FACTUAL MEANING AND VERIFICATION

IN this paper I propose to examine briefly the sense in which a theory of factual meaning is possible and to consider the criteria which make for factual meaning.

At the outset, I would like to clarify my use of terms. Following Ayer,[1] I would use 'sentence' to denote any form of words that is grammatically significant in any language ; every indicative sentence, whether literally meaningful or not, shall express a 'statement' and by 'proposition' I would mean what is expressed by a sentence, which is literally meaningful. But my use of the expression ' factual meaning ' is less restricted than Ayer's[2] and would refer not necessarily to statements which satisfy Ayer's criterion but to all statements of commonsense or science, which at the level of intelligent commonsense would be adjudged to have factual meaning.

In spite of this latitude in my use of ' factual meaning,' I would nevertheless wish to contrast it with, say, the meaning of assertions in poetry (poetic meaning) or in logic and mathematics (formal meaning) for quite obvious reasons. However strong the prejudice may be to believe that since all these sentences (expressing statements of fact, poetic fancies or theorems in mathematics) have meaning, there must be something in common in their meaning, it is clear that we can ask, in general, of statements of fact whether they are true or false, in a sense in which we cannot do so with the expressions of poetry or the sentences of logic and pure mathematics. At the same time, it must not be assumed that there is something in common to the meaning of factual statements.

Wittgenstein's analogy from games is very much to the point here : " Consider for example the proceedings that we call " games." I mean board-games, card-games, Olympic games, and so on. What is common to them all?—Don't say: " There *must* be something in common, or they would not be called 'games' "—but *look* and see whether there is anything in common to all.—For if you look at them you will not see something that is common to *all*, but similarities, relationships, and a whole series of them at that. To repeat : don't think, but look !—Look for example at board-games, with their multifarious relationships. Now pass to card-games ; here you find many correspondences with the first group, but many common features drop out, and others appear."[3] The analogy between languages

1. *Language, Truth and Logic*, 1946 edition, p. 8.
2. Op. cit., p. 15.
3. *Philosophical Investigations*, p. 31e.

and games may not be perfect and it is equally important not to commit the opposite error of assuming that what is true for games is true for the different strata of language. But it must not be forgotten that factual meaning covers a variety of cases when we consider the multifarious uses to which language is put.

We make factual statements or ostensibly factual statements for a variety of purposes[4] e.g. in describing the contours of an object, reporting an event, forming an hypothesis, translating from one language to another, narrating a personal experience, describing another's motives or mode of speech, explaining a law of nature and sometimes when guessing riddles, making jokes or uttering a proverb etc. A little examination would show that the sense in which the factual statements employed in the above operations are true or false or meaningful would differ with the context. For example a joke may be expressed in a sentence which has factual meaning but the essential feature of its meaning is not whether the statement is true or false but whether it is to the point or not as a joke. Consider again the proverb " Great minds agree " ; it is ostensibly a factual statement but is it falsified by the other proverb which says " Fools seldom disagree " ? Such considerations make us feel that the meaning of proverbs is different from the meaning of other factual statments like " there are two chairs in this room " and these again from yet other factual statements expressing my immediate experiences like " I am having a pain in my foot." A difference in the latter two for instance would be that while the observations of myself as well as of others would be relevant to the truth or falsity of the statement " there are two chairs in this room," the observations of others would not in the same way affect the truth or falsity of the statement " I am having a pain in my foot." But dogmatising on the basis of such considerations some people may be inclined to hold the (metaphysical) opinion that every statement has its own kind of meaning, regardless of the observable similarities in content and structure which the large body of factual statements may exhibit.

II

The question that we propose to ask, then, is—in what sense is a theory of factual meaning possible ? But this presupposes that a theory of factual meaning is possible, which would not be the case if meaning is a an indefinable term or if each statement has a different kind of meaning, which is immediately apprehended on understanding the statement and which is something ultimate, irreducible and indescribable in other terms. If some-

4. Cp. op. cit., p. 11e.

one holds this view, it is doubtful whether it can ever be dislodged because it seems to be an incorrigible metaphysical view based on the dictum that 'everything is what it is and not another.' I am not saying that it cannot be true that the meaning of each statement is unique or that meaning is indefinable[5] but that unless all attempts to define, analyse or discover the criteria of meaning have failed, it is not a view that can in the absence of general assent be accepted or subscribed to with much plausibility.

Supposing it is possible to have a theory of factual meaning, what sort of theory would it be ? Will its statements be *a priori*, empirical, metaphysical or fall into some other category. The answer would be clearer if we consider the fate of one of the best known existing theories, namely the verification theory of meaning, which since Schlick and the Vienna School has held that " the meaning of a (factual) statement is the method of its verification."

Some of the first critics of the theory, as formulated by Ayer in his earliest edition of his *Language, Truth and Logic*,[6] considered it an empirical hypothesis[7] and argued that as an empirical universal proposition it cannot be conclusively established by experience, nor could it be verified by sense experience, the conclusion being that if it was true it was meaningless (on its own criterion) and therefore it must be either meaningless or false.

Another critic[8] described the Verification Principle as a metaphysical theory with peculiarities of its own and in order to clarify this statement gives a sample of what metaphysical theories are like. Wisdom, no doubt, does this with a purpose : " I say that the verification principle is a metaphysical principle because I want (I) to draw the attention of those who accept it to the deplorably old-fashioned clothes in which it presents itself. Indeed it resembles not only positivistic theories but also the worst transcendental theories by appearing in the disguise either of a scientific discovery removing popular illusion, or of a logical equation (incorrect) from which deductions may be made. No wonder our conservative friends cannot accept it. I want (2) to draw the attention of those who reject it to the fact that because they are taken in by its disguise they fail to recognise the merits which like other metaphysical theories it conceals."[9]

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5. Cp. Ewing, " Some terms must be indefinable, and such a fundamental term as meaning is surely one of the most likely to be so " in " Meaninglessness," *Mind*, 1937.

6. January 1936 edition.

7. A. C. Ewing, " Meaninglessness," *Mind*, 1937.

8. J. Wisdom, " Metaphysics and Verification," *Mind*, 1938 ; reprinted in *Philosophy and Psycho-Analysis*, pp. 51-101.

9. *Philosophy and Psycho-analysis*, p. 55.

Ayer himself in the latest and revised edition of his work, disclaims that it is an empirical hypothesis. " I wish " he says, " the principle of verification itself to be regarded not as an empirical hypothesis but as a definition."[10] But he does not give his reasons for saying so. Perhaps he feels that Ewing's criticisms[11] are justified or that as an empirical proposi·ion it is not an effective weapon for the elimination of metaphysics, whatever its limitations may be in this respect even as a definition. But then, as a definition, what status would the statements of his theory have, for Ayer admits only three kinds of statements, viz. analytic tautologies, synthetic or empirically verifiable hypotheses and meaningless metaphysical assertions 'which purport to express genuine propositions but do in fact express neither tautologies nor empirical hypotheses.'[12] And now that he disclaims that the statements of his theory are synthetic propositions, they must either be analytic tautologies or metaphysical assertions, but to say either would defeat his purpose for the former would make them arbitrary (since the possibility of *a priori* synthetic propositions is not granted) and the latter would render them meaningless. It is, therefore, difficult to determine the status of Ayer's " definition " or " methodological principle " as he calls it or to defend it against the attack of metaphysicians.

It is clear that unless ' meaning ' is an unanalysable term any theory of meaning has to be stated in the form of *a priori* or empirical propositions, but since ' meaning ' is an empirical concept in the sense that we come to know what is meant by ' meaning ' by first getting acquainted with statements having meaning and seeing certain relevant features (not necessarily universal) which distinguish them from nonsensical assertions, any theory of (factual) meaning has to be empirical in character. In this sense investigating the meaning of ' meaning ' is no different from investigating the the meaning of an empirical concept like ' table ' the only difference being that in the former case meaning is involved twice over. We can know a ' table ' as well as understand what is meant by the ' meaning ' of the word ' table.' To assert that ' meaning ' is a metaphysical concept on this ground is like saying that because we only see visual objects we have no acquaintance with ' seeing ' as opposed to ' hearing ' or as opposed to ' not seeing ' and therfore cannot lay down the conditions under which we *see*.

Such an empirical theory of meaning may, of course, take the form of a real definition (i.e. the definition of an object like ' table ' as opposed to a concept like ' unicorn ') but since ' meaning ' is a word like other words in

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10. Op. cit., 1946 edition, p. 16.

11. Op. cit..

12. Op. cit. p. 41.

a language and is likely to suffer from ambiguity and ' open texture ' [13], it may be vain to search for a precise definition which clearly demarcates the meaningful from the meaningless. Nevertheless such a definition which embodies the criteria of meaningfulness, although they may not be individually *necessary* or together *sufficient*, is the best that we can hope to get.

In fact, if we study the history of the verification principle, however unsatisfactory the principle may be as a theory of factual meaning, it will be seen that it has an empirical basis, whatever the status positivists would like to give to it. The progress of the natural sciences based on verifiability as the criterion of truth and falsity, the sterility of metaphysics, the developments in logic and mathematics and the consequent vitiation of self-evidence (the *a priori*) as a guarantee of factual truth and the empiricism of Hume and Mach form the general background for the rise of Logical Positivism. It is not surprising that Wisdom should characterise the verification principle as " a generalisation of a very large class of metaphysical theories, namely, all naturalistic, empirical, positivistic theories," [14] though I fail to grasp why he should call empirical theories metaphysical theories if only on the ground that the verification principle appears in the guise of a scientific discovery and takes a dogmatic and a metaphysical stand in excluding all non-analytic statements as meaningless if they fail to satisfy its criterion of meaningfulness.

If we examine Ayer's attempt at formulating and re-formulating the principle, we find the same empirical grounds for the genesis of the ' definition.' Thus when he finds that the first edition formulation of the principle allowed the intrusion of metaphysics or plain nonsense for that matter, he is careful enough to reformulate it[15] in order to try and exclude metaphysics but include all empirical statements of commonsense and science within the realm of the meaningful. This is obvious from his statement : " We could indeed avoid the difficulty, in either case, by leaving out the stipulation about the other premises. But as this would involve the exclusion of all hypotheticals from the class of empirical propositions, we should escape from making our criteria too liberal only at the cost of making them too stringent." [16]

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13. F. Waismann, " Verifiability, *Proceedings of the Aristotelian Society*, Suppl. Vol. XIX, p. 125. See also *Logic and Language* ed. A. G. N. Flew, Art. by F. Waismann, " Language Strata " says "It is easily seen that the term ' meaningful ' displays the same ambiguity : its sense varies with the stratum. The trouble with Logical Positivists was that they attached too rigid an import to 'meaningfulness and lost sight of its ambiguity."

14. Op. cit. p. 51.

15. Op. cit., pp. 12, 13.

16. Ibid., p. 12.

The upshot of this discussion is that if a theory of factual meaning is possible, it has to be an empirical theory and its value can be assessed only by the extent to which it can account for the whole content of factual meaning. The theory itself has to satisfy the same criteria which it may lay down as indicative of that content. That such a theory should *ipso facto* eliminate metaphysics is of course impossible, though indirectly it may raise doubts as to the worth of metaphysics by showing that metaphysical statements do not have meaning in the sense in which the factual statements of commonsense and science have meaning and thus making demands on the metaphysician to clarify the sense in which their statements have meaning, if any. But again to include all metaphysical statements under a single heading as though they were all alike is another error that we have to guard against.

III

I would now concern myself with examining the criteria which make for factual meaning in the case of the propositions of commonsense and science, the purpose of the inquiry being to show that there are no precise boundaries to demarcate the meaningful from the meaningless, so long as we do not make our criteria tautologous and our own definitions of meaning arbitrary. This does not of course mean that there are no assertions which can be known with empirical certainty to be meaningful and others likewise which can be known to be meaningless, but that there is no definite criterion or set of criteria which can be strictly employed to define factual meaning. As Ayer's reformulation of the verification principle claims to be such a criterion its merits and defects in this respect shall be later examined.

Perhaps the best means of discovering the criteria of meaningfulness would be to investigate the borderland of meaning and see whether we can lay down the conditions of meaninglessness so that the absence of these conditions would be deemed to make for what is meaningful. I can do no better than to take up for consideration Ewing's list " of the conditions under which verbal expressions could be said to be meaningless." [17] Ewing here gives list of four classes of expressions which he says are meaningless, namely (1) sentences expressing exclamations, wishes, etc. and which, therefore, do not assert propositions, (2) incomplete expressions, (3) expressions containing words " which do not stand for anything " and (4) expressions containing significant words but combined contrary to the rules of syntax. As for the other two classes mentioned by Ewing namely (5) sentences " which ascribe to something a relatively determinate value of

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17. Op. cit., p. 359.

a determinable which does not qualify it "[18] and (6) self-contradictory assertions, he is of the opinion that they are meaningful, though this has been doubted or denied by others.

I propose to examine the factors involved in each of the above class of expressions and show that while their presence may make for the meaninglessness of expressions, they are by no means *necessary*—in other words I would hold that even these criteria do not by themselves necessitate the meaninglessness of expressions.

1.   Let us take (1)—I am referring to Ewing's list—where it is said that exclamations, wishes, commands, exhortations may have a meaning of their own in that they can be understood or misunderstood but that since they do not express propositions, they are in this sense meaningless. In other words these expressions do not have factual meaning. But then, one could in reply invert the situation and say that sentences asserting proposition are meaningless as exclamations, commands, wishes etc. And if Ewing permits 'questions' in this list of meaningless assertions on the ground that they do not assert propositions, it may be asked how it were possible to translate indicative statements to questions-and-answers[19] or even bare questions without significant loss of meaning e.g. the proposition " he is having a headache " could be expressed in the form of a question-and-answer as " Is he having a headache ?   Yes," or as a mere question, " Isn't he having a headache ? "   Suppose we decide to invite John to join us for a game of cards, would there be, for instance, a significant difference in the factual content of either assertion if John's mother were to say either, " he is having a headache" or " Isn't he having a headache ? "

2.   In the second category are incomplete expressions like " the table is beside " where there is a dyadic relation with only one term. Consider such an incomplete expression in a real context.   Supposing when we are engaged in battle one of our spies comes running up to us and saying, " the enemy is between the bridge and—," faints. Would we say that he has not given us any information or that he talked nonsense or uttered a meaningless expression ?   On the contrary, although the expression is incomplete, it could be full of meaning (in a factual sense) to us in that situation.   Ewing argues that statements in class (5) are meaningful in virtue of the fact that they can entail or be entailed by other statements. If we adopt this as a criterion of meaningfulness one may argue that " John is the

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18.   Ibid., p. 360.

19.   Cp. Wittgenstein, op. cit., p. 10e :   " We might very well also write every statement in the form of a question followed by a " Yes ; " for instance :   " Is it raining ?   Yes ! "   Would this shew that every statement contained a question ? "

brother of—" for instance, entails that " John is not the sister of—" and that hence these expressions are meaningful.   I am not saying that each of these criteria, here enumerated, do not tend to make sentences or expressions meaningless but that they do not necessarily do so.

3.   In the third class are expressions ' which do not include some word or words which do not stand for anything.' Here too I do not wish to deny that such expressions are, in general, thereby rendered meaningless though the other words may impart as much meaning as incomplete expressions are capable of conveying, but here again much depends on the context unless the speaker specifically confesses that he is using certain words with no reference.   Supposing I were to visit an orphanage very regularly and were to take some gift or other for the children everytime I went and supposing the next time I go with an empty bag and announce in front of the children, " today I have brought you a beautiful *stek* in my bag."   Here, although there is nothing in the bag and I meant nothing by the sound " *stek* " (not found in the language or in any dictionary), the children are likely to understand by " *stek* " some gift or other and perhaps say on opening the bag " where is the stek ? " quite significantly.

4.   The next class of meaningless expressions are those containing a jumble of meaningful words combined in a way contrary to the rules of syntax.   To take Ewing's example " are of fond not dogs cats."   Now one who would say *per impossibile* that this was meaningful may try to maintain that it either means that "cats are not fond of dogs or *vice versa*," and may argue that someone who is new to a language may not know its rules of syntax but may still be able to make himself understood to one who knows the language by expressing his ideas in a disconnected assertion. Even the rules of syntax allow a certain latitude in regard to the position of words and this may differ from language to language.   " He goes home " is good English but in good Sanskrit (or Latin) one has to say " he home goes."   I doubt whether someone who is new to English would be misunderstood if he says in the right context " he home goes."   Certainly in common parlance, he would not be charged with asserting a meaningless expression, except by an obstinate philosopher.

5.   I have so far tried to show that the above four criteria of meaninglessness, taken singly are by no means conclusive.   In regard to the remaining two criteria, Ewing argues against those philosophers who contend that their presence makes sentences meaningless.   It would be interesting to see the nature of this metaphysical dispute by showing what considerations incline people to either view.   That the statements are meaningless to commonsense though the criteria which make them so are not conclusive, is what we contend.

The fifth class, then, of ostensibly meaningless assertions, is formed according to Ewing by " ascribing to something a relatively determinate value of a determinable which does not qualify it,"[20] e.g. " Quadratic equations go to race-meetings." Ewing, however, argues that these sentences are meaningful on at least two grounds. First, they obey a rule of Logic by having the capacity of being entailed by or of entailing other sentences: " For after all—quadratic equations do not go to race meetings —is entailed by quadratic equations do not move in space, and entails— quadratic equations do not watch the Newmarket horse races."[21] Secondly we are told that ' we really know that quadratic equations do not go to race meetings ' and this is impossible if the words in the expression did not express a proposition. Ewing therefore holds this proposition to be " meaningful and true but misleading " [22] like the proposition " I did not commit more than six murders last week," when in fact I had committed none. But surely, one may ask what quadratic equations have to do with the entailment that holds between ' not going ' and ' not moving in space ' and what it would be like to spot a quadratic equation at a race meeting. Surely it differs from the " true but misleading " class of expressions in that the state of affairs referred to by the latter is logically possible and conceivable. I am sure that most people not spoilt by philosphy would say that the assertion was quite meaningless.[23]

In fact, this class of sentences which " ascribe to something a relatively determinate value of a determinable which does not qualify it " is only a sub-class of sentences which involve a confusion of categories and what makes for their meaninglessness (as well as their unverifiability) is precisely the category trespasses they make, Gilbert Ryle expresses this very well when he says that " when a sentence is (not true or false but) nonsensical or absurd, although its vocabulary is conventional and its grammatical construction is regular, we say that it is absurd because at least one ingredient expression in it is not of the right type to be coupled or to be coupled in that way with the other ingredient expression or expressions in it. Such sentences, we may say, commit type-trespasses or break type-rules."[24] But then, to state precisely under what conditions a category mistake is committed, is no easy matter as may be illustrated by an example—to say that " the Independence Hall is a white rat " is obviously absurd but not the sentence

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20. Op. cit., p. 360.
21. Ibid.
22. Ibid. p. 361.
23. In fact, Ewing seems to give himself away when he confesses unwittingly that this same " assertion is absurd," op. cit., p. 362.
24. *Logic and Language*, ed. Flew, Second Series, p. 75.

" the Independence Hall is a white elephant." Here the metaphorical meaning of " white elephant " removes the confusion of categories which would otherwise result but the genesis of such metaphorical meaning cannot always be predicted. It may be that if " white rat " is persistently employed in appropriate contexts it would develop a metaphorical meaning of its own, which would nullify the effect of the ostensible confusion of categories.

6. Philosophers are again divided as to the question as to whether self-contadictory statements have meaning or not. Some say that they have meaning, others deny this (and yet others hold that they have inconceivable meanings). Here too an analysis of the problem would reveal that these statements exhibit certain features which incline us to hold either view and it is only by exaggerating or focussing undue attention on either set of features is it possible to maintain each view over and against the other. Thus Langford holds that self-contradictory statements are meaningless and argues that " when we try to envisage the unitary meaning of a sentence of this kind, we find that this is quite impossible and that therefore it has no single meaning but rather makes one meaning corresponding to one part of the verbal expression and another to another." [25] On the other hand, Mr. Donald C. Williams maintains : " the theoretical analysis of meaning convinces me that $\sim N$ should be just as intelligible as N or C, and empirical investigation reveals that it is."[26] It is clear that in one sense, logical impossibility make for meaninglessness in that we cannot conceive of the terms of the proposition in combination, though this time this is not due to category trespasses. Both ' square ' and ' circle ' belong to the category of figures but to say that " a square is a circle " appears in some sense to be absurd and inconceivable. On the other hand those who maintain that these sentences are meaningful, do so on the basis of other criteria of meaningfulness by noticing the apparent resemblance that these sentences bear to meaningful sentences or their difference when compared with other meaningless assertions. That " four out of the five pupils passed the examination " is a perfectly meaningful contingent proposition and looks very similar to " six out of the five pupils passed the examination " but the latter is a logically impossible proposition whose falsity is not determined by reference to fact. Yet it obeys the rules of syntax (Criterion 4) and its constituent words have meaning (Criterion 3) and whenever such a proposition is complex enough it is quite possible, mistakenly to believe it.

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25. Lewis and Langford, *Symbolic Logic*, pp. 476-7.
26. Donald C. Williams, " The Nature and variety of the *A Priori*," *Analysis* V. See also C. W. Whiteley " Truths by Convention," Analysis IV, pp. 25-7.

For instance I may believe, due to errors of calculation, that " 4015×6650 = 26699650" which is a self-contradiction in that it is logically impossible and many who would be inclined to say that " six out of the five pupils passed the examintion " is meaningless would not say the same of " 4015 times 6650 coconuts equal 26699650 coconuts " though both statements are logically on the same footing. Once this is obvious to commonsense, for instance, as when I say " 4015 times 6650 coconuts equal 5 coconuts " the inclination to say so would certainly be stronger.

We thus see that each of the above criteria taken singly, by no means necessitate the meaninglessness of sentences though their presence certainly contributes towards and sometimes effects their loss of meaning. The increase of such criteria would tend to effect greater if not total loss of meaning although the union of any disjunction of them may not be possible in that the presence of some tends to eliminate others. Thus category mistakes would be possible only if the word order permitted by the rules of syntax, is more or less preserved. But when the criteria are present in strength it is hardly possible for the assertion to be anything but sense as, for instance the expression " courage meditates kule six out of five times between ! " This may be a meaningful poetic assertion to some moderns, but in common parlance it is certainly not meaningful unless different but appropriate meanings are given to the ' words ' which compose this assertion, which would amount to tacitly eliminating the criteria of meaning-lessness.

But do the observance of all the above criteria of meaningfulness guarantee the meaningfulness of the sentence ? Consider a complete indicative sentence composed wholly of significant constituent terms arranged in accordance with the laws of syntax, obeying the laws of logic and not involving a confusion of categories or containing a contradiction. The sentences " 2,112,369 coconuts were picked from this coconut tree in my garden," " Michael John is ill," " There are several varieties of boots "— would all fall into this category but can we say that they are perfectly meaningful under all conditions ?

7. The statement, " 2,112,369 coconuts were picked yesterday from this coconut tree in my garden " would sound incredible in any context, the world being what it is and coconut trees being what they are, though this incredibility does not amount to a contradiction since it is logically possible for coconut trees to bear any number of fruits at a time though in a non-logical sense it is inconceivable that any such tree should bear as many as two million fruits in its whole lifetime. So are we to add that *incredibility* tends to make such statement sound a bit absurd ?

8. Consider again someone who says " Michael John is ill " and when asked, who Michael John is, replies that he is not referring to any particular person. Or consider the meaningfulness of the sentence " there are several varieties of boots," if someone were to say this in reply to any question whatsoever that he was asked. Would we say that these sentences had meaning *in such contexts*. Ofcourse, one could say that they had meaning in that they satisfied the other criteria, but does not their failure to fit the context render them meaningless in these contexts ? Can we give an exact definition of the criteria of *credibility* and *contextual propriety* so that we can know exactly when and how these criteria are satisfied ? I doubt whether this could be done and this is possibly what Waismann means when he contends that ' meaning ' like most other words in a natural language is infected with ambiguity and open texture[27]. The moral would be that no precise theory of meaning is possible although as we have seen, it is possible empirically to discover in general and within limits the criteria which make for meaningfulness even though these criteria are of unequal value in that some would weigh more than the others.

IV

It would appear that in general the above criteria would have at least to be satisfied before a sentence could be meaningful (in a non-poetic sense) and therefore they have to be satisfied by all factually meaningful sentences since this is only a sub-class of all meaningful sentences though the fact that they are satisfied does not necessarily imply that the sentences are factually meaningful as the criteria which make specifically for factual meaningfulness would be independent of the above. I shall therefore distinguish the above criteria from the criteria which specifically make for factual meaningfulness by calling the former *formal criteria*.

It is here that the verification principle can make its claims as a criterion of factual meaning and I propose to show that the criterion as reformulated by Ayer in its latest version (a) cannot be used independently of the formal criteria for locating factually meaningful sentences and (b) that the criterion even when used along with the formal criteria covers only a sub-class of factually meaningful sentences.

Ayer has reformulated the principle (criterion) of verifiability as follows: " I propose to say that a statement is directly verifiable if it is either an observation-statement, or is such that in conjunction with one or more observation statements it entails, at least one observation-statement which is not deducible from these other premises alone; and I propose to say that

27. " Language Strata," op cit., pp. 22-26.

a statement is indirectly verifiable if it satisfies the following conditions : first, that in conjunction with certain other premises it entails one or more directly verifiable statements which are not deducible from these other directly verifiable statements which are not deducible from these other premises alone ; and secondly, that these other premises do not include any statement that is not either analytic, or directly verifiable or capable of being independently established as indirectly verifiable. And I can now reformulate the principle of verification as requiring of a literally meaningful statement, which is not analytic, that it should be either directly or indirectly verifiable, in the foregoing sense."28

(a) Let us consider one or two examples which satisfy Ayer's criterion of direct or indirect verifiability but which are quite obviously meaningless to commonsense since they violate one or more of the formal criteria.

Ayer uses 'sentence' to denote " any form of words that is grammatically significant" 29 and 'statement' to mean " every indicative sentence, whether literally meaningful or not. " 30 This use of 'sentence' and 'statement' ensures that the assertions to be tested by his criterion would *ipso facto* satisfy formal criteria (1) and (4), so that our examples of meaningless sentences which fail to satisfy Ayer's criterion would have to be taken from those which fail to satisfy one or more of the other formal criteria. Let us take the statement " quadratic equations are sea green " (which fails to satisfy formal criterion (5) and appears meaningless). Now Ayer says that " a statement is directly verifiable if it is either itself an observation-statement, or is such that in conjunction with one or more observation-statements it entails at least one observation-statement which is not deducible from these other premises alone."

Now the statement that " the present lecturers of the University of Ceylon loathe all sea green " is an observation-statement (i.e. a statement " which records an actual or possible observation " 31), though probably false. It will be seen that the statement, "quadratic equations are sea green" in conjunction with the observation-statement that " the present lecturers of the University of Ceylon loathe all sea green " entails the observation-statement, "the present lecturers in the University of Ceylon loathe quadratic equations." In other words, the statement " quadratic equations are sea green " satisfies Ayer's criterion of a directly verifiable statement although it is meaningless since it involves a confusion of categories.32

28. Op. cit., p. 13.
29. Op. cit., p. 8.
30. Ibid.
31. Op. cit., p. 11.
32. Cp. I. Berlin " Verifiability in Principle," *Proceedings of the Aristotelian Society*, Vol. XXXIX, p. 234.

Let us now consider a statement which is meaningless since it does not satisfy another formal criterion but which nevertheless statisfies Ayer's criterion for an indirectly verifiable statement. The statement, " this figure is a square circle " would be deemed meaningless (at least by some) since it is self-contradictory (formal criterion 6). Now Ayer says that a statement is indirectly verifiable, if in conjunction with an analytic premise, or indirectly verifiable statement established independently, it entails a directly verifiable statement. The statement, "this figure is a square circle" is not an observation-statement since it is not possible to have such a figure. But in conjunction with the analytic premise, (or indirectly verifiable statement) " the perimeter (circumference) of a circle is equidistant from one point within it," it entails that "the perimeter of this figure is equidistant from one point within it," which is a directly verifiable statement since it is an observation-statement in Ayer's sense. In other words the meaningless statement, " this figure is a square circle " would prove to be an indirectly verifiable meaningful factual statement on Ayer's criterion.

It would appear, therefore, that Ayer's criterion for direct or indirect verifiability is no test of meaningfulnes; and that factually meaningful statements have at least to satisfy the formal criteria before they can be claimed to be meaningful.

(b) This brings us to our second point, namely the question as to whether Ayer's criterion would cover all factually meaningful sentences, when used concurrently with the formal criteria. To put the question differently, does every factually meaningful statement which satisfies the formal criteria also satisfy Ayer's criterion?

I have my doubts whether a factual proposition for which we have no evidence whatsoever to determine its truth or falsity with even some degree of probability, would satisfy Ayer's criterion though much depends on how Ayer would interpret " a possible observation " which he leaves undefined. We are told that an observation-statement is a " statement which records an actual or possible observation." Is a " possible observation " an observation which at least one person living at present is in a position to make with some degree of probability or is the expression liberal enough to cover any logically conceivable state of affairs concerning contingent things.

There are some propositions about the past for which we do not have and are not likely to have any evidence to determine their truth or falsity. Some propositions relating to events in remote inaccessible regions of space also belong to this category. Let us take two examples : " There was a

hailstorm yesterday in the southern hemisphere of the planet Venus" and
"Caesar slept the whole day on the ides of March exactly five years before
he died." Now if these are observation-statements in that they are "possible
observations" in the sense that we know what it would have been like to
have observed these events if we were near them in time and space, one
fails to see what meaningful factual statements of commonsense are not
directly verifiable (except possibly those which are logically impossible
directly to observe). If so what is the necessity for elaborate inferences
to observation-statements in order to verify any of them, since what would
even be practically impossible directly to observe would be expressed in
"observation-statements." On the other hand, if they are not observation-
statements what evidence would be there in the form of observation-
statements (recording actual or practicable observations) or analytic premises
in order to verify (or falsify) them with even the faintest degree of pro-
bability. And since such an observation-statement or analytic premise is
required for direct or indirect verification such statements would be un-
verifiable, though to commonsense they are meaningful. The verification
principle, even in its present form, therefore seems not only incapable of
eliminating meaningless statements which fail to satisfy the formal criteria
but seem only to lay down the conditions under which factual meaningful
statements are verifiable and that too only if a suitable definition is given of
"possible observation."

I would not deny that verifiability is of relevance as indicative of
factual meaning in the case of statements which are not ruled out as meaning-
less on the formal criteria but that there are statements like the above which
are meaningful in a factual sense though they are unverifiable. What
then is the criterion, if at all, on which these unverifiable statements have
factual meaning ?

An answer that suggests itself is that though unverifiable they bear a
generic resemblance to the verifiable and factually meaningful propositions.
The unverifiable proposition " there was a hailstorm yesterday in the
southern hemisphere of the planet Venus" is in structure and content
similar to the verifiable proposition "there was a hailstorm yesterday in
the southern hemisphere of the planet Earth." Thus, though these pro-
positions are strictly unverifiable, yet they belong to a class of propositions,
some members of which are verifiable and it is this resemblance which
seems to confer on them at least an ostensible factual significance. This
sounds very much like Stace's Principle of Observable Kinds.[33] If so, the

33. W. T. Stace, "Positivism," *Mind* 1944, p. 218.

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Principle of Observable Kinds can, contrary to Ayer's contention, [34]
accommodate a class of factually meaningful statements, which would be
left out by Ayer's criterion although it would be quite incorrect to agree
with Stace that " the positivist principle *implies* it " [35] (i.e. the Principle
of Observable Kinds) since, as pointed out by Mr. J. O. Wisdom, [36] the
Principle of Observable Kinds fails to account for certain classes of scientific
statements which are taken account of by the verification principle.

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34. Op. cit., p. 14, fn. says "every statement that is allowed to be meaningful by the principle of observable kinds is also allowed to be meaningful by the principle of verification."
35. Op. cit., p. 219.
36. "Positivism," *Mind*, 1945, p. 66.