Verification

THIS paper is an attempt to estimate how far the principle of verification fulfils the purpose for which it is employed by many contemporary empiricist philosophers. The general truth of their doctrines I shall not call into question. The thesis which I shall try to establish is that the principle of verifiability or verification, after playing a decisive role in the history of modern philosophy, by clearing up confusions, exposing major errors and indicating what were and what were not questions proper for philosophers to ask, which has enabled it to exercise in our day a function not unlike that which Kant's critical method performed for his generation, cannot, for all that, be accepted as a final criterion of empirical significance, since such acceptance leads to wholly untenable consequences. I shall consequently urge that after due homage has been paid to its therapeutic influence, it needs to be abandoned or else considerably revised, if it is to be prevented from breeding new fallacies in place of those which it eradicates.

I propose to begin by assuming that what the principle sets out to do both can and should be done; and to consider whether it can do this alone and unassisted. I shall seek to show that it cannot, and that to maintain the opposite entails a view of empirical propositions too paradoxical to deserve serious notice.

As is well known, its supporters claim that the function which it fulfils is that of acting as a criterion for determining whether assertions of a certain type mean in fact what they purport to mean. The pressing need for such a criterion arises out of the view on which much modern empiricism rests, according to which all truly significant assertions must be concerned either with the facts of experience, in the sense in which they are the subject-matter of the judgements of common sense and of empirical science, or else with the verbal means used to symbolise such facts. The task in question is to find some infallible criterion by which to distinguish assertions of the first, i.e. experiential type, from all other possible modes of employing symbols. I must begin by making clear my use of certain essential terms: by a sentence I propose to mean any arrangement of words which obeys the rules of grammar; by a state-
VERIFICATION

ment any sentence which obeys the rules of logic; and finally, by a proposition any sentence which conveys to someone that something is or is not the case. And this seems on the whole to accord with common usage. In addition I propose, at any rate in the first section of the argument, to mean by the term ‘experience’ only what phenomenalists say they mean by it, that is, only such actual or possible data as are provided by observation and introspection. I do not wish to assert that phenomenalism is self-evidently true. On the contrary, no method yet suggested of translating the propositions about material objects into propositions about data of observation and introspection seems wholly satisfactory. But for the purpose of my thesis it will be sufficient to confine myself to the latter, i.e. to propositions concerned solely with objects of immediate acquaintance; since if the verification criterion is inadequate in dealing with them it will a fortiori fail to apply to the much more complex case of statements about material objects. If this is true it will tend to show that the historical connection between phenomenalism and ‘verificationism’ is not a logical one and that the failure of the latter does not necessarily invalidate the former. This conclusion I should like to believe to be true, since the opposite would prove fatal to the view which seems to me to be true on other grounds, as I shall urge in the last section of this paper, that whereas the phenomenalist analysis of statements of common sense is fundamentally correct, and has not proved convincing more on account of insufficient ingenuity in the formulation of specific analyses, or of the vagueness of the analy-sandium, than because of some fatal defect in the method itself, the principle of verification, in spite of its undoubted efficacy in the past in detecting and destroying unreal puzzles, has now begun to yield diminishing returns, and even to create new spurious problems of its own. This, I shall argue, is due to the fact that it is not in principle capable of being applied to the whole field of empirical belief and knowledge, but only to a limited portion of it – a fact which is brought out particularly clearly by the examination of that version of it, sometimes called operationalism, according to which the different logical or epistemological categories to which a given proposition may belong are determined by the differences in the kind of tests normally employed to discover its truth or falsity.

The essence of the principle of verification will appear clearly if one considers its progressive modification in the face of difficulties. The bare assertion that all significant statements were concerned either with facts about experience or with the symbolic means of expressing them
CONCEPTS AND CATEGORIES

was too vague and excluded too little. Metaphysicians and theologians could claim that they, too, reported facts of experience, although facts of a very different order from those which were of interest to empirical scientists, arrived at by non-empirical processes of cognition, and thus wholly outside the range of any evidence drawn from the data of observation or introspection. A stricter criterion of significance seemed therefore to be required, at any rate in the case of propositions claiming to describe experience. To supply it (I do not vouch for the historical accuracy of this account) the principle of verification was adopted, a test which, so it is claimed, made it possible to determine without further ado whether a given collocation of words was or was not significant in the above sense. In its earliest and most uncompromising form it declared that the meaning of a proposition resided in the means of its verification; the questions ‘What does the statement \( p \) mean?’ and ‘What must one do to discover whether \( p \) is true?’ were logically equivalent – the answer to one was the answer to the other. The most obvious objection to this doctrine, which critics were not slow to urge, was that this formulation involved a glaring hysteron proteron; for before I could think of possible ways of verifying a given statement I first must know what the statement means, otherwise there could be nothing for me to verify. How can I ask whether a group of symbols asserts a truth or a falsehood if I am not certain of what it means, or indeed whether it means anything at all? Surely, therefore, understanding what the sentence means – what proposition it expresses – must in some sense be prior to the investigation of its truth, and cannot be defined in terms of the possibility of such an investigation – on the contrary the latter must be defined in terms of it. But this objection is not as formidable as it looks. A supporter of the theory may reply that what he means by the expression ‘to know the means of the verification of \( p \)’ is knowing in what circumstances one would judge the group of symbols ‘\( p \)’ to convey something which was or was not the case; adding that what one means by saying that one understands a given sentence, or that the sentence has meaning, is precisely this, that one can conceive of a state of affairs such that if it is the case – exists – the sentence in question is the proper, conventionally correct description of it, i.e. the proposition expressed by the sentence is true, while if it is not the case, the proposition expressed is false. To understand a sentence – to certify it as expressing a given proposition – is thus equivalent to knowing how I should set about to look for the state of affairs which, if the state of affairs exists, it correctly describes. To say that a sentence is intelligible, i.e. that it
expresses a proposition, without specifying what the proposition is, is to say that I know that I could set about to look for the relevant situation without saying what kind of situation it is. It follows that any sentence such that I can conceive of no experience of which it is the correct description, is for me meaningless. The limits of what I can conceive are set by experience — that is, I can conceive only whatever is either identical with, or else in some respect similar to, the kind of situation which I have already met with or imagined; the possible is a logical alternative of, and conceivable only by reference to, the actual; whatever is wholly different from it is wholly inconceivable. The actual, on this view, consists of the data of observation, sensible and introspective, and what can be inferred from them. The logically possible is conceived only by analogy with it; sentences which purport to refer to something outside this are therefore meaningless. If nevertheless I claim that they mean something to me I am using the term ‘meaning’ ambiguously or loosely; I may wish to say that they suggest, or are evidence for, a situation, without formally describing it, as tears are evidence of distress without being a statement about it; or else that they evoke an emotion in me, convey or induce a mood or an attitude, stimulate behaviour, or even that no more is occurring than that I am acquainted with the normal use of the individual words in the sentences to which I attribute meaning and that they are grouped in accordance with the rules of grammar and of logic, as in certain types of nonsense verse. This seems prima facie plausible enough, and successfully eliminates whole classes of expressions as being meaningless in the strict sense because they seem to describe no conceivable experience, and can therefore, as Hume recommended, be safely rejected as so much metaphysical rubbish. Whatever survives this drastic test can then be classified exhaustively as being either direct statements about possible experience, that is empirical propositions, or second- or higher-order statements about the relations of types of such statements to each other, i.e. propositions of logic and other formal sciences. And this was as much as the anti-metaphysical party had ever claimed. It was soon seen however that as it stood this position was wholly untenable.

To begin with, the conception of ‘means of verification’ was far too narrow. If it was interpreted literally it always referred to the present or the immediate future in which alone sensible verification of what I was asserting could take place. This gave all statements about the past, and a great many about the present and future, a meaning which was prima facie very different from that which they seemed to have. Such
a sentence for example as 'It was raining half an hour ago' had to be regarded as equivalent to one or more of such statements as 'I am now having a moderately fresh memory image of falling rain', 'My shoes look fairly, but not very, wet'; 'I am looking at the chart of a recording barometer and observe an undulating line of a certain shape', 'I expect, if I ask you "Was it raining half an hour ago?", to hear the answer "Yes"' and the like. This is unsatisfactory on two grounds, equally fatal. In the first place, by translating all propositions about the past (and about the future) into propositions about experience in the present (which alone I can conclusively verify) it gives two senses of the word 'present'; the sense in which it is distinguishable from 'past' and 'future', i.e. the normal sense, and the sense in which it includes them; the second sense, being contrastable with nothing, adds nothing to any statement in which it occurs; to say in this sense that all significant statements refer only to the present is thus to utter a pointless tautology. Yet the sense in which alone it was relevant to say that all conclusively verifiable propositions were concerned only with the present, was the first, not the second, sense; the sense in which to speak of the present state of something is to distinguish it from past and future states. Moreover, the translation feels wrong. One does not usually mean by the sentence 'It rained yesterday' the present empirical evidence for it, not even the total sum of such evidence. For the relation 'being evidence of' not being that of logical implication, the evidential proposition may be true and the proposition which it claims to establish false; the two therefore cannot be equivalent. What I mean to assert is that it was raining yesterday, not that events which are now occurring make it unreasonable to doubt that it did: the rain I speak of is the rain of yesterday, whatever may or may not be happening today. To verify yesterday's rain conclusively (the verificandum being taken in a phenomenalist sense as a logical construction out of observation data), one has to have lived through yesterday and to have observed whether it rained or not. To do this now is in some sense of the word impossible: yet the meaning of the sentence is not seriously in doubt. It follows that either all propositions save those about the immediate present are meaningless: or that meaning cannot depend on conclusive verifiability.

To this the defenders of the theory can answer that in saying that the meaning of p resides (liegt) in the means of its verification they did not literally mean to assert any such equivalence: they meant only that 'p is significant' entails that some means of verifying is possible. The proposition is never equivalent to the sum of evidence for it; but
Verification

unless one can say that there could be a situation in which an observer could verify it, one cannot say that the sentence has any meaning. Thus 'p is significant' where p is empirical entails and is entailed by 'p is verifiable', but is not equivalent to any specific group of actual propositions cited as evidence for it. Moreover, by verifiability what is meant is verifiability not in practice, but in principle; this last being needed to eliminate not only the objection that some propositions, e.g. that there are mountains on the other side of the moon, are clearly significant and yet cannot be verified on account of technical difficulties which observers with more luck and skill than ourselves might overcome, but to secure plausible analyses of propositions about the past, which we are prevented from verifying by the accident of our position in time as well as space. We might have been born earlier than we were, and lived in countries other than those which in fact we inhabit; I cannot now, do what I will, verify the proposition 'Julius Caesar was bald' by direct inspection, but there is no logical reason why I should not have been born in ancient Rome in time to have observed Caesar's head; the reason is causal, unless indeed I define myself as having been born in the twentieth century, in which case some other observer could have carried out this observation. For there is no reason why 'p is verifiable' should mean 'p is verifiable by me.' Solipsism even of the so-called methodological variety is a wholly gratuitous assumption. I can conceive of other observers by analogy with my own self, however the notion of a particular self is to be analysed. So much has been pointed out by Berkeley. To verify the proposition that such observers actually exist, and have experiences which are not ours, is of course a very different and much more difficult task. Thus 'p is significant' has now come to mean 'It is conceivable (i.e. there is no logical contradiction in supposing) that someone should observe or should have observed what is correctly described by p.' In this watered-down form the principle does seem to acquire a much wider sphere of application and attempts at 'silly' analyses can be successfully foiled. But the position is still far from secured.

For all that can be accounted for on this hypothesis are such singular categorical propositions as are conclusively verifiable, at any rate in principle, by a suitably situated observer. This leaves three classes of propositions unaccounted for, and these by far the most commonly used: (1) propositions which are not singular; (2) propositions which are not categorical; (3) propositions which seem to be both singular

CONCEPTS AND CATEGORIES

and categorical, but not to be conclusively verifiable by observation.

1 General propositions offer the most obvious difficulty. No sentence of the form 'All \( s \) is \( p \)', whether taken in extension or intension, where \( s \) denotes an infinite set (or at any rate does not \textit{explicitly} denote a finite one), can be verified by any finite number of observations. That is to say it is not conclusively verifiable at all. The same applies to all propositions containing 'any' or 'every' as components. The attempt made by Ramsey and those who accept his view to treat them as rules or prescriptions, logical or empirical, and therefore neither true nor false, cannot be defended since, as they are used, they are held to be refutable by a single negative instance, and it is nonsense to say of rules that they have instances or can be refuted. Yet they have clear empirical meaning, particularly when taken in extension, and cannot be left out of account.

To meet this difficulty the principle of verification was revised and two types of it distinguished: the first, called verification in the strong sense, was the familiar version. The second, or 'weak' verification, was invented to apply to general propositions and to singular-seeming propositions about material objects, in so far as these were thought to entail general propositions about sense data – a view which it has proved far from easy to hold. Two versions of 'weak' verifiability are given by A. J. Ayer:¹ according to the first we ask about a given proposition 'Would any observations be relevant to the determination of its truth or falsehood?' If so the proposition is significant. This may well be true, but as it stands the suggested criterion is far too vague to be of use.² Relevance is not a precise logical category, and fantastic metaphysical systems may choose to claim that observation data are 'relevant' to their truth. Such claims cannot be rebutted unless some precise meaning is assigned to the concept of relevance, which, because the word is used to convey an essentially vague idea, cannot be done. Thus 'weak' verification, designed to admit only general, and material object, statements, cannot be prevented from opening the gates for any statement, however meaningless, to enter, provided that someone can be found to claim that observation is in some sense relevant to it. As a criterion for distinguishing sense from nonsense relevance plainly does not work: indeed to accept it is in effect to abrogate the principle of verification

² On this see A. C. Ewing, 'Meaninglessness', \textit{Mind} 46 (1937), 347–64, particularly 355–5.
VERIFICATION

altogether. Ayer, conscious of this perhaps, attempts to provide another far more rigorous formulation of 'weak' verification, which at first seems to fit our needs more adequately. He says, 'To make our position clearer, we may formulate it in another way... we may say that it is the mark of a genuine factual proposition... that some experiential [i.e. strongly verifiable] propositions can be deduced from it in conjunction with certain other premises without being deducible from those other premises alone. This criterion seems liberal enough.' Unfortunately it is a good deal too liberal, and does not guarantee us against nonsense any better than the previous test. What it appears to assert is this: given three propositions $p$, $q$, $r$, where $r$ is conclusively verifiable in principle, then $p$ is weakly verified, and therefore significant, if $r$ follows from $p$ and $q$, and does not follow from $q$ alone. Thus 'All men are mortal' is 'weakly' verifiable, because 'Socrates will die' which does not follow from 'Socrates is a man' by itself, follows from the two in conjunction. It may be noted that 'verifiable' seems here to have lost its sense of 'rendered true' or 'established beyond doubt', and is equivalent to something much looser, like 'made probable' or 'plausible', itself an obscure and unexamined concept. However, even in this diluted form the principle will not do. For if I say

This logical problem is bright green
I dislike all shades of green
Therefore I dislike this problem

I have uttered a valid syllogism whose major premise has satisfied the definition of weak verifiability as well as the rules of logic and of grammar, yet it is plainly meaningless. One cannot reply to this that it is put out of court by the confusion of categories which it contains, or some such answer, since this entails the direct applicability of a criterion of significance other than 'weak' verification, which makes the latter otiose. No criterion which is powerless in the face of such nonsense as the above is fit to survive. 'Weak' verifiability is a suspicious device in any case, inasmuch as it bears the name without fulfilling the original function of verification proper, and appears to suggest that there is more than one sense of empirical truth. The chief argument in its favour seems to be that unless it is valid, any theory which entails it must be false. Since the contrary instance cited above is fatal to it, this consequence must be accepted. Weak verification has thus failed to provide the needed criterion.

1 op. cit., pp. 38–9.
CONCEPTS AND CATEGORIES

By far the most ingenious attempt to solve the difficulty is that made by Karl Popper who suggests that a proposition is significant if and only if it can be conclusively falsified by the conclusive verification of a singular proposition which contradicts it – as when a law is refuted by the occurrence of one negative instance. But while this may provide a valid criterion of significance for general propositions about observation data, it throws no light on whether the sense in which they are called true is or is not identical with that in which singular propositions are so called. The implication which one may be tempted to draw from this is that propositions of different logical types are true or false, verifiable and falsifiable, each in its own specific fashion: indeed that this is what is meant by saying that they belong to different categories; that is to say that the logical (and epistemological) character of a proposition is determined by the way in which it is verifiable (or falsifiable), the two being alternative ways of saying the same thing about it. This view, which if true would solve many difficulties, cannot, however, be accepted, as I hope to show in the next section of the argument. It should further be noted that Popper's criterion of falsifiability, while it may deal successfully with general propositions of observation, does not apply equally well to propositions about material objects, for whose benefit it was originally introduced. But as we have agreed to accept phenomenalism this is beside the issue, and the criterion may therefore be provisionally accepted.

2 The second type of proposition not covered by the original 'strong' verifiability criterion consists of those which are not categorical. These are highly relevant to the whole issue, and repay exceptionally close attention. It has too often been assumed by logicians that all hypothetical propositions are general, and all general propositions are hypothetical: 'All s is p' is equivalent to 'If s then p' and vice versa. Nothing could be further from the truth. While some hypothetical propositions are general, others are not. The commonest of all propositions which occur in the writings of contemporary positivists, the propositions indispensable to any discussion of meaning or verification, the familiar 'If I look up I shall observe a blue patch', are indubitably hypothetical, but in no sense general. To show this one need only point out that they are conclusively verifiable. Indeed it was because an attempt was made to reduce all other statements to verifiable propositions of this type that

1 In his book Logik der Forschung (Vienna, [1934]) [now translated as The Logic of Scientific Discovery (London, 1959)].
VERIFICATION

aburdities resulted. I verify the proposition mentioned above by looking up and observing a blue patch; if conclusive verification ever occurs, it occurs in this case. It must be noted that I have actually proved more than I have asserted: not merely the hypothetical but a conjunctive proposition ‘I shall look up and I shall see a blue patch’ has been verified. This is unavoidable from the nature of the case. But although the conjunctive proposition entails the hypothetical, it is not entailed by it, and the two are therefore not equivalent. The conjunction is falsified if (a) I do not look up and see a blue patch, (b) I do not look up and do not see a blue patch, (c) I look up and see no blue patch. The hypothetical proposition is falsified by the occurrence of (c) alone. If either (a) or (b) is the case, the hypothetical proposition is rendered neither true nor false, and may be either. It is essential to note firstly that the relation between the protasis ‘I shall look up’ and the apodosis ‘I shall see a blue patch’ is not one of material implication, otherwise the whole would be verified by denying the protasis. Secondly, that it is not one of strict implication, since the antecedent may be affirmed and the consequence denied without a formal contradiction. Thirdly, that it is not necessarily causal: I may, of course, when I declare that if I look up I shall see a blue patch, say this because I believe that there is a causal connection between the two events, but equally I may not believe this, and decide to bet that this will happen because I am by temperament a passionate gambler, and all the more stimulated if I believe that the weight of inductive evidence is against me; or I may say it because it is an exception which disproves one causal law, without necessarily regarding it as being itself an instance of another law; or I may say it out of sheer contrariness, or any other motive whatever. My rational ground for saying what I do would doubtless take the form of a general causal proposition which entails the proposition on whose truth I am betting, but I may choose to behave irrationally, or use the proposition in an *ad absurdum* argument to prove its opposite: the general proposition ‘Observers in conditions similar to these normally see blue patches if they look up’ entails, but is not entailed by, the proposition ‘If A looks up he will observe a blue patch’; the latter proposition, so far from being equivalent to the former, may be true where the other is false, and as was said above, may be conclusively verifiable—a condition which the general proposition is logically incapable of attaining. The proposition is therefore both singular and hypothetical, its subject being not a hypothetical variable, but a nameable particular. So far all seems clear. The difficulty arises when the antecedent is not fulfilled: when I
assert, for example, that if I look up I shall see a blue patch, and then fail to look up. The proposition appears now to be no longer conclusively verifiable. The opportunity for that has been missed and cannot be recovered. I must now resort to the roundabout method of producing evidence for it, i.e. ‘weakly’ verifying the general causal proposition of which the proposition to be verified is an instance; nor can the instantial proposition be made more probable than the general proposition which entails it. But clearly the statement ‘If I look up I shall see a blue patch’, which now becomes ‘If I had looked up I should have seen a blue patch’, expresses a proposition which is still true or false in precisely the same sense as before, although the means of its verification have altered; yet clearly the statement cannot have changed in meaning because I did not in fact look up. Yet if it were true that the impossibility of strongly verifying a given proposition entailed that it had a logical character different from propositions which can be strongly verified, the proposition in question would alter in character solely because I did or did not choose to act in a certain fashion. This would mean that the kind of meaning possessed by singular hypothetical sentences or statements would depend on the empirical fact that their protases did or did not actually come true, which is patently absurd. It seems to me to follow that neither the meaning, nor the logical character, of a statement can possibly depend on what steps one would naturally take to ascertain its truth: and in so far as operationalists assert this without qualification, they are mistaken.

At this point someone might reply that although an unfulfilled singular hypothetical statement (or for that matter a hypothetical statement whose protasis is not known to be fulfilled) cannot be verified conclusively in actual fact, it can be so verified in principle. I did not in fact look up and so I cannot know for certain what would have happened if I did; but I might have looked up; or rather it is not self-contradictory to assert that an observer could or did look up; and such an observer, possible in principle, is in a position to verify the proposition conclusively. And so such propositions are, after all, no worse off than categorical statements about the vanished past: they too may not in fact have been verified conclusively; but they could have been so verified; and so are verifiable conclusively in principle. This argument, plausible though it is, is ultimately untenable, for the reason that were I situated favourably for verifying these unverified hypotheses, I should ipso facto not have been able to verify some of those which I in fact did: and I could not, in the logical sense of ‘could not’, have done both. An eternal
omnisentient being which is in all places at all times can, if it chooses, verify all categorical propositions about past, present and future phenomena: but even it cannot verify what did not occur; that which might have occurred had not that happened which in fact did. And if it is omniscient as well as omnisentient, and if there is any sense in which it could be said to know this too, it knows it by means other than sensible verification. A simple example will, I hope, make it clear. Suppose that instead of asserting one singular hypothetical proposition, I assert two such propositions in the form of the premises of a dilemma, such that the protasis of each is incompatible with the protasis of the other. For instance: 'If I remain here I shall have a headache. If I do not remain here I shall be bored.' Each of these propositions may itself be verifiable in principle: the conjunction of both cannot be verified conclusively, even in principle, since it involves me in the logical impossibility of being in a certain state and not being in it at the same time. Of course I can adduce the evidence of various observers for what would happen under these two logically incompatible sets of conditions. But such inductive evidence verifies only 'weakly' (whatever meaning may be attached to that unfortunate phrase). 'If I were now at the North Pole I should feel colder than I do' cannot in principle be strongly verified, since I cannot even in principle be simultaneously here and at the North Pole and compare the different temperatures. It is beside the point to say that this arises only if I am defined as capable of being situated here or at the North Pole but not at both; whereas I might have been a giant with one foot on the North Pole and the other in this room, in which case I might have verified the proposition conclusively. I could myself be defined differently, but the same problem would still arise whatever the defined scope and my powers; a proposition asserting an unfulfilled possibility can always be constructed to contradict whatever is the case, and this can be made the protasis of a second singular hypothetical proposition whose verifiability is incompatible with that of the first. To put it semi-formally: given that for every empirical proposition $p$ at least one contradictory $\neg p$ is constructable; then for every singular hypothetical proposition of the form 'If $p$ then $q$' (let us call it $pq$) a second proposition 'If $\neg p$ then $r$' may be constructed (let us call it $\neg pr$), where $r$ may or may not be equivalent to $q$. Then it is the case that where $pq$ and $\neg pr$ are propositions describing the possible data of a given observer, the conclusive verification of $pq$ and $\neg pr$ is not compossible, and the truth of either is compatible with the falseness of the other. And yet each of the two alternatives of the disjunction is in its own
CONCEPTS AND CATEGORIES

right a proposition which in suitable circumstances could be conclusively verified; either may be true and the other false, either probable and the other improbable; their only logical relation is that of unco-verifiability — they cannot both be conclusively verified even in principle. And this plainly cannot alter the meaning which either has in its own right. If this conclusion is correct it follows that the meaning of a proposition need not be affected — let alone determined — by the fact that a given means of verification is or is not logically possible in its case. I have emphasised the case of singular hypothetically because they seem to bring out particularly clearly that if meaning depends on the relevant type of verifiability, then in order to know what one of these conjunctions of propositions means one requires to know whether both the protases are true. And this is self-evidently false. Yet these are the very propositions which occur in all philosophical analyses of empirical statements, the stuff of which logical constructions are built, the basic propositions to which propositions about the public world are commonly reduced by phenomenalists of all shades and hues.

Perhaps another example will make this even clearer. Supposing that I have a bet with you that all persons seen entering this room will appear to be wearing black shoes. Let the term ‘this room’ be defined as anything recognised by both of us as being correctly described as this room in virtue of certain observable characteristics, such that if either of us certifies their disappearance from his sense field, the entity described as this room shall be deemed to have ceased to exist. Under what conditions can such a bet be lost or won? We may begin by affirming the truth of the analytic proposition that the room will last either for a finite time or for ever. In either case the set of persons observed to enter it is similarly either finite or infinite. Only if it is the case that the observed set of visitors is finite, that the room visibly comes to the end of its existence, and that each of the persons who are seen to enter appears to wear black shoes, can I win the bet. When, on the other hand, it is the case either that the room lasts for ever, or that the set of persons seen to enter it is without limit, or both these, but at least one person appears to wear shoes of some other colour than black, or no shoes at all, I lose the bet. There are however further possibilities: when, for example, either the room lasts for ever or the number of persons seen to enter is limitless, or both, and every person entering appears to wear black shoes, in that event the bet is undecided, since the proposition on whose truth or falsity it turns has been neither verified nor falsified
conclusively. In all possible cases it could in principle be falsified by seeing the arrival of a person not wearing black shoes. But whereas in some cases it could also be verified conclusively, in others it can not. Yet when we arrange the bet neither of us need know whether I am in principle capable of winning or not. Nevertheless the proposition in terms of which the bet is stated is not in the least ambiguous. It is not the case that the words ‘All persons . . .’ must if the proposition is to have a definite meaning be used to refer either to a finite set (in which case conclusive verifiability is possible), or to an infinite set (in which case it may not be), but not to both. Yet if the meaning of a proposition always depended upon the type of verifiability of which it is capable, the above would be systematically ambiguous: we should have to be regarded as having made two separate bets, one on the behaviour of a finite set, the other on that of an infinite one. Yet we are under the impression that only one bet had been made, because we attributed to the proposition beginning with the words ‘All persons will . . .’ not many senses but one, namely, that in which it is equivalent to ‘No one person will not . . .’. And we are right.

Like the previous example this tends to show that if one wishes to understand a sentence which purports to express a proposition when it is asserted by someone, while it is doubtless generally useful to discover under what conditions he would consider its truth as established, to regard its meaning as dependent on what kind of conditions these would be is to hold a false doctrine of what constitutes meaning. Of course I do not wish to deny that in general I can only discover the difference between sentences of different kinds, e.g. between those used to refer to visual data and those concerning auditory ones, or between propositions concerning persons and propositions about physical objects or about sense data, by observing in what kind of experience verification for them is sought. But it does not follow from this that the kind of verification which a given proposition can in principle obtain determines the type of meaning which it possesses, and so can act as a principle of logical or epistemological classification, such that propositions belonging to two different classes, defined in this way, cannot for that reason belong to one and the same logical or epistemological category, or be answers to questions of the same logical type. And yet this is the fallacy which seems to me to underlie much that is said by upholders of theories of verification and operationalism. That significance is connected with verifiability I have no wish to deny. But not in this direct fashion, by a kind of one-to-one correspondence.
3. This brings us to the third type of proposition mentioned above: the apparently categorical, but not conclusively verifiable propositions, as for example those about material objects or other selves. The scope of this paper does not permit an adequate discussion of the merits and defects of phenomenalism; but even if we conceive it to be in principle correct, however inadequate all existing formulations of it, we must allow that among the experiential propositions into which a proposition asserting the existence of a material object must be analysed there must inevitably be some which describe how the object would appear to an observer, were conditions different from those which in fact obtain; if in other words he were not observing what he is. The proposition 'I am holding a brown pencil in my hand' may or may not entail propositions about past and future actual and hypothetical data presented to me; analysts differ on this point; some hold these to be part of what is meant by 'this pencil', others maintain them to be only evidence for the existence of, but not elements in the analysis of it. And this holds equally of the actual and hypothetical data of observers other than myself. What is common, however, to all phenomenalist accounts is that part, at any rate, of what I meant by saying that it is an actual pencil that is now before me, and not the phantom of one, is that the datum which I am now observing belongs to a group of visual, tactual, auditory etc. data some of whose members are the subject-matter of hypothetical propositions which describe what I should be experiencing if I were not at this moment in the circumstances in which in fact I am. These propositions are, as was shown above, not co-verifiable with the propositions which describe what I am actually observing, and this fact alone is quite sufficient to make propositions about physical objects not conclusively verifiable in principle, whether or not they are held to contain, telescoped within them, various causal and general propositions, as according to some philosophers they do. Indeed the assertion that general propositions enter into the analysis of prima facie singular propositions about material objects seems to me a good deal more dubious than that these last are not conclusively verifiable; if this seems certain, that is due to the un-co-verifiability of some of the singular propositions which are true of the object, not as it is in the past or in the future, but at any given moment. Indeed when anti-phenomenalists maintain that every suggested translation of a given common sense statement into sense datum language, however richly it is equipped with general and hypothetical propositions, fails to render in full the meaning of the original, because material objects possess attributes which
necessarily elude observation; when for example G. F. Stout, in discussing what we mean by the solidity of material objects as conceived by common sense, observes that we think of it not as a permanent possibility but as a permanent impossibility of sensation, what gives such objections apparent plausibility, and Stout’s epigram its point, is that there is indeed something which must for logical reasons elude verification by the most exhaustive conceivable series of observations, carried out by any number of possible observers, namely, propositions about what I, or some other given observer, could verify, were we not situated as we are. And this the most thoroughgoing phenomenalism must do justice to, however successfully it may have exorcised the last remaining vestiges of the concept of matter as an invisible, intangible, dimly conceived substratum.

If what I have urged above is true, verification whether ‘strong’ or ‘weak’ fails to perform its task even within the framework of pure phenomenalism, which must not therefore be so formulated as to entail it as its primary criterion of significance. And to establish this negative conclusion was the main purpose of my thesis. In conclusion I should like to add a few remarks on what this seems to suggest with regard to the question of the proper analysis of physical objects and other selves. If, following the view suggested by C. D. Broad, we look upon our concept of a given material object as a finite complex of sensible characteristics (to be referred to as \( m \)) selected more or less arbitrarily and unselfconsciously from the wider set of uniformly co-variant characteristics \( n \), then \( m \), which is constitutive of the object for a given observer, will differ for different individuals, times and cultures, although a certain minimum of overlapping common reference is needed for the possibility of communication in the present, and of understanding records of the past. The set of characteristics \( m \), if it is affirmed to have an instance, will turn out to render true a finite number of categorical and a potentially infinite number of hypothetical propositions; and the paradoxical fact often urged against phenomenalism that any given proposition or set of propositions recording observations may be false, and yet the relevant proposition about a material object which is ‘based’ upon them may remain true – that in other words the latter type of proposition cannot be shown either to entail or be entailed by the former – is

CONCEPTS AND CATEGORIES

explained by the fact that \( m \) is vague and \( n \) (for all we know) infinite, and consequently however much of \( m \) you falsify it will never demonstrate that \( n \) has been exhausted. But when \( m \), which represents your personal selection out of \( n \), is progressively falsified, a point will arise at which you will probably abandon your belief in the existence of the material object in question, since your experience does not present a sufficient number of characteristics defined as \( m \). But where this point will arise for a given individual is a purely psychological or sociological question; and I, who carve an \( m \) which differs from yours out of the common totality \( n \), will understand you only to the extent to which our respective \( ms \) overlap; and therefore what will seem to you evidence adverse to your proposition will seem to weaken mine at the very most only to the extent to which your \( m \) overlaps with mine. Even if 'A case of \( m \) exists' were far more precisely formulated than it ever is in ordinary life, as a collection of singular propositions, it would still not be conclusively verifiable because some of its components are hypothetical and un-co-verifiable; but as words are commonly used it is always fluid and vague, and so cannot be conclusively falsified either. Thus the verification criterion, which was intended to eliminate metaphysical propositions in order to save those of science and common sense, cannot deal with these even in its loosest and most enfeebled form.

Other selves are more recalcitrant still. The strict verification principle seems to demand a behaviourist analysis of selves other than that of the observer, introspection data being confined to, because conclusively verifiable by, him alone. Even if, as was argued above, this be rejected and the existence of other selves, conceived by analogy with the given observer's own, be conceded at least the same obscure status as is, in the present state of philosophical discussion, enjoyed by material objects, each self being allowed to verify at any rate its own experience, it still seems difficult to explain, even in terms of the falsifiability criterion, what could show that the sentences 'My toothache is more violent than yours' or 'Smith thinks faster than Jones' are not meaningless. Each observer, we say, can vouch for the occurrence or the non-occurrence only of events in his own experience. Whatever may be said about the meaning of such terms as 'privacy' and 'publicity' as applied to data which are evidence for material objects, introspected states must, as language is ordinarily used, be declared to be private in some sense in which material objects are not: an inter-subjective observer who perceives my thoughts and feelings as well as his own seems a self-contradictory concept: otherwise it would
be no more absurd to say that he and I experience the same headache as that we see the same table. Here, once again, the verification principle does not apply in either of its forms; and yet the propositions comparing the experiences of several observers seem at once intelligible, empirical, and as often as not precise and true.

The conclusion which follows, if the above account of the matter is correct, is this: that the criterion provided by 'strong' verification at best applies to a very narrow range of observation propositions; while 'weak' verification either fails to act as a criterion of sense altogether or, if made equivalent to 'strong' falsification, and in that form made sole arbiter of meaning, entails a brand of phenomenalism which provides unsatisfactory analyses of propositions about material objects and other selves. It follows \textit{a fortiori} that the criterion of types of verifiability cannot act as the basis of classification of empirical propositions into logical categories. For it can neither distinguish statements recording observations from other categories of empirical propositions, nor enable us to distinguish different types of observation statements from each other. In view of this complete failure to satisfy our demand for a criterion, are we to abandon our search for a criterion altogether, or even declare the demand itself to be senseless, saying that meaning is meaning—an unanalysable concept—that to understand is an ultimate form of activity like seeing or hearing, that 'empirical' is an ultimate category, and can not be explained or defined otherwise than ostensively, that is by examples? This is perhaps the case. But if so, statements like the above express the fact too baldly and obscurely. What one ought rather to say is that verifiability depends on intelligibility and not vice versa; only sentences which are constructed in accordance with the rules of logic and of grammar, and describe what can logically be conceived as existing, are significant, are empirical statements, express genuinely empirical propositions. The notion of the logically conceivable must not be misunderstood. It must not be confused with the view ultimately derived from Russell, and sometimes offered as a substitute for verification theories, according to which a sentence has empirical meaning when every variable which occurs in it is such that one at least of its values denotes an actual or possible object of sensible or introspective knowledge; or, as it is sometimes put, when all the concepts in a judgement are \textit{a posteriori} concepts; or, if a more familiar formulation is preferred, when understanding a proposition entails actual or possible acquaintance with at least one instance of every universal which occurs in it. Even if we ignore the difficulties of the
CONCEPTS AND CATEGORIES

phenomenalism which this entails it can only be a necessary, never a sufficient condition of empirical significance, at most a negative test. For I can formulate a sentence, correct by the rules of logic and of grammar and containing as variables only the names of observable characteristics, which yet may turn out to be meaningless, as for example 'Red hours are not more passionate than his ambition': this would doubtless involve a glaring confusion of categories, but the criterion, like that of 'weak' verification and for the same reason, is powerless to prevent this. The notion of significance cannot be determined by any such mechanical test: to say of a sentence that it means something, that I and others understand it, in other words that it conveys a proposition, is to say no more and no less than that we can conceive what would be the case if it were true. As for the meaning of 'I can conceive', only that is conceivable by me which in some respect resembles my actual experience, as it occurs in observation or introspection, memory or imagination, or any other form of direct acquaintance, which can be described only by reference to it, as a determinate, however logically distant from its source, of some determinable with at least one of whose determinates I am acquainted; much as a man born blind may understand propositions of visual experience by analogy with the senses which he possesses. The proposition that what is conceivable is necessarily similar to actual experience is analytic, being part of what is meant by the word 'conceivable'. To speak therefore of conceiving an experience dissimilar in all respects, wholly different, from my own, is to advance a self-contradictory concept, suggesting as it does both that I can apply my habitual logical categories to it, inasmuch as it is called experience, and that I cannot do so, inasmuch as it is declared to be wholly and utterly different from it. Statements which are metaphysical in the bad sense are meaningless not because they are unverifiable, but because they purport, in the language which resembles that which we normally use to describe situations which we regard as capable of being empirically experienced, to describe something which is alleged to transcend such experience, and to be incommunicable by any kind of analogy with it. Since, so far as we mean anything by these words, the limits of what can be conceived are set by analogy to what we are acquainted with, to deny such resemblance is tantamount to saying that what the proposition affects to describe is inconceivable; and this is to say that it is not a genuine proposition but, in the empirical sense of 'meaning' as descriptive, and not, e.g., emotive or evocative, a meaningless statement, linguistically
VERIFICATION

similar to significant ones. Such a statement is unverifiable because, when examined, it turns out to be meaningless, and not vice versa, and it is meaningless because although words are being used in it in accordance with the accepted conventions of logic and of grammar, they represent the result either of genuine confusion, or of a pursuit of obscurity from whatever cause or motive, since they are used in a fashion different from that in which words are used when they are intended to describe the experienced world. And so, while they may resemble genuinely descriptive expressions, whatever else they may or may not be doing, they literally describe nothing.