the s a m e m e a n i n g to two people who are acquainted with different ranges of colours" (154).

Now acquaintance is irrelevant to meaning, and it is less plausible to say that two people could mean the same by 'coloured' though they recognized a different set of paradigms.

Though we are not yet quite at the end of ch.6 of 'Semantics and Necessary Truth', we are now at the end of

Pap's criticisms of attempts to define 'logical truth'. We should recall that none of our objections to Pap's account destroys his general thesis that the usual definitions are variously faulty, and that no illumination of our thinking about analyticity or necessity is effected. It is most plausible to regard 'logical truth' as designating a subclass of necessary truths traditionally included in logic. One could say that generality, and employment in them of a certain category of words, are further characterizing features, though only in a rough and ready way. Instead of investigating the facts - and then perhaps constructing complex, adequate concepts with which to represent those facts to ourselves - too many philosophers have proceeded as if adequate conceptualizations had already occurred, and that these only needed to be uncovered. Carnap even manufactured some facts to fit an - inadequate - conceptualization we have in fact achieved. But, of course, this is just to say that the same errors and confusions have occurred over logical truth as elsewhere.

Pap next valuably counteracts facile talk of 'purely mechanical procedures' in connection with verification of logical truths (156/7). In effect he points out that if we become reflective about testing by truth-tables, then we shall notice that the cogency of our procedure

depends on the truth of certain necessary truths (the traditional laws of thought), so that

> "at least the logical validity of these two simple and fundamental laws is not k n o w n as a result of such a formal test" (157).

On the other hand, Pap is in a way taken in by the talk of 'mechanical procedures, for he says (157) that he has now shown that some logical knowledge is 'intuitive' rather than 'formal' - as if this crude, hazy and baseless distinction were respectable. Pap wrongly gives the impression that it would be satisfactory to rest content with talk of 'mechanical' testing as a complete explanation of some verifications of necessary truths.

'The Linguistic Theory of Logical Necessity' is the title of ch.7 of 'Semantics and Necessary Truth'. Having (163) noticed briefly the absurdity of Ayer's first view, according to which necessary truths turn out to be a species of contingent truths, Pap turns his attention to the less obviously wrong theories which followed. In particular, Pap argues against the thesis that the existence of certain linguistic habits, relevant to the use of a sentence S, is a necessary and sufficient condition for the necessity of the proposition meant by S. (Let us remind ourselves that the thesis is trivial unless it is

meant to characterize an a d e q u a t e concept of necessity - i.e. unless it makes a claim about what is constitutive of that which we call 'necessity'.) Pap says that the verbalist (as he calls the upholder of a linguistic theory) claims that the truth of necessary statements follows, given the existence of certain conventional synonymies (164). But, objects Pap,

> "suppose we ask, 'follows f r o m w h a t ? ' Evidently the answer is 'from the lair of identity'".(164)

The necessity of this, continues Pap (164), is a necessary condition of the necessity of its instances, and cannot itself be said to owe its necessity to linguistic habits, since all these yield is the synonymy of the law of identity with certain other logical truths. This attempt of Pap's to refute the verbalist will not quite do. The verbalist need not provide Pap with his opening by talking of thenecessary truth's 'following'; the verbalist will say, rather, that the linguistic habits are constitutive of the necessity of the necessary truths. The correct reply to this does indeed require mention of the inadequacy of the verbalist's treatment of the law of identity. After his false start, Pap has only bald assertion to bring against the verbalist's account of the law - Pap baldly asserts that only the synonymy of the law with other laws, and not the

character of the law itself, satisfied the verbalist's account. (The reason why Pap does not arrive at a proper grasp of the verbalist's error is that he too claims to avoid (163)

> "any sort of mysticism or metaphysics that might make him disreputable in the eyes of those who admire above all a clear, sober head".

This ideal, as we know, leads to a reluctance to mention the 'ontological' factors - which must be mentioned if the verbalist is to be properly refuted.)

Next (164/5) Pap states that if linguistic conventions change, then changes occur in respect of which necessary truth (if any) a sentence expresses - whilst, on the other hand, necessary truths do not change into necessary falsehoods. To this the verbalist could simply agree, for it does not contradict his thesis. Nor should he be worried by Pap's attached claim that talk of dependence is meaningless in connection with timeless predicates (165) - 'necessary' is not timeless in Pap's sense (see above), and, in any case, the verbalist talks of the existence of (necessary) truths at certain times, not of their necessity at certain times.

Pap further claims (165/6) that

> "if an empirical statement p describes evidence for another statement q - in other words, if in stating p one gives an empirical reason for

accepting q - then q is itself empirical".

By means of this principle, Pap wishes to show that the verbalist upholding the subtler thesis now at issue is just as committed as the early Ayer was to the view that necessary truths are contingent and empirical. For, after all, the verbalist commits himself to saying that certain empirical facts about usage entail the necessity of certain necessary truths. Unfortunately Pap has here produced yet another unsatisfactory argument against the verbalist. The general principle on which he relies is unsound: does not p entail pv-p even where p is empirical? Once again, then, Pap is right in his selection of a target of attack - but wrong in his methods.

Pap does have more success in attacking the earliest and crudest of Lazerowitz's prnouncements on logical necessity. In 'The Structure of Metaphysics', Lazerowitz claims that

> "The fact that 'A flea is an insect' expresses a logically necessary proposition entails and is entailed by the fact that 'As a matter of usage "insect" applies to whatever "flea" applies to' expresses a true empirical proposition." (271).

To this Pap replies, unanswerably, as follows (168):

> "But it is not clear what 'As a matter of usage,

> "A" applies to whatever "B" applies to' means. If it is so meant that 'As a matter of usage, "black" applies to whatever "crow" applies to is true, although 'all crows are black' expresses an empirical proposition, then clearly the mutual entailment asserted by Lazerowitz does not hold."

If Lazerowitz does not mean this, then he must mean to put forward that verbalists' thesis which was previously under attack from Pap. This Pap realizes; and then, of course, he falls back once more on the inadequate arguments that he has already used (168/9). To this defect is added the fact that in subsequent writings Lazerowitz has moved on from the viewpoint of 'The Structure of Metaphysics'.

Pap remarks (169) that the view is sometimes expressed that, in changing from two - to three - valued logic, we change the meanings of the words used, and that this shows the conventional nature of logical principles. Pap says quite correctly (169) that nothing of the sort is shown, but he argues incorrectly, as follows (169):

> "if from the fact that so-and-so denies S i t f o l l o w s that so-and-so has changed the usual meaning of S, then it follows that the proposition usually expressed by S is necessary."

Only to the headiest of conventionalists does the antecedent of this conditional seem plausible; Pap himself, we saw, argues against it elsewhere; and why should the consequent seem to follow? Furthermore, the conventionalist himself need not be affirming the antecedent of the conditional - he may simply be impressed by the fact that we can switch to an alternative logic. A more adequate reply than Pap's to one who would argue to conventionalism on this basis is as follows. Alternative logics may use the same signs with different meanings; but that this does not entail the conventionality of logical principles is evident from the fact that we can also have two contingent truths, or bodies of contingent truths, expressed in the same terminology, but with a systematic variation in meanings.

Pap's next point is another unanswerable reply to a certain kind of conventionalist argumentation, from implicit definition of logical terms:

> "if the method of specifying the meaning of a term T by saying that T is meant in such a way that statement S containing T is true justified the assertion that the truth expressed by S is conventional, then any true statement could be made out as a conventional truth. Thus suppose that all the terms in the statement 'the city buses running on Broadway are red' except 'red'

> have been assigned meanings, and we now explain the meaning of 'red' by saying '"red" means that colour C for which "the city buses running on Broadway are C" is true'. Is the fact that the city buses running on Broadway are red, then, a result of linguistic convention?"(170).

Once more, however, Pap's unanswerable reply, completely sound though it is in itself, is no more than a small scratch against the conventionalist's edifice.

Pap considers the thesis that the idea of necessary truths distinct from linguistic rules is an illusory one (170-3). He makes the valid point (171-2) that if we were to voice as an objection the truth that we use 'true' of necessary truths, then a similar point would have to be conceded against ethical emotivism. Indeed the evidence about the use of the word 'true' is too slight and superficial to be of use in connection with wither of those issues. Apart from this point, however, Pap's treatment of the issue that he has raised is disappointing. He says that

> "It would be futile to debate the question of whether S expresses a proposition or is just a linguistic rule unless we can agree on a g e n e r a l criterion of propositional significance" (172).

This is a misguided claim. By examining details of the use we make of necessary truths, their relation to fact, and so forth, we found it possible to resolve the issue. (As we saw, Pap is unwilling to direct his attention to the relevant matters, on account of his antimetaphysical stance.)

Pap has an additional invalid argument against the verbalist, taken as asserting that an entailment statement is a contingent metalinguistic generalization about classes of synonymous sentences:

> "if this metalinguistic statement is a contingent generalization that s a y s m o r e than '"p" has R to "q"', then it must be logically possible that although 'p' has R to 'q', some sentence synonymous with 'p' does not have R to some sentence synonymous with 'q'. And this is evidently logically impossible." (181).

It is not at all clear why Pap considers his preliminary inference is valid. His opponent will cit the case in hand as a counter-instance to Pap's general supposition.

Next Pap discusses the view that necessary truths are really rules of inference. He remarks correctly that it is not essential to such a view to confuse logical equivalence and synonymy (182) and proceeds with the following claim:

> "The really fatal defect, however, of the views that the allegedly necessary statements of logic and mathematics are transformation rules is that such sentences exercise different functions in different contexts." (182/3.)

As Pap says (183) we have both the rules and the truths, and we appeal to the truths to justify use of the rules. However, it is necessary to criticize Pap on account of his failure to give sufficient evidence that there are the truths as well as the rules. He just points (183) to arithmetic and says that here we "undeniably" have truths and not rules. This leaves it open to his opponent to reply that a formula does not actually have to be in use as such in order to be a rule, and that in fact the pure mathematician deals wholly with rules. Not surprisingly, Pap finds himself edged into the defensive position of denying that the opponent has conclusively established his case:

> "if the fact that a sentence may in some contexts function as a rule of inference were a good reason for denying that it is used to assert a proposition in any context, it would follow that even most empirical propositions are not really propositions at all" (183).

This is so, but it manifestly fails actually to refute the opponent - in this case Britton, whose article we separately examine elsewhere. Eventually, however, Pap does produce an apparently more substantial argument, which he deploys in connection with a certain subclass of logical formulae.

> "Briefly, the objection is that whatever rules one may have initially stipulated, and however arbitrary such stipulations may be, one will thereafter have to f i n d o u t what these rules entail; and the statement that such and such is entailed by the rules could hardly be characterized as itself a rule." (184).

Unfortunately Pap's argumentation is once again defective. Strictly speaking - as we saw - what we 'find out' is not expressed by a necessary truth, but by a c o n t i n g e n t metastatement. There is a necessary truth closely connected, but, for all that Pap says, his opponent could continue to maintain that that is a rule. Nor should it be thought that Pap's argument does not turn on a stressing of 'find out'; for from the fact that we arrive at a formula by a process of derivation (as opposed to stipulation) it does not follow that the formula is not a rule - we are continually engaged in the practice of deriving one rule from another. Thus we are confirmed further in our belief that one cannot genuinely refute

the conventionalist (or verbalist) without facing up to those factors which Pap's alignment with the anti-metaphysicians precludes him from apprehending.

We now spring to a quite different issue in 'Semantics and Necessary Truth' - that of 'truth by ostensive definition'. In the next few pages we shall examine not only Pap's contribution but also others' writings on the same issue.

In section B of ch.9 of 'Semantics and Necessary Truth' - also in two Mind articles of 1946 and 1950 - Pap argues that 'This (red object) is red' can be shown to be analytic, by means of the ostensive definition of 'red' using the red object that the truth is about. The procedure Pap invokes is the replacement (in the truth) of 'is red' by 'has the colour of this object'. Pap is mistaken. The ostensive definition of 'red' does not make that term synonymous with 'the colour of this'. On the other hand, if one said 'Let "red" be a synonym of "the colour of this"', then one is not giving 'red' its usual meaning, and ostensive definition would not be involved. Pap confuses 'Let "red" mean the colour of this' and 'Let "red" mean the same as "the colour of this"'; the former involves ostensive definition but no rule to make 'This is red' analytic, whilst the latter provides a substitution rule irrelevant to 'This is red' in its normal sense. It may be replied that, in the latter case,

the rule is relevant to 'This is red' in the unusual sense of 'This is the colour of this'. To this the answer is that such a sentence may be used to call attention to a necessary fact, but, as has just been said, the matter now has nothing in particular to do with ostensive definition. It cannot even be said that Pap really had such a necessary fact in mind, for he interprets the sentence in question as expressing a statement with existential import. (He writes (259) of "the analytic existential sentence".)

In fact Pap more or less backs down from his original claim.

> "The assertion here made is not that a world in which there are... no blue objects or sense data is logically impossible. What is claimed to be logically impossible is rather a world in which nothing is blue and in which one can meaningfully t a l k a b o u t blue objects though 'blue' means what it means through ostensive definition only." (259).

To grant this would be to grant that the original show of normal analyticity respecting 'This is red' must have contained an illusion and that something went wrong. We have seen just what went wrong.

If one has a residual feeling that Pap's original

claim may have been correct after all, then probably a confusion of the intensional with the extensional 'means' will be responsible. For if one protests that, after all, 'red' is ostensively defined to mean the colour of this, then the protest is irrelevant if correct. For the protest is correct only if 'the colour of this' is taken extensionally, and extensional meaning is irrelevant to analyticity. Nevertheless let it be clear that there is no objection to saying e.g. that 'Red is red' is analytic on account of the fact that 'red' has been ostensively defined to mean - r e d . - It does not matter, for the purposes of ascertaining analyticity, how 'red' came to receive that meaning which makes certain sentences express analytic truths. It is not correct to argue with Radford (IOstensive Definitions, Coordinative Definitions, and Necessary Empirical Statements: A Reply to Arthur Pap') that Pap's premise is false, inasmuch that

> "Ostensive definitions cannot be construed as semantic rules." (270).

As We have seen, Pap's error is different from, and more specific than, that, and arises largely from insensitivity to intensionality. (Radford has other arguments, but these involved a misplaced reverance for ordinary language. Thus he charges that the ostensive definition of 'red' which Pap describes does not yield the ordinary, common meaning

of 'red' (270), and that, in the ordinary sense of 'red', the object used in the ostensive definition might fail to be red (270/1). To this Pap could reply that we are to construe 'red' in the unusual ways which would make his arguments satisfactory. True, there are no such ways; but Radford fails to show this.)

Radford argues further (271/2) that 'This is the same colour as this' cannot be necessarily true since it is not true when the speaker fails to point to anything. Thus he overlooks the use of this sentence to draw attention to a necessary fact - which is what occurs when 'This' designates a content which is integrated into a thought of the kind considered in our chapter on Husserl. Furthermore Radford thinks (272) that showing Pap argues invalidly in connection with ostensive definitions as good as shows that he is simultaneously wrong in connection with coordinative definitions - which Radford himself calls "very different" (272). Why Radford thinks this is unclear, but presumably we are supposed to assume that trouble will again arise from the possibility that e.g. the standard bar in Paris might not have existed. Pap would no doubt reply that in that case no sentence defined solely by reference to the bar would be meaningful - a reply not considered by Radford. (This reply would not be sufficient to establish Pap's original thesis, however. c.f. our remarks above.)

But does any trouble really arise from the possibility that the bar might not have existed? Not at all, for the candidate for necessary truth - 'Any standard bar (used as sole device to define "metre") is one metre long' - need have no existential commitment. Now this statement - that any standard bar is one metre long - really is necessary if 'metre' is defined strictly as suggested, so that it would still apply to the bar even if it turned out in fact to be a two-inch worm (say). As was said before, how a word receives its meaning is unimportant to the question of analyticity. Pap's error is to think that pointing and saying 'like this' is somehow to g i v e a meaning w i t h t h e w o r d s 'like this'. If 'mean' is brought into ostensive definitions it is used extensionally, and the statement cannot be used in place of an intensional specification of meaning to establish analyticities. This should be clear enough from our earlier investigations.

The whole issue has been further clouded by Waismann's failure to achieve a perfect grasp of it in 'Analytic-Synthetic'. In the second piece of that article, Waismann argues (37/8) that analytic truths involving ostensively defined terms do not really depend for their analyticity on the ostensive definitions. This is true, in the sense that what matters is what the terms mean, not how the meanings are conveyed to people.

But this is not what Waismann is actually saying. He declares that

> "what is really needed in transforming any such sentence into a truism is no more than a v e r b a l i z a t i o n of the actual process of the ostensive definition" (37/8).

This is wrong. On the contrary, one requires an intensional meaning-statement, not an extensional one. Waismann thus advocates a repetition of Pap's error. On the other hand Waismann says also that only syntactical rules need to be known if one wishes to establish analyticity (37/8). This claim is indeed irrelevant, but Pap concentrates attention on it above (256-9). Waismann does (37) appreciate that '"white" means the colour of snow' does not give the intensional meaning of 'white'; but the fact remains that he confuses intensional and extensional meaning in the passage quoted above. Pap entirely fails to see the force of the point; he just makes the irrelevant comment (258/9) that it is only an empirical impossibility that a blind man cannot imagine the colour of snow.

Our general conclusion regarding Pap must be that although he tries to kick over the traces imposed upon him by the intellectual environment which nurtured him in his later phase, Pap fails to do so, and rather

entangles himself in the traces. He fails to make the crucial shift from semantics to real definition as the aim of philosophy, no doubt because of the lack of rigour in most actual non- 'analytical' philosophy, and because of a failure to see alternatives.

SYNTHETIC NECESSARY CONNECTIONS

There are synthetic necessary truths - in the sense that there are statements which would generally be called necessary truths and which are synthetic. Men have difficulty in comparing meanings with one another, so that in many cases it is difficult to judge whether a statement is synthetic or not. Mathematics is a field where it is extremely difficult, in many cases, to judge how to analyse statements and whether suggested analyses are correct. This will be due to the method whereby we specify concepts for ourselves - with the aid of intensionally used language which gives the concepts whole, leaving us to find alternative, more complex descriptions which give the same concept and which help us to appreciate, where thinking is not platonic, how the different parts of a statement are interrelated. Of course it is much easier when we learn meanings by hearing a word defined with the aid of an expression which is understood to have the same meaning - whether by stipulation here and now or on authority. But words can be synonymous without having been explicitly interdefined. How we compare concepts with one another is not known - except that we seem to rely on platonic representations even in cases where they are inadequate to the meaning (when it is not platonically determined). These platonic representations

are unreliable - as the case of our false judgment that 'west of' is transitive shows. Asking such questions as 'What should we say if..?' is likewise unreliable - we are liable to respond on the basis of e.g. inductive connections instead of on the basis of what falls under a concept. It would be far less dubious to ask 'Would that fall under the concept?' - which is not much more helpful than 'What does this word mean - what is this concept?' (We saw in Ch.6 how linguistic philosphers, following Wittgenstein, have a confusion between a broad and narrow sense of 'criterion' at the centre of their methodology. In the present chapter we shall be seeing how their handling of meanings is spoiled by other treacherous vaguenesses as well.

Despite all the difficulties lexicography is not impossible. And one may fairly say that many linguistic philosophers have managed to advance lexicography, i.e. to carry individual conceptual analyses beyond the stages reached by lexicographers. However linguistic philosophy has been so confused and rotten that lexicographical results have been mixed up with statements of criteria in a much broader sense, there has been a failure to recognise diversity of concepts (talk is generally of "the" concept) and there has been an overwhelming tendency covertly to disregard actual meanings in favour of concepts which the

linguistic philosopher would like to regard as being instantiated. Still, if we brush aside the chaos which the linguistic philosopher has let loose, we shall readily appreciate that decent and acceptable lexicography is possible, and has been achieved by lexicographers and, to a much slighter extent, by linguistic philosophers - who in certain instances may be said to have improved upon lexicographers' results. A third set of contributions comes of course from logicians, who do semantical work and, as often as not, have the results conveyed indirectly (hinted at) by logical truths. A fourth source of knowledge of meanings is stipulation in every quarter. But we need not wait upon stipulation. If we could create a synthetic necessary statement for ourselves, that would obviously be good enough to settle the issue of whether they exist.

For us the issue of whether synthetic necessary truths exist cannot seem so exciting as it does to others. Synthetic necessary truths would take their place as just another kind of statement about the world, like analytic truth s. Why should all necessary truths be just of the analytic forms? To the logical positivist and his opponents, for example, the position seemed very different. They identified analyticity, triviality, not being about the world and not being synthetic. We have unmasked these conflations, common to e.g. Ewing and Ayer alike. We have learnt that a synthetic truth is not automatically

non-trivial, and it is already clear to us that the plausible candidates for the status of synthetic necessary truth are all trivial or (c.f. especially Ch.11) at least not informative regarding what exists or the nature of what we call so - and - so. Thus e.g. any plausible candidate for the status of synthetic necessary truth about colours would not say or imply that those colours existed or that those colours are identical with the qualities which we in fact call by the names of those colours. (Though of course it would be a truth-condition of such synthetic necessary truths that the qualities we call by the names of the colours involved should be necessarily connected, as stated, If genuinely of the character of the colours talked about in the statements In Section A below we shall deal with the statement 'Nothing is red and green all over'. This statement is typical, in relevant respects not only of similar statements about colours but also of analogous statements about other qualities. Not all of these are of the same logical form (recall the examples mentioned in Ch. 9), but it is very easy to transfer the lessons we are about to learn to all the cases with which, for the sake of brevity, we shall not be dealing explicitly. Section B will be devoted to miscellaneous considerations concerning synthetic necessity.

A

Let us call the statement that nothing is red and green all over 'N'. Philosophers have difficulty in appreciating

its synthetic character because of various confusions and other inadequacies in their thinking. As we shall see, they confuse N with quite different statements. As we have seen, they have also failed to grasp the nature of analyticity adequately, and their thinking on the subject of meaning is unsound. We on the other hand, are able to ascertain the synthetic character of N in a few moments. For the meaning of N is not complex or difficult to appreciate (by comparison with arithmetical statements fo r example.) Furthermore we now have to hand an adequate account of analyticity and as adequate account of meaning as is feasible until physiology advances. All we have to do now is note that a thing's being red all over does not itself render the concept of not being green all over applicable, and a thing's been green all over does not itself render the concept of not being red all over applicable. Those who fail to see this are confused in some respect. The variety of these confusions will emerge in a survey of the literature on N (and statements like N). To such a survey the rest of the present section will be devoted. We shall begin with the two more satisfactory treatments of the problem, by Sloman and Pap.

Sloman in 'colour Incompatibilities and Analyticity' begins (110) by pointing out that :

> "the mere fact that two sets of properties do not overlap does not logically imply that the corresponding sets of object s with those properties are

mutually exclusive."

As counter-examples Sloman mentions redness and roundness; the same thing can be red and round at the same time. Indeed, one might add, the same thing can be red and green at the same time - in different places. If the fact that it is analytic that redness is not greenness precluded the existence of objects which are red and green all over, then the same analyticity would preclude an object's being red and green at the same time at all. Or at least the irrelevance of t he analytic truth that redness is not greenness has the same degree of irrelevance in each case. Obvious one of the confusions that hides the synthetic character of N is the confusion of N with 'Redness is not greenness and greenness is not redness.' Pointing to the compatibility of 'Redness is not roundness' and 'something is both red and round' helps to show those who are confused that the analytic statement 'Redness is distinct from greenness' is different from, and does not entail the analyticity of, N. However Sloman would have done better to have chosen e.g. 'Redness is not softness', for this analytic truth is compatible with the truth of 'something i s red and soft all over', which is strictly analogous to the impossible statement 'something is red and green all over.' Another possible confusion, which Sloman fails to ment ion, is of N and 'Being green all over is different from being red all over', which latter statement really is analytic; as is 'Being red all over is

different from being soft all over'.

Sloman considers (110) the reply that red and green (we change all colour examples to these in the present section, for the sake of uniformity) mean different properties in the same determinable range. Quite rightly (111) Sloman points to the analogous case of two putches or two timbres heard in the sam e sound (i.e. coming from the same place at the sam e time). One could also point out the possibility of forming the determinable - concept 'colour or shape', which would do nothing to destroy the logical possibility of round red things. In fact Sloman is not hard enough on those who point out that 'red' and 'green' both mean colours. One cannot point to just any facts of meaning to establish analyticity, and actually the fact that 'red' and 'green' both mean colours is irrelevant to the issue of whether N is analytic or synthetic.

Next (114) Sloman claims that it is implausible to suggest that there is a specific incompatibility convention for every pair of colours since then learning could never get started. At this point Sloman begins to go astray. What does he mean by 'incompatibility convention'? Incompatibility is not a semantical matter (c.f. Ch.7, Section C). However one could imagine a semantic convention to the effect that 'red' is to be applied only to properties incompatible with greenness. But of course it already is analytic that redness is not the same as greenness - this truth is expressed

with the aid of a convention restricting 'red' to redness and 'green' to greenness. So what would have to be in question with respect to N is a convention that 'red' is to be applied only t o properties which cannot share the same surface with greenness. Or, to turn N into an analytic truth, it would do equally to replace 'cannot' by 'do not'. And it is implausible to suggest that we normally back our use of colour words with such conventions. We need not however resort to Sloman's argument that learning could never get started if such conventions operated. After all, they could be introduced or gathered after the main conventions had been grasped. We need to be more radical than Sloman is here (though he himself makes amends later, at p.116). We need to say that we so mean N that the suggested conventions do not in fact operate. It transpires that N seems every bit as intuitively necessary as when it is made into an analytic truth. It seems out of the qu estion that there should ever be a red patch - in the sense of 'red' in which the additional convention about the absence of greenness does not operate - which was green at the same places as it was red. In addition to all thi s we may take over two points made by Sloman. Regarding a general, high-level "incompatibility convention" he says correctly (114/S) t hat there is no reason to think that exist and that

"almo st any pair of concepts may be made analytically

incompatible by the adoption of a convention like it".

We may also agree with Sloman that (115)

"The adoption of a convention making two words incompatible always leaves unresolved the question of the incompatibility of independently identifiable perceptible properties."

(We should however like to replace 'incompatible' in its first occurrence by 'express incompatible concepts!). We must, though, take exception to Sloman's talk (116) of what he calls "incompatibilit y conventions" as being conventions we need not adopt - as if he thinks necessary truths are conventions we must adopt; whereas in fact they are not conventions at all. Nor is it t he case that we must adopt those conventions with which we normally express necessary truths. The real point, which tends to get lost or muddled in Sloman's account, is that we can express an intuitively necessary truths with the aid of conventions that make N synthetic. (Of course N is synthetic in its normal use - only for the sake of argument do we allow opponents the premise that conventions governing N normally are such as to Make N analytic.

. Sloman very interestingly describes (118) a simple procedure involving a blurring of vision to give an effect which one "might describe" as seeing a surface red and green all over. One could well imagine somebody retorting that

in the situation described one would not be led into saying that the physical surfaces used in the procedure were to any extent red and green all over. But we can defend Sloman on this issue. It is clear that if the contextual accompaniments of the "blurred" vision were absent (pain in the eyes, strain, knowledge of the occurrence of the special procedure and the fact that beforehand and afterwards monochromatic surfaces are before one) - it is clear that if this context were absent and the subjective state were prolonged etc., then one would be justified (perceptually) in making a physical claim contradicting N. In any case, a variant of N about sense-data seems just as necessary as N itself until (and even after!) attention has been drawn to a counter-instance. Sloman himself is full of doubts as to whether his procedure does provide a genu ine counter-instance. He even suggests at the end of his article (119) that N might be shown to be analytic by reference to two-dimensional viewing of colours. (He would have been less inclined to make this implausible suggestion had he taken tint and brightness instead of 'red' and 'round'; for tint and bri ghtness are viewed over the whole of one and the same area at once). However careful phenomenological analysis reveals that N can indeed be clearly refuted. It was indeed fairly commonplace among phenomenologists to talk of 'Verschmelzungen' of colours and sounds (e.g. Stumpf

147/8) in his 'Erkenntrislehre'). There is no need to plead with Sloman (118/9) that ordinary meanings are too vague for one to tell whether a refutation has occurred or whether a statement in ordin ary language is analytic. No concept could be clearer than 'red all over' or 'green all over', and it is clear that Sloman's procedure leads to a refutation (strictly: for sense-data) once one has ascertained that t he procedure does not merely lead to a 'speckled' sense-field, but to one which is a counter-instance to N. It is no t the first time that a putatively necessary synthetic statement has turned out to admit of the production of counter-instances. The repercussions will be discussed in Ch.16. Meanwhile it remains to expose errors attaching to reasonings about N. We turn next to Pap, who exposes some errors and commits others.

In Section B of Ch. 8 of 'semantics and Necessary Truth' Pap vehemently criticizes those who talk vaguely of 'contravening usage' or 'truth by implicit definition' in connection with synthetic necessary truths. Not even contradictions contravene usage, and the idea of truth by implicit definition is nonsense, as we now know. Furthermore, it is hopeless to retreat into such phrases as 'contravening usage' and 'truth by implicit definitions' when the only ground is an inability to show a necessary truth to be analytic. We need not be detained by the sorry shiftiness which Pap exposes so well in Section B of his Ch.8. His Ch.9, Section A

is however less satisfactory. Because he uses the Frege-Quine definition of analytic, Pap thinks the synthetic character of N can be inferred from an alleged indefinability of colour-terms. But the Frege-Quine definition is defective, and we can have analyticities in the absence of definability (e.g. of the forms 'A=A' and 'A-ness is not B-ness). Worse still Pap thinks that the analyticity of N would be guaranteed (248/9) if 'red' were definable in terms of 'not green'. But it is plausible to say that 'red' means 'red and nothing else'; and certainly 'Redness is not greenness' is analytic - only the analyticity of N, as we saw, does not follow.

Both Sloman and Pap deal briefly with Putman's attempt in 'Reds, Greens and Logical Analysis' to show that N is analytic. Putnam begins (207) his article by swallowing the falsehood that analytic truths cannot contain indefinable terms. However, that would not matter if only he were able to show N to be analytic. But of course he cannot. He says that N can be shown to be analytic by deriving it from 'Red and green are di fferent shades' and 'Nothing is two different shades at once' (217). Thus he makes the mistake of principle of attempting to show analyticity by means of a derivation from supposedly analytic premises. That is clearly no way to guarantee analyticity, since there is no reason to suppose that an analytic truth never entails (say, synthetically) or synthetic necessary truth. If

we eliminate the talk of 'following from', we find that Putnam claims that (J) "Nothing is two different shades at once' can be seen to be analytic from the definitions of 'colour', 'exactly the same colour as' and 'different'. He gives a strange definition for 'colour' (213): '(Ey)(x)(Fx if and only if X is exactly the same colour as y)'. He says (209) that 'exactly the same colour as' is defined to be transit ive, reflexive, symmetrical and to mean 'indi stinguishable in colour from'. Putnam fails to make clear how all this shows J to be analytic. Presumably he thinks that if an object were red and green all over, it would have to be exactly the same colour as monochromatic normal red pillar boxes and fresh green grass at once, and that by transitivity these would have to be the same in colour, which, analytically, they are not. We saw (Ch.7 Section C) how i mplausible it is to suggest that transitivity is built into the ordinary concept of 'being exactly the same colour as; we saw this in connection with Hempel. But let that pass. If transitivity is built into the concept, t hen an object that was red and green all over (or even at all polychromatic!) could not correctly be said to be the same in colour as a normal red pillar box. An d in any case we need not build the transitivity into the concept if we do not wish. In his review of Putnam's article,

Goodman says Putnam's argument is circular since if a thing could be t wo colours all over simultaneously, 'exactly the same colour as' would be intransitive thus:

A	B	C
Red	Blue	Green
Blue	Green	Yellow

The real point is that any restriction making J or N analytic can be dropped without it being impossible to talk adequately - and synthetically - about colours in the relevant ways. Smart ('Incompatible Colours') objects to Goodman that Putnam is not refuted by his objection since

> "the notion of 'being exactly the same colour as' is introduced in t erms of the weaker relation 'being indistinguishable in colour from'". (c.f. the first two pages of Smart's article).

But in fact exactly the same points apply in respect of the so-called weaker relation. In fact whereas it is correct to say that a red and green object is exactly the same colour as a red one - because it is partially so - it would be unnatural to say that a red and green object and a red object were indistinguishable in colour. Furthermore, suppose A is red and green all over, B is red all over and C is green all over. Then A is exactly the same colour as B and C in a sense which does not, even granted transitivity, preclude B's being exactly the same colour as C - for B and C too m ight be red and green all over. The unclarity of 'indistinguishable in colour from' is well brought out by

Sloman (119), who asks Putnam how he would apply the analogous expression 'indistinguishable in timbre from' (a) to t he sound of a flute alone and (b) to the sound of a duet for flute and bassoon comi ng from a loudspeaker. What does seem clear is that any attempt to make J or N analytic with the aid of su ch phrases alters the meanin g of J or N in unsatisfactory and unnatural ways, i.e. simply for the sake of turning them into analytic truths. The fact that, in the ordinary senses of the words, an object red and green all over would be the same in colour as blood and grass, which are different in colour, is no more paradoxical than the parallel fact about an object half red and half green, whi ch is also the same in colour as both blood and grass. Glassen ('Reds, Greens and the Synthetic A Priori') protests at the artificiality of Putnam's way of defining colours - certainly it is not in accordance with normal usage to define a colour in terms of a particular set of objects exhibiting that colour. That is a sure sign that hocus-pocus is being used; otherwise one would attend directly to J or N in their normal senses, for it is in their normal senses that they seem to be synthetic necessary truths, and it is to J or N in their normal senses - among others - to which one must eventually pay attention. In 'Once More: Colours and the Synthetic A Priori' Pap is quite wrong in allowing that Putnam has shown J but not N to be

analytic. Thus we cannot agree with his conclusion that since we know J and N in the same way the 'analytic' - 'synthetic' distinction is shown to be unimportant. In his rejoinder to Pap, Putnam concentrates on showing how (K) 'Red and green are different colours' follows from 'One red thing is not green' and 'Red and green are colours'. He proposes using K in conjunction with J to prove N. Thus he i s now unsure of his original arguments, and wishes to fall back on the view that N follows analytically from an "observation statement" plus analytic truths. But that obviously presupposes that J is analytic, which we have seen not to be so. In any case, little light would be thrown on the status of N by a derivation of it from other truths.

Next we turn to an examination of 'Untersuchungen zur Problematik der sogenannten synthetischen Saetze Apriori' by Delius. He begins his book on a very dogmatic note, claiming that N (and 'All colours are extended') are to be regarded as necessary as a matter of "basic fact" (40/1), to be appreciated if one tries to entertain the thought of a counter-instance. Worse still he says that it is "uncontroversial" (41) that colour concepts are indefinable, and that that i s what gives rise to the problem. He gives some arguments for the second of his presuppositions, but they are poor ones. He completely misses the point that 'simple' concepts can enter into analytic truths. And

his argument (42) that 'red' is definable only ostensively and by pointing to a simple perceptual content is not a water-ti ght proof that colour-concepts are simple: colour-percepts are not themselves simple (thou gh this does not entail that colour concepts are complex); There might be background conventions governing many term s; and an ostensive definition might be the occasion of a complex concept-formation, even though, in practice, we could find no more complex expression wherewith we could give a verbal definition of the concept.

Next (42) Delius attends to the statement 'If a is Monday, a is not Friday', which (43) he says is analytic. Thi s i s not so - it i s not analytically ruled ou t that a be (Friday and Monday) or else (Friday or Monday). What is analytically ruled out is that Friday as such is Monday as such - just as it is analytic that redness is no t greenness. He thinks (43) that if 'red' were definable in terms of 'not blue, not green,... etc.' then N would be analytic. Like so many others Delius combines the mistakes of not realising that redness analytically excludes greenness from itself and of thinking that to admit such an analyticity is to admit that N is analytic. Such are the dangers, a snare to Pap and Delius alike, of thinking of the problem of the synthetic a priori in terms of whether colour-words are definable. Furthermore Delius waves the wand of the 'formal' - 'Material' distinction in

a highly incompetent manner. He (44) draws a spurious contrast between 'Monday' as designating "a purely formally determined place" in a sequence and 'red' as designating 'a perceptual content of peculiar character". In fact of course the two terms are in all relevant respects parallel. A week is "formally" divided into seven parts, the spectrum is "form ally" divided into individual colours. All Delius has left is the crude idea that a period of time is somehow less 'substantial' than a colour! Thus he is both confused and apt to flaunt pseudo-distinctions in a thoroughly careless manner. Nor is it relevant that colours (45) cannot be defined entirely wi thout the aid of ostension - this is so in every field.

Having (47-54) no ticed that Husserl attends only to "traditional" empiricist critics of his position and not to linguistic philosophers, Delius passes on to a consideration of the early Wittgenstein (55-7). He sees that in T(6,375 , etc.) Wittgenstein simply took the necessi ty of N for granted and argued that colour must have a logical structure since atomic propositions cannot contradict one another. Thus he assumes in T that N is analytic, but gives no positive account. In SRLF things are no better - Wittgenstein says the problem is solved by striking out of the truth-table the combinati on of truth values which would make N false. Delius mocks this idea (65-9) in Waismann's

exposition of it. Striking out the line of the truth table, if coherent at all, is just to acknowledge a necessity without giving an account of it.

Delius (71) points out correctly that the sentence expressing N cannot plausibly be interpreted at all as a semanti cal or other meaning statement.

Delius criticizes Putnam's definitions of colour words; and also points out that to say, as Putnam does at one point (211/2),

> "that (with two different colour expressions) one must be able to imagine two corresponding, different, coloured objects (as opposed to just one) is only t o describe the unelucidated necessity which is in question",

not to show that it is analytic. These are reasonable, but not the central, criticisms.

Delius is confused on the theory of meaning. He thinks that natural language involves only rules of designation and syntactical substitution rules. In fact rules of designation (of "percept ual contents") are very rarely in operation. He is confusing them with semantical rules. (176). He sees ostensive definitions (179) as setting up a connection between a "perceptual content" and a word; in fact, of course, an ostensive definition is aimed primarily at conveying, indirectly, the sense to be attached to a word.

(C.f. Chs. 6 and 14 -remember Pap's mistakes in this area). Now Delius wrongly accepts conventionalism for all statements which can be shown to be analytic by reference to "substitution rules", whi ch he conceives of syntactically (198/200/1). This is because he thinks of the conventionalism -ontologism issue in terms of whether the linguistic rules in question are based on objective necessary facts. This is of course a confusion: linguistic rules in the conventionalists' sense are not ever based on objective necessary facts, but, sometimes, on what things exist, on our interests, and so forth. Rules of truth, when necessary, are based on objective necessary facts, but are not conventional. Moreover both syntactical and semantical rules are relevant to each analyticity there is (c.f. Ch.7, Section C). It is a complete muddle to say (201) that N cannot be analytic because the meaning rules for its key terms are "designative" (he should have said semantical). There are syntactical as well as semantical facts about all terms. In arguing that N cannot be analytic because it involves a connection of non-linguistic contents (203) Delius makes the mistake of identifying the conventional and the analytic. Thus Delius ends up with the outrageous conflation of the conventi onal the analytic and the syntactical! We can hardly agree with hi s criticism that (204) linguistic philosophers confuse substitution and designative rules;

for although linguistic philosophers tend to be less than satisfactory in distinguishing syntactics and semantics, it i s not the case that their whole account of N is vitiated by such confusions - for Delius is wrong in thinking that there is a tight connection between just one kind of linguistic rule and analyticity.

Next (205/6) Delius di scusses what Pears has to say. He rightly ignores Pears' earlier article, 'Synthetic Necessary Truth'. In that article Pears (202-8) says such things as that N owes its necessary truth to a verbal rule prescribing an additional test indistinguishable from the original test to(being not green is not an additional test to being red); and that N owes its necessary truth to a verbal rule prescribing and additional test which is almost useless because minimal. Thus in this first article Pears wrongly embraces conventionalism, wrongly says that the test for 'no t green' is indistinguishable from the test for 'red' (c.f. our criticisms of Toulmin in Ch.10), and evidently makes the usual mistake of confusing N with 'Red i s not green' - for he writes as if one had to look at the redness of objects and see whether the redness is not green to verify N. Delius considers Pears' later article on the same topic,'Incompatibilities of Colours'. In that article Pears' unfortunately continues, in effect, to confuse N and 'Red' is not green'. He thinks that

sufficient illumination is provided by saying that there are designative rules linking 'red' with redness and 'green' with greenness, whi ch are different colours. He fails to see that this would not explain the impossibility of a surface which was red and green all over. (one only has to compare the 'red' and 'soft' case again). There is justice of a sort in Delius' comment that it is odd to invoke designative rules when substitution rules suffice to show analytici ty. Pears' shares some of Delius' confusions. In fact 'red' i s linked to redness via a semantical rule; it is not the case that one is to use 'red' of redness with any old sense - there really is no designative rule for red. The de jure reference flows naturally from the use of 'red' in its stipulated sense - t here is no special designative convention. 'Redness is no t greenness' is a perfectly ordinary analytic truth to which semantical and syntactical rules are equally relevant. N is not analytic at all, but equally does not require, as Pears and Delius both think, the invoking of designative, or any other kind of special rules no t associated with other statements necessary or otherwise. Delius is qui te wrong in going on to say that designative rules cannot be formulated since involving a relationship to som ething non-linguistic (206). In saying this Delius falls into the absurdity of saying that we cannot talk about anythi ng other than words. But (206)

he is right in saying that desi gnative rules are irrelevant to analyticity - if understood genuinely as rules of reference; c.f. Ch.7 Section C on this. However, as we saw Delius equates t he theory of reference and semantics, whi ch leads him to say (206) that analytic truths are "vacuous", and do not "depend on their content". Taken that way Delius' objection to trying to prove N analytic by reference to non-syntactical rules will, obviously not do at all. Delius exhibits i nstructively the way in which the analytic and the vacuous come to be conflated via the idea that only syntactical rules are relevant to analyticity, whi ch links in turn with confusion of semantics and the theory of reference, whi ch no doubt links in turn with the obscure idea that designative rules destroy the 'formal' character of a statement and introduce a dependency on fact. Delius reveals a further area of confusion when he suggests that (225) analyti city based on designative rules is not opposed to syntheticity at all, but (207-10) comes to "truth in virtue of meanings"! Thus one can see this vague final expression as being resorted to by those whose minds are filled with hazy ideas about the "formal" character of analyticity, but who nevertheless, wish to give some account of"non-formal" necessary, apriori truths which makes some special appeal to meanings. If sense and reference are confused, as in Delius, then 'true in virtue of meanings'

becomes more hopelessly vague than ever: 'true in virtue of sense' belongs with conventionalism, 'true in virtue of reference' wi th ontologism. It could be though that users of the phrase 'true in virtue of meanings' have on mind the fact that the character of our thought determines what falls under each constituent concept, and that this somehow creates necessary truth. It is of course true that if the thought were different a contingent fact instead of a necessary one might fall under it. But our arguments of Ch.7, Section C suffice to prove that the character of a thought would be powerless to determine that a necessary fact fell under it unless that necessary fact obtained prior to and independently of any thinking about it.

In the fifth chapter of his book Delius begins his positive account of N (and other synthetic necessary truths of similar character) We shall see that his confusions in the theory of meaning lead him into error in his positive account. He undermines his original arguments by saying now (259) that 'red' does not after all designate a simple quality. Since redness is never found with extension, and extension is not the same as redness, since extension can exist apart from redness '258/9). Delius says that extension is "necessarily co-designated" by 'red', but not in the way that having thorns is (let us assume) necessary to being a rose (259). Clearly Delius' distinction is basically

none other than the distinction between synthetic and analytic necessi ty: 'red'" necessarily co-designates" extension inasmuch as 'red' designates a quality which cannot exist apart from extension (in a synthetic sense of 'cannot'). In an aside (201/2) Delius suggests that perhaps N and similar statements are just analytic consequences of the first synthetic principle of pure reason in Kant's 'Kritik der reinen Vernunft'. Now this principle (A162) states: "All intuitions are extensive magnitudes". If thi s were analytically sufficient for N, surely it would equally be sufficient for 'Nothing is red and soft all over', which of course it is not.

Confusing sense and reference, Delius (264) says that once the complexity of colour concepts is grasped, the way is clear for construing 'All colours are extended' as analytic. He means'analytic' in away which is not opposed to 'synthetic', as we saw. But as we also saw there are confusions underlying the direction which Delius' thought takes. If 'extension' were a (conjuncture) constituent of the sense of 'redness', then 'Whatever has redness has extension' would be straightforwardly analytic (in the proper sense of 'analytic'). But the necessary connection of redness with extension does not make extension part of the concept of redness, and the synthetic necessary connection (such as it is after

Sloman's experiment with blurred vision and the phenomenologists' talk of Verschmelzungen) of redness and extension in no way supports some new sense of 'analytic' - unless, highly misleadingly, that sense is that of 'syntheti c!' In saying that the (synthetic) necessary connection of redness and extension forces us to make extension part of the concept of 'redness' Delius is simply in error. He thinks it sufficient to point to the fact

> "that that to which one must point to define this expression has at least two aspects"(265)

Delius argues (265/6) that as colour-words can be taught only ostensively, one who insists on the separability of qualia here will not be able to share hi s achievement with others lingui stically. According to Delius, such a person would have to utter some such nonsense as that "'red' does no t mean everything it means but 'only red'. The same would go if he wanted to say: I mean what 'red' means but without that element of extension; for he would be saying thereby that he meant something other than that which 'red' means" (266). Thi s argument of Delius' will not do at all. The fact that F and G are found together, whether contingently or synthetically necessarily, in objects used to define 'F' ostensively does not entail that F and G are both conceptualised and made into de jure references of 'F'.

Even though redness and extension are synthetically necessarily connect ed, I need not refer to, or mean intensionally, extension in referring to, or meaning intensionally, redness. Any more than the use of dirty objects to define 'redness' makes me incorporate dirtiness into my concept of redness. The sense of a word is not just a carbon copy of the object s used to define it ostensively; and once we have a concept of redness of which extension is no part of any kind, we can refer to redness without referring to extension. Talking (266/7) of such statements as 'colours are extended', Delius says that

"The necessity of these propositions is, we claim, nothing but the correlate of the impossibility of giving signs any meaning other than that bestowed by their ostensive definition."

Delius faces a dilemma quite apart from the matter of invalidity of his argument from ostensive definition. He seems to be explaining the necessi ty in question in terms of itself - the necessity of the propositions is the "correlate" of the synthetic necessi ty which, according to him forces a particular definition of colour-terms on us. Thus he seem s gratuitously to build a quite wrongheaded theory of the analyticity of certain statements on the still unexplained synthetic necessity. If on the other hand he does not really mean that redness and extension

are synthetically necessarily connected, but, as he later (270) explicitly states, only contingently (but inescapably, from the practical viewpoint), then 'Redness is extended', etc. would not be necessary at all, and so there would be no synthetic necessity to explain. At best, if one allowed his argument from ostensive definition to go through, 'Redness is extended' would be straightforwardly analytic - which, in normal use, it is not. If any doubts remai n, let us recall that, probably, all men used in defining 'man' - and probably all men - have skin (or noses, say); but 'Men have skin (or noses)' is not a necessary truth. Delius might reply that in principle 'man' could be defined verbally; but the fact that 'man' is actually defined ostensively without making 'Men have skin' necessary is sufficient to break down Delius' assumption of a tight connection between nature of the objects used is ostensive definition and the character of the resultant concepts.

So far we have seen Delius give his positive account of 'Red is extended', 'Colours are extended,' 'Whatever is red is is coloured', etc. but it is by no means obvious what Delius is to say of N and the like; for his account was gi ven strictly in terms of the first set of examples, and in the case of his particular account it is not obvious how it carries over to N.

Delius gives his account of N on p.27d of his book. He says 'red' essentially signifies a surface at a particular time and place.

> " 'Green' thus signifies not only a colour-quality other than that signified by 'red', but also necessarily another surface."

Delius adds (still p.27d) that it isa peculiar empirical fact that one must define 'green' and 'red' by pointing to different circumstances. Obviously the same criticisms as those given in respect of the account for 'colours are extended', etc. apply equally to Delius' analogons account for N. The impossibility of pointing to the same surface to define concepts of different colours (in which we now no longer believe is either the synthetic logical one which would not preclude excluding sharing the same surface with a different colour from colour-concepts; or else the impossibility is just practical, in which case there is no necessity to explain as well as no need to say that N is analytic. And it certainly is not the case that our concept of redness is such that it would be incorrect to call a pillar-box-coloured patch red if it were also green all over. If Delius were right, I could not teach someone the meaning of 'postman' by reference to Mr.Jones and of 'musician' by reference to Mr.Smith without the learner's coming to use 'No postman is a musician' to express a necessary truth. We conclude that Delius, in the most

extended treatment of N which exists, has utterly failed to give a satisfactory account.

Schlick in 'Is There a Factual A Priori? confuses N with 'Red is not green': ".. it belongs to the logical gram mar of colour words that a word of this kind desi gnates a specific property only on condition that I cannot designate this same property by means of a different colour word." (205)

In fact, of course, in calling the redness of an object which is red and green all over 'red', one would not be calling the redness 'green', one would apply it, correctly to the greenness, not to the redness. One no more misuses words in using N than in using 'Nothing is red and soft all over'. Schlick has at best shown how 'Redness is not greenness' is analytic; what he says fails to impinge on N.

Langford ('A Proof that Synthetic A Priori propositions exist') argues plausibly that 'A cube has twelve edges' is synthetic and necessary - for he can plausibly say that there is a purely geometrical concept of a cube (20-2), which makes the intentively necessary statement synthetic. But the remainder of his article (22-4) is clearly objectionable, for he adopts a criterion of analyticity which rules out 'If p. then pvq' as a candidate for analyticity; Langford wishes to use 'analytic' in such a way that anybody understanding

the antecedent must understand the consequent - in the sense of having the concepts. There is nothing to be said for adopting such a definition. Felch, interestingly, is so wedded to the idea that all necessity is analytic that in 'Are There Synthetic A Priori Truths?, he refuses to recognise the necessity of any non-analytic statement, however clear the necessity may seem intuitively. This is wise at best inasmuch as synthetic necessities have an awkward habit of breaking down. But not insofar as the logical possibility of synthetic necessity is overlooked. But the wider questions of the ground of belief in necessities, and so on, must wait until the next Chapter. However we can say at once that Felch is wrong in trying to show Langford's statement about the cube to be analytic by insisting that shape criteria are inseparable from 'number of edges' criteria; one can go by the angles of the square faces plus the lengths of the sides. (Hanson, in 'The very idea of a Synthetic Apriori', like Stegmueller, rightly insists on the logical possibility of synthetic necessity). Rozelsom ('The Logic of Colour Words') rightly condemns writers who talk vaguely of colour-words"forming a system". An example is Alexander in 'Necessary Truth'. At the end of his

article he says wrongly that one cannot learn one colour word without learning others. What he could say is that e.g. 'red' must be restricted to meaning red, and not green, whether one knows 'green' or not. But this could only seem relevant to N if one thought it were analytic; so again it seems to be very confused with 'Red is not green'. Tulloch ('The Logic of Positive Terms and the Transcendental Notion of Being') in effect makes the sam e mistake as Schlick and Alexander in assuming that the law of contradiction suffices to establish N.

Arbini ('Frederic Ferré on Colour Incompatibility') rightly dism isses Ferré's idea (Colour Incompatibility and Language-gam es') that N is an analytic truth based on conventions whi ch have an empirical point to them. Arbini says all analytic truths are like this - certainly most are. Ferré is evidently confused.

M. Olds ('Ostension and Analyticity') has a view rather like Delius' only this time the conclusion is (366/7) that N is analytic only by meaning - inclusion, not by necessary meaning inclusion. But of course N is not analytic, analyticity is not just a matter of meaning-inclusion, and there is no concept which cannot have its consti tuents altered. The basic idea, though, as with Delius, is that it is a contingent fact about samples

of redness that N is true of them. We need not repeat our criticisms of Delius.

Srzednicki ('Incompatibility Statements') thinks that whilst (178-83) contradictions are meaningful N is not! Having seen N to be false, in fact, one can scarcely agree with this diagnosis.

Waismann in 'The Principles of Linguistic Philosophy' wrongly says in Ch.III that in calling an object green one has already said that it is red all over. He thinks that N is analogous "to other linguistic rules", and this will be because N, like any statement, corresponds to a rule of (putative) tru th, and he confuses rules of truth with conventions. He says we do not want to give 'red and green in the same place' a meaning - but of course in fact it already has one.

Hay and Weinberg ('Concerning Allegedly Necessary Nonanalytic Propositions') and Terrell ('On a Supposed Synthetic Entailment') reject the idea that N is necessary, and reject synthetic necessities in general, because they do not accept intuitive induction. There is, we now see, much soundness in their rejections. Only they seem not to realise that analytic truths stand in need of a verification - or discovery - method too, and it is not clear why synthetic necessary truths should not have the same ground - whatever that is. This is a matter for

Ch.16 Garnett ('Arthur Pap's Analysis of Necessary Propositions') rejects the view that N is necessary, but on the less incisive ground that purple is red and blue; perhaps some people see purple in that way, but most do not, and one cannot be sure just what Garnett takes himself to be reporting. Physical impurity of colours is certainly not relevant to N, for it deals with phenomenological qualities.

Aldrich ('The Last word on being Red and Blue all over') says that ostensive definition makes N necessary but not analytic. This can at best be a hint of a view such as Delius', which we have already refuted. So too, Nelson's article 'y-Propositions'.

Schwayder ('Mr. Aldrich's "Last Word"') says N is

"true in virtue of the whole working mechanism of th e language, as we are accustomed to use it." (c.f. the first part of his paper).

At the end he says N

"records... an important presumption about ou r use of the system of colour predicates."

This talk i s excessively vague and erroneous, being in fact just vague conventionalism.

Smart, i n 'Incompatible Colours', curiously ends his article, the beginning of which we discussed in connection with Putnam, by saying that of course

if physical and physiological facts were different then we could see two different colours superimposed, but that nevertheless we now operate conventions making N analytic. The latter is simply fake, and if Smart regards N as necessary in its ordinary sense then he is trying to have his cake and eat it.

O'Connor, in 'Incompatible Properties', is another of those who, like Delius, are confused regarding the 'formal' - 'material' and 'synthetical'-'semantical' distinctions. He says (111-113) that one cannot say N is analytic because it is not of an analytic form, since 'Nothing is red and hot all over' is of the sam e form but synthetic. But one could argue similarly in connection with 'Bachelors are unmarried men', which is formally similar to 'Wives are unmarried men. O'Connor cannot afford to talk so loosely of form. It would be begging the question to say that N is in relevant respects of the same form as 'Nothing i s red and hot all over' whilst our examples are not of the sam e form in relevant respects. Nor (112-114) is O'Connor right in saying that 'red' does not exclude 'green' in the way 'plant' excludes 'mammal'. Both do so analytically and in just the same way - it is not, as O'Connor thinks, that 'Plant' is defined explicitly in terms of 'not-mammal'. Nor

of course is O'Connor ri ght in thinking that if 'red' analytically excluded 'green' as 'plant' excludes 'mammal' then N would be analytic; he overlooks that 'green' analytically excludes 'red' only from itself, not from sharing the same surface. O'Connor thinks that analytic truths are true in virtue of syntax. He thinks semantical rules lack all bearing because he confuses semanti cs and theory of reference. He thinks that even empirical contingent truths are true in virtue of semantical rules (113-5). He then decides that N is a "second-order rule of designation" saying that we must not call anything 'red' and 'blue'. He says that this rule is "hard to abandon". But of course there is nothing easier than doing so. When he says that O'Connor is simply under the sway of 'N' seen as a necessary truth. We need not pause to refute the view that N is a rule - we did so in Ch.7, Section C implicitly. O'Connor says also that N is irrefutable because we agree not to look for counter-examples! Well Sloman and the phenomenologists can find the nonetheless. Finally, O'Connor says that if we abandoned N 'red' and 'green' would be synonyms. Presumably once again he is confusing N and 'Red is not green'- for that is t he sentence that a conventionalist could least implausibly construe as O'Connor wants to construe N

Kenner ('The Triviality of the Red-Green Problem') argues that the indefinability of colour words does not entail N is not a verbal rule. True, but Kenner would have done even better if he had exposed the mistakes in the theory of meaning which lead people to make the one mistake Kenner corrects. And Kenner is quite wrong in thinking that N is analytic. Radford, in 'Reply to Mr. Kenner', corrects his own confusion in 'The Insolubility of the Red-Green Problem' of N and 'Red and green are completely different', but instead of exposing Kenner satisfactorily says that it is impossible to classify N satisfactorily unless it turns out false. Well it has, but one need not know that before being able to classify N as synthetic. (Radford makes similar points in 'Incompatibilities of Colours' too).

Remnant ('Red and Green all over again') says N is not straightforwardly empirical because we cannot imagine a counterinstance. This is so for many empirical truths, however. As Pap reminds us (c.f.Ch.14), our imagination may simply fail. Remnant says also that when real colours are mixed a new shade results. That is obviously irrelevant. Finally he says that N is nevertheless a matter of convention since the spectrum could be subdivided differently. So is 'Rabbits are commoner than hares' a matter of convention, since the boundary between 'hares' and 'rabbits' could be altered?

B

Some writers confuse the issue of synthetic necessity with other i ssues. Thus Krishna in 'The Synthetic A Priori - Some Considerations' mixes up the issue of whether necessity is all analytic with the issue of whether necessi ty is a matter of convention. Thi s is clearly the backwash of the 'vacuous' - 'factual' distinction's being used instead of 'an alytic' - 'synthetic'. It is unfortunate; for if we iron out the confusions it is highly plausible to interpret Krishna as pointing out that conventionalism would draw the rug from under logic by letting reality be as it pleases, and so even in defiance of logical laws. The same confusion as spoils Krishna's paper spoils the symposium entitled 'Are There Synthetic A Priori Truths?', in which Broad argues against conventionalism, saying that Ayer, in the first version of hi s view, makes analytic truths empirical ones about usage. Broad is also one of the first to challenge the positivist to stat e the character of his own theses. And, valuably, Broad stresses the availability of alternative conceptu alizati ons in all fields. But this all has nothing to do wit h the synthetic a priori! The same has to be said of the other symposiasts, Porteous and Jackson, who produce (now commonplace) anti-conventionalist arguments.

Toulmin in 'A Defence of Synthetic Necessary Truth' becomes confused in a way which is more significant for us at this stage in our investigation. He considers such statements as (e) 'The first crew in the draw cannot get into the second semi-final'. He says that such statements are immune from empirical refutation, but cannot be shown to be analytic by reference to the meanings of the constituent terms. Now Toulmin himself acknowledges (towards the end) that to every statement like (e) there corresponds a "more explicit version" which is analytic. Now the fact is that (e) itself is not itself logically necessary at all. What happens is that one looks at the (known) facts connecting with (e) - the character of a particular set of 'draws', 'semi-finals', etc. - and says that it is analytic of correct total characterisations of these that the first crew is subject to the condition mentioned in (e). To take ano ther example, if I say that plums are necessarily nutritious, I am saying that their being nutritious follows analytically from a correct total characterisation of being a plum - as o ther facts about plums do not. One cannot know (e) a priori at all. It is just a way of characterising a kind of regatta. It is qui te harmless, and not to be confused with Aristotelian or Leibrizian confusions. In our own investigation we

have used model terms in the way t hey are used in (e) many tim es. We say, in this use of the terms, that so-and-so is analytic given a correct and sufficiently rich conceptualization of the subject matter. Su ch claims are of course, pace Toulmin, contingent - the subject matter might have been of quit e a different character, and it is the character of the subject-matter which one is evoking. Undoubtedly as Toulmin says, linguistic philosophers confuse (é) and what Toulmi n misleadingly calls its analytic "version" cannot replace one another's functions. That is just (of the areas) where the linguistic philosopher goes wrong.

Sellars (in 'Science,Perception and Reality') formulates the problem as that of whether (302) a truth can be synthetic but true in virtue of meanings. He argues t he definitions could not be explicit, since these definitions generate analytic truths, when they generate a priori truths. Sellars should have offered support for such a controversial statement. Why cannot one say that explicit definitions of terms in N "generate" N? There follows a criticism of implicit definitions as grounding synthetic a priori truths (303-5), which we can take for granted as being on target. Then (317) Sellars says that there are logical as well as

non-logical rules governin g term s, so that all terms enter into synthetic a priori truths. This confuses logical truth and analyticity and being a syntactical rule. He ends up by saying there is (319) an alternative to any synthetic a priori cognition - which seems to confuse being synthetic a priori and being a conceptual schem e. Sellars has thus, at this point in his book, been writin g in a quite chaotic way.

Like Richman in 'Why are Synthetic A Priori Judgments Necessary?', Kielkopf in 'Deduction and Intuitive Induction' says that (379/80) we need synthetic a priori tru ths to bridge gaps between data and ordinary, everyday conclusions transcending the data. Although one can talk of 'a priori' principles here, can one, though, say that they are necessarily true, as Kielkopf does? They do not seem to be. And we do not need to repeat criticisms of intuitive induction - c.f. Ch. 12, for these.

THE EXORCISM OF LOGICAL NECESSITY

Logical necessity must go the same way as physical (causal) necessity. The sort of job which (roughly) Hume did in connection with physical necessity n e e d s to be done in connection with logical necessity. The existence of the need has been obscured by the fundamental confusions which have prevailed in philosophers' thinking about logical necessity. It is already clear to us that 'Bachelors are unmarried men' cannot, any more than any other sentence expressing a necessary truth, be interpreted in a fundamentally different way from 'Bachelors are tall'. The peculiarity of 'Bachelors are unmarried men' lies not in its subject-matter but in the aura of necessity which surrounds it. But then for some people - still, and not only in the case of philosophers - certain causal statements too possess an aura of necessity. It is no use saying that physical necessity is supposed to be 'out there' in the world, and so can be dismissed as non-existent whereas logical necessity 'depends on meanings' or somthing of the sort. We have seen that it is not tenable to locate logical necessity outside facts, and the only sense in which logical necessity 'depends on' meanings is provided by the fact that only certain statements

are about necessary facts. Equally, only certain statements correspond to physically necessary facts, so that physical necessity is 'meaning-dependent' to the same extent as logical necessity. If it seems odd to speak of logically necessary facts, that is only because we think of logical necessity as that quarantee for certain statements which logic provides. But nobody takes seriously the idea that any statement is guaranteed which logic, i.e. logicians, s a y s is guaranteed; for logicians might say anything. We must not be misled by the picture of the 'authority' of logic into thinking that it is tenable to regard logic as being in a position to issue guarantees which are independent of fact. (c.f. the phrase 'chemically necessary truth' - nobody takes seriously that chemically necessary truths are guaranteed simply by being 'guaranteed' by chemists in chemistry books.) c.f. further ch.8 on these matters.

Some people - e.g. scientists - who become very familiar with and dwell on causal connections come to have a feeling of necessity about such connections. That is, in their thoughts about certain natural processes there is a primitive

intensional act which imputes this 'necessity' to the sequence of one process upon another. Probably some people cannot achieve the intensional act in question, let alone take it seriously. On the other hand the primitive, unanalysable intensional act in question is undoubtedly very common. It may be compared with the feeling that it would be more 'natural' or 'probable' for nothing rather than something to exist, which is perhaps less common a feeling in fact, but which certainly many people can achieve, and be bewitched by, if the attempt is made. Heidegger is a philosopher who possesses keys which unlock a flood of (sometimes recondite) intensional acts of some sophistication but clearly at odds with modern trends in the - oretical thinking, both in respect of its nature and in respect of its content. Such intensional acts may strike us as springing from a submerged, perhaps biologically primitive part of the mind. They are not all primitive in the sense of being unanalysable as the feeling of necessity is; and of course the feeling of necessity itself enters into a complex thought about certain processes, etc., which is analysable.

Physical necessity needs to be, and has been, exorcized because perception reveals no trace of the necessity which the mind attributes to physical processes. We may be convinced of the existence of the necessity when we think about the processes, but when, following normal empirical procedures, we check to see whether we think correctly, we find that nothing in the physical processes corresponds to the idea of necessary connection. One must not be too glib about this. Some may claim to s e e the necessity when they watch a causal process. They will be projecting the feeling of necessity on to the physical process. Just as one might project the pain patch on to the nettle, and regard it as inherent in the nettle just as its "genuinely" objective qualities are. But a special effort is required for this projection. In daily life we do not see things as a series of necessitations, We have no ready answer if we are asked which pairs of processes are linked by necessitation, and it seems that we project the feeling of necessitation only on to those processes which we have come empirically to say fall under regular causal laws. For must people at any rate the effect of the critique which Hume launched among empiricists is to discredit any

idea one might of had that physical processes are linked by physical necessitations. Just as we ultimately fail to take seriously the feeling that it is more 'natural' for nothing, rather thansomething, to exist. Admittedly there is a certain amount of intellectual fashion about this - just as it is an intellectual fashion to believe or disbelieve that God,or more than one mind, exists. One could create a framework in which physical necessity, in its original, unexorcized sense, could be rehabilitated. This would be a matter of projecting necessity in a more disciplined way on to physical processes, ceasing to regard it as 'projecting', and then allowing the necessitations to be'discovered'. (Similarly theology could revive among those who stuck firmly to the procedures necessary for a flourishing theology, instead of more or less giving up those procedures.)

Now we argue that logical necessity is ripe for exorcism in the way that physical necessity was. For once confusions induced by the rank growth of conventionalism are removed we see that the positions for logical and physical necessity are much more analogous than is now generally accepted. In the case of logical necessity too

we find that perception reveals no such necessitation as we attribute to facts when we think about them. That is precisely one of the suspicious circumstances: only during thought do we seem to come across the necessity, yet surely acquaintance with the facts in question is needed if one is to have such thoughts justifiably rather than arbitrarily. Why even rationalists tend to talk of seeing the necessitations only among universals and not particulars - though it is particulars which we actually say, and need to say, are necessary, in everyday life. On balance, we simply find ourselves unable to believe that the mind combs the universe and examines all the particulars relevant to a necessary statement before we declare it necessary. If the mind really did see all men being men necessarily, why cannot it reveal additional data about the terms of the necessitation relations (for there would have to be a necessitation for each particular fact)? Surely one cannot notice a necessitation without noticing what is necessary? Do we see insides of rocks being insides of rocks? How about the necessity of the truth that that of which we are in no way aware is never presented to our minds? There

would be a contradiction in supposing that we learnt of this necessity by the mind's combing the universe. Yet the statement seems intuitively necessary i n j u s t t h e s a m e w a y as other necessary truths. So too for 'Unicorns are unicorns'. The only sane thing to say about such a statement is that,as with contingent counterfactuals,we are extrapolating from actual cases. Yet when we ask ourselves whether unicorns are necessarily unicorns, we seem to answer in exactly the same way as in connection with 'Cats are necessarily cats'. To that extent the talk of universals, which need not be instantiated, seems natural; but of course it needs to resisted for other reasons. Thus not only is logical necessity not perceptible in facts, in the ordinary sense of perception, but furthermore there are difficulties in saying that the mind intuits necessities in some extraordinary fashion. The advantage of 'intellectual intuition' would be that one would see all the individual necessitations at once. It seems somehow unfitting that one should rely on (ordinary) induction from just a few perceived instances. As was said, a certain amount of discipline of the right kind would enable us to avoid any exorcism of logical necessity. We should

have to stop thinking as if there were unicorns to intuit necessary connections in, and we should have to say e.g. that we forget other details of entities that we see necessary connections among. But we are no more inclined to do this than to believe in the devil. What is noticeable is that actual rationalists have failed to keep improper elements out of their outlook (e.g. they have embraced platonism - Platonism and (or the doctrine of intuitive induction) - and we always dislike embracing views which in fact are embedded in unsatisfactory frameworks, even if improvements are in principle possible. What we say , then, is that on attending to phenomenologically hard data, and after removal of mistakes and confusions which obscure the actual character of the data - then the feeling (sense) of logical necessity will be taken no more seriously than the sense (feeling) of physical necessity. It will be ready for consignment to the glorious museum of which Heidegger possesses more of the keys than anybody else. We must speak of a museum in this connection because it is so full of intensional acts which cannot now be relied on to represent the world as it is. They have more or less fallen into

disuse. At first, of course, the idea of logical necessity will be stored near the exit of the museum, not in a deep recess from which, but for the likes of Heidegger, nothing might ever have emerged again. But after a while, once the position is properly understood, the feeling of necessity will either be laid to rest or no longer taken seriously even when it does arise in our minds. That is, it will not be taken seriously as a representation of the way things sometimes are. However, the expression 'logical necessity' will go on being used, just as employment of 'physical necessity' continues. That is because we want to go on ruling out statements as false which contravene logical or physical principles, and so on. We continue to have confidence in these principles even after the necessities have been exorcized. Indeed, one might conclude retrospectively that the injection of the aura of necessity was all along just either a crude prop to, or a crude product of, our ternal confidence in (basic) logical and physical principles. (There is however no n e e d to see the matter in quite that light.) It might seem advisable, in view of the continuing associations of modal terminology, to replace our old way of talking by such locutions as 'It

conflicts with one of our fundamental principles to suppose...'. One of the features of the old feeling of necessity was that it filled us with confidence in every truth to which it seemed applicable. But a piece of trickery lurks here. The mere fact that men are men is enough to justify confidence in men's being men once it is known. The super-added necessity really is superfluous. This is a further hint of an incoherence in our everyday attitude to the old sense of necessity - how can noticing by intellectual intuition that men are necessarily men produce more confidence in 'Men are men' that the less complex intuition of men's being men - which is part of what one has to intuit to verify 'Men are necessarily men'? There seems to have been an illegitimate conversion of 'One cannot help believing this' into 'This fact connot help obtaining; this statement cannot help being true'. If the idea of a quick glance at the universe were really sound, one could just say 'Look, and you will see that men are men'; there would be no need to grind away at people with suspect talk of necessity. (One would of course like to protest too that if the doctrine of intellectual intuition were correct

one should not need to conduct proofs in several steps instead of seeing at a glance that the premises entail the conclusion. But could be explained in terms of the difficulty of seeing what premises and conclusion mean and hence of knowing which objects in the universe to examine.) As to our conclusion of ch.8 that necessity attaches to facts primarily, and to truths only derivatively: after exorcism of logical necessity this conclusion has to be converted into the insistence that what we are, and need to be, confident of is that such-and-such a fact obtains, not merely that such-and-such a statement never expresses a falsehood or always some truth or other. Ch.8 will be found fully translatable into post-exorcism terms.

What then is the difference between logical and physical necessity? The differences do not lie in anything which would make it inappropriate to call for the exorcism of logical necessity after the manner of the exorcism of physical necissity. 'Logical' necessities tend to be analytic, and once one has the principle that 'All analytic truths are true' one can get along way in logic, whilst science has to continue with observations in order to gather and refine its principles.

Furthermore, as we saw in ch.5, logicians in practice are much concerned with certain linguistic matters which they convey, and arrange calculi to convey, indirectly, both for its own sake and to facilitate inference - drawing. The real work of the logician has a place for creativity which obscures from those who are confused that what is s t a t e d by a logical principle is not different in kind from what is s t a t e d by a physical principle. Even synthetic necessities seem a priori knowable when of the 'logical' group - though that assumption receives a severe jolt when refutations occur in many cases. Synthetic 'logical' necessities furthermore concern static, structural aspects of reality, whilst physical necessities tend to involve motions, impacts, etc. Synthetic 'logical' necessities tend to turn on simple, non-theoretical properties of things. It may, for all we know, actually be the case that the nervous system, as it is, cannot (physically) accommodate or mediate certain combinations of perceptions, and that we know this 'intuitevely'. One could view the attempt to imagine unextended colour as an experiment on the character of our nervous system. Once we see the matter in this light we refuse to classify the necessity as

'logical', because it seems too dependent on actual conditions. This motive for reclassification is not entirely unobjectionable, since what else are logical principles but extrapolations from actual condition? The point is though that there is a deep drive towards regarding only analytic necessities as 'logical', and analytic principles do not rule out the supposition of nervous systems radically different from our own. So in fact one could have reclassified synthetic 'logical' necessities as 'physical' even before thoughts of different nervous systems occurred to one. The fact that the synthetic logical necessities are 'non-theoretical' means that they can be overturned, if at all, by simple perception. This makes it m o r e secure to uphold them on the basis of an experiment with the imagination, by contrast with theoretical statements which are dependent on all sorts of very flexible data-transcending procedures for their verification.

Obviously our confidence in refuted synthetic "logically necessary statements" should be nil. But the lack of confidence springs to other synthetic logically necessary statements as well - for they seem to be of the same kind in relevant respects. (E.g. many have to do with space) This is one of the sources of the great drive

to 'delogicize' all synthetic statements - i.e. to insist on the real need for empirical backing for all of them, whatever tradition says. But why not insist on empirical backing for analytic truths also? The conventionalist, and others, say that their contradictories are meaningless, but that view we have already refuted. They were too ready to say that it is meaningless to talk of an object's being red and green all over. But now suppose a physiologist comes along and proposes making us see something which defies the law of non-contradiction? We should see what he can do, not dismiss him out of hand. His suggestion may seem incredible - but then so does the possibility of the waterfall illusion until (perhaps even after!) such an optical illusion is induced. Remember that a refutation in the sphere of sense-data is just as good as a physical refutation; for reasons explained earlier - c.f. ch. 15. It should not be objected that we should be intellectually doomed if we admitted the truth of a single contradiction which would entail everything. For we should soon place restrictions on derivations if we saw a simple, clear-cut case refuting the law of non-contradiction. (The Lewis paradoxes of strict implication should

have revealed to people that all is not well with our e v e r y d a y thought about logical necessity. We find we have conflicting intuitions and no way of deciding between them on the basis of what is 'really' necessary.)

There are four ways of regarding 'experiments in the imagination' which we use to validate necessary truths. Intuitive induction and intellectual intuition have already been disposed of. Thirdly one can regard the experiments as procedures from which necessary truths may be non-deductively inferred if a certain result is obtained. Pap ('Semantics and Necessary Truth') makes much (218) of our having to rely on imagination for non-analytic necessary truths. The fourth way is to regard the experiments as a making intuitive of what our words mean, so that we may ascertain whether we are dealing with a statement falling under a more general necessary truth. If we wish to escape making acceptance of necessary truths dependent on some non-deductive procedure(quite apart from intellectual intuition or intuitive induction) then we can do so only by making acceptance of necessary truths ultimate and unjustifiable (though it would be odd to deny that simple induction is justificatory). What is definitely

wrong is to say, as Pap does, that we have an 'objective' criterion for analytic truths but not for synthetic necessary truths. As Hanson ('Justifying Analytic Claims') reminds us, there is a gulf between analyticity - a semantical feature - and (necessary) truth. Till one has the synthetic principle that analytic statements are true, one can no more point to analyticity to justify accepting a statement than to syntheticity.

It may be that many simple souls lack the ability to perform the intensional act needed to conjure up the old feeling of necessity, which we wish to put into the museum area of the human mind. Such people would not need to perform any exorcism; but would need to see how the modal discourse which they, perhaps with Quine's degree of genuine puzzlement, share, has come down to us from people for whom modal terminology was not superfluous (as it is to become for us) and who used it in ways which non-modal terminology cannot be used in. Philosophers need to realize how different men are from one another, and not write as if all modal - or e.g. moral - consciousnesses were alike. Blanshard ('The Nature of Thought', vol.2) can

rightly condemn 'traditional empiricism' for confusing necessity with a h a b i t of the mind(338) in respect of beliefs and inferences. The peculiar intensional act is (as Moore complains in 'Necessity') entirely missed by these philosophers; and instead of showing howrationalists misuse, etc. the actual basis for their way of thinking, the 'traditional empiricists' merely ignore that basis. However Blanshard is unjust in saying that the 'traditional empiricist' is bound to be circular in arguments for accepting logical laws (341-3). At all depends wherehe says we start. If we accept without argument the revelations of sense then we can reach logical laws by simple induction if we likewise use the inductive principles without arguing for them. One could as well argue that deduction presupposes induction as vice versa, for one can argue to the existence of necessary facts by induction. One cannot insist on any order of precedence here. However the 'traditional empiricist' would certainly be wrong if he held that our confidence in necessary truths is tied to inductive criteria. But Blanshard (345/6) is wrong in thinking that any non-rationalist is bound to assume such a tie. It is not even clear that

Blanshard is right in suggesting that we come to accept necessary truths on the basis of experience (347/8). And of course nobody need commit himself to the view that

"logic itself is merely a set of habits" (351)

Even the 'traditional empiricist' need not throw the truth of logic out with the necessity. (We should note that Mill, in his 'A System of Logic' not only fails to come to grips with the feeling of necessity properly, but also, passim, refuses to accept that analytic truths are statements, and accepts the idea of inference as mere repetition of the premises when it is not synthetic. Thus Mill is an ontologist only because he thinks that a great deal of logic - more than in fact is - is synthetic)

What has characterized the investigation of logical necessity in all camps has been a degree of incisiveness which is lower than that found in other fields. Conventionalists have put forward theories which are not too difficult to refute once one has restrained those irrational tendencies of the mind that obscure matters by throwing up pictures which falsely pretend to give logic a security which is cannot have. Talk of universals in bad and obscure if not obscurantist senses has persisted much longer in connection

with logical necessity than in other connections. Thus Bhattacharyya ('The Concept of Logic') is content to say that logic needs to deal only with universals in re (not universals ante rem), which is true, but not sufficient to persuade those who do not (and rightly do not) accept intuitive induction, for they have their eye on the matter of the knowability of logical laws. People are less willing to concede non-justified assumption in the case of logic than in other fields. Thus Scholz ('Logik, Grammatik, Metaphysik') expounds a form of ontologism and then says (80) that the ground of the revelation of necessary facts is unclear - he will not look to see how there could be such a revelation, but doggedly assumes that a revelation occurs. Wernick ('Wesen und Aufgabe der Logik'), like the early Wittgenstein, is very sensitive to our more obscurantist demands for some inexplicable 'insightfulness' of logical laws, but blind to the objections to such a way of thinking. Thus he is content to end up explaining necessity, in a very intense and otherwise careful article, in terms of "states of affairs" which need not even exist! One can say that the most natural tendency of the mind which does not want to have to

exorcize logical necessity is to drift doggedly into platonism - Platonism; ironically eneogh, as we noticed, one could avoid the need for total exorcism by a process of reconstruction and discipline - but we are inclined to take no such course, one finds. So one must brace oneself and slaughter once and for all the dragons in the field of logical necessity, which are most assuredly cousins of the dragons which have had to be slaughtered in other fields, whether one can bear to acknowledge the fact or not.

B I B L I O G R A P H Y

Note: quotations from works with titles given in French or German have been specially translated for the thesis.

Abbreviations in the list below:

ASSV -Aristolelian Society Supplementary Colume.

B -'Philosophy of Mathematics', eds H. Putnam and P. Benacerraf, Englewood Cliffs, 1964.

PAS -Proceedings of the Aristolelian Society.

PQ -Philosophical Quarterly.

R -'Readings in Philosophical Analysis', eds. H. Feigl and W. Sellars, New Yorks, 1949.

S -Australasian Journal of Philosophy

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EXPLANATION OF ABBREVIATIONS

The following notes are intended as reminders (not full explanations) of certain conventions adopted.

(a) 'platonism' - theory of meaning;
'Platonism' - theory of the subject-matter of necessary truths.

(b) 'reference(1)' - what we call...;
'reference(2)' - via what would normally be regarded as 'the' meaning of the term(s).

(c) K i n d s o f (j) - c o n v e n t i o n a l i s m :
Necessary truths -
(i) explained solely by conventions;
(ii) a r e conventions;
(iii) f o l l o w f r o m conventions;
(iv) are commands to obey conventions;
(v) express adherence to conventions;
(vi) display conventions;
(vii) have meaningless negations.
'Convention' = (A) Rule: (B) Statement: (C) Fact;
(1) Semantic - (2) Explicative - (3) Syntactic -
(4) Theory of reference of words -
(5) Theory of Application of Concepts.

(d) 'explicative statement(1)' - contingent explicative statement with reference(1);