

THE PRINCIPLE OF VERIFIABILITY.

It is the contention of Mr. Ayer that a great many philosophers, who are concerned with the analysis of a special class of sentences ordinarily thought to belong to philosophy, are unwittingly concerned with sentences having no literal significance. A sentence s in a given language L may be defined, roughly, as a sequence of words from L satisfying certain formal conditions, called rules of grammar of L . And it is, of course, a matter of fact that not all sentences constructable in L , i.e., not all sequences satisfying the set of *formal* sentential conditions of L , will be literally significant. The proper sub-class k of sentences in L purporting to express contingent propositions, i.e., the class k of sentences of such a form that if they did express propositions in L they would express contingent propositions only, divides into two mutually exclusive sub-classes :

- C_1 , the class of k -sentences which have literal significance ;
- C_2 , the class of k -sentences which lack literal significance.

In *ordinary* discourse, wherein the purpose is to "communicate", people hardly ever make the mistake of expressing themselves in sentences of C_2 instead of in those of C_1 . According to Mr. Ayer, however, a great many philosophers have laboured under the illusion that a special sub-class C' , of C_2 , of seemingly philosophical k -sentences, is included in C_1 , and in being concerned with the analysis of sentences of C' have simply devoted their time to the "production of nonsense". The philosophers supposedly guilty of this confusion are called "metaphysicians", and the sentences of C' with which they are concerned are called "metaphysical sentences".

A criterion other than a strictly formal one seems required in order to test whether a given k -sentence is literally significant. And Mr. Ayer presents such a principle, formulated by the so-called Vienna School of Positivists and modified in several respects by himself, which "enables us to test whether a sentence expresses a genuine proposition about matter of fact"¹, i.e., a criterion by the application of which it can be ascertained whether a given k -sentence belongs to C_1 or to C_2 . This is the Principle of Verifiability, namely: ". . . A sentence is factually significant to any given person, if, and only if, he knows how to verify the proposition which it purports to express—that is, if he knows what observations would lead him, under certain conditions, to accept the proposition as

¹ A. J. Ayer, *Language, Truth, and Logic*, p. 19.

being true, or reject it as being false".¹ In connection with this principle Mr. Ayer goes on to say: "If on the other hand, the putative proposition is of such a character that the assumption of its truth, or falsehood, is consistent with any assumption whatsoever concerning the nature of his future experience, then, so far as he is concerned, it is, if not a tautology, a mere pseudo-proposition. The sentence expressing it may be emotionally significant to him, but it is not literally significant".²

In this paper it is not my purpose to investigate whether meta-physical sentences do in point of fact lack literal significance. My purpose here is to inquire whether the Principle of Verifiability (to be called P.V. for short) is a criterion of literal significance, such as to enable us to determine with regard to any *k*-sentence *s* whether it belongs to *C*₁ or to *C*₂. That is to say, I propose to inquire whether by the use of P.V. we can test whether *s* "expresses a genuine proposition about matter of fact".

Obviously, P.V. is designed to apply, as a test of literal significance, to *k*-sentences alone, since empirical verification relates exclusively to non-analytic propositions, namely to propositions expressed by *k*-sentences. And, in accordance with P.V., whether a given *k*-sentence *s* is literally significant, is to be determined by reference to the proposition *p* it expresses. In other words, *s* is to be tested for its significance by testing whether *p*, expressed by *s*, is verifiable, where, according to P.V., *s* is significant if *p* is verifiable and is non-significant if *p* is not verifiable. In the latter case *p* is said to be a "pseudo-proposition". A division of the class, *h*, of non-analytic propositions expressed by *k*-sentences, according to which some will be "genuine" and others will be non-genuine, or "pseudo", seems thus to be required:

*h*₁, the class of verifiable *h*-propositions;
*h*₂, the class of non-verifiable *h*-propositions.

The classes *h*₁ and *h*₂ would seem to exhaust between them the class of *h*-propositions.

P.V., it can be seen, is constructed upon this distinction between *h*-propositions. Expressed in the logical notation of *Principia Mathematica* it reads as follows [*s* = *k*-sentence variable, *p* = *h*-propositional variable, $\phi(p) = p$ is verifiable, $\psi(s) = s$ is literally significant, $e(s, p) = s$ expresses *p*]:

P.V., $(s, p) : e(s, p) \supset : \phi(p) \supset \psi(s) : \sim \phi(p) \supset \sim \psi(s)$,

that is to say: For all values of *s* and *p* if *s* expresses *p* then if *p* is verifiable *s* is literally significant and if *p* is not verifiable *s* is not literally significant. P.V. contracts into

$(s, p) : e(s, p) \supset . \phi(p) \equiv \psi(s)$.

¹ A. J. Ayer, *Language, Truth, and Logic*, pp. 19-20.

² *Ibid.*, p. 20.

An important thing to note here is that P.V., if indeed a criterion of k -sentence significance, does not itself provide a test for ascertaining whether a given k -sentence s' expresses a proposition; it does not enable one to test with respect to s' whether

$$(\exists p) \cdot e(s', p).$$

At most P.V. enables one to decide whether s' , given a p which it expresses, is literally significant. For whether s' is literally significant is, according to P.V., testable only by reference to the *proposition* it expresses (if it does express one); such that if s' fails to express a proposition there will be nothing concerning which it could be ascertained whether it is verifiable, with the consequence that P.V. could not be supposed to provide a test for ascertaining whether s' is literally significant. In case the matrix upon which P.V. is constructed, namely

$$P'.V'. \quad e(s, p) \cdot \supset \cdot \phi(p) \equiv \psi(s),$$

is applied to an s' ,¹ with regard to which it is the case that

$$(1) \quad \sim (\exists p) \cdot e(s', p),$$

P.V. will be satisfied *vacuously* only. For (1) entails

$$(\exists s) : \sim (\exists p) \cdot e(s, p) \cdot \sim (\phi(p) \equiv \psi(s)),$$

which entails both

$$\sim (\exists s, p) : e(s, p) \cdot \sim (\phi(p) \equiv \psi(s))$$

and

$$\sim (\exists s, p) : e(s, p) \cdot \phi(p) \equiv \psi(s);$$

and thus (1) entails the *vacuous* satisfaction of P.V. In such a case the application of P'.V'. would, clearly, leave us unable to decide whether s' was literally significant. Applications of this sort will here be called *vacuous*; and plainly, then, the *non-vacuous* application of P'.V'. to k -sentences presupposes that the k -sentences which are selected do express h -propositions. Consequently, *antecedent* to the application of P'.V'. to a k -sentence s' , it must be determined whether s' expresses an h -proposition. The condition, I, that there exists an h -proposition p expressed by s' is not part of P.V., but is presupposed as a condition which must be satisfied if P'.V'. is to be given non-vacuous application.

The condition in P.V. which condemns s as being non-significant, or as belonging to C_2 , namely that p is not verifiable, will here be called the condition of α -nonsense. An α -nonsensical sentence will, accordingly, be a k -sentence which expresses an h_2 -proposition. Provided there is such a kind of nonsense as α -nonsense, it does not seem to me, however, that the class of C_2 -sentences is completely exhausted by the class, k_2 , of sentences having α -nonsense. It

¹ This, of course, is what is meant by "application of P.V."

would seem that k_2 , if a non-empty sub-set of C_2 , is only a proper sub-set of it, and that there is another non-empty sub-set, k_3 , of sentences of C_2 which are nonsensical but are not α -nonsensical. It is obvious that sequences satisfying the L sentential conditions of belonging to k can be constructed in L and yet be such as to fail to express propositions, pseudo or otherwise. Such sentences will have the logical form of k -sentences, such that if they did express propositions they would express non-analytic, or h , propositions only, but, nevertheless, will fail, as *unitary* expressions, or as *sentences*, to express any proposition at all. To the *separate words* of such a sentence, s , there may correspond items of meaning or significance, but to the sentence, taken as a *single*, or *unitary*, expression, there will correspond nothing which could be taken as the proposition, pseudo or genuine, expressed by s . For example, to the individual words of the sentence "Ethiopians are heavier than $\sqrt{2}$ " there do correspond items of literal significance, formal or material, but to the sentence itself there corresponds nothing which could be apprehended as the proposition expressed by it. Such k -sentences will here be called β -nonsensical sentences.

The existence of sentences having β -nonsense will, I think, be admitted by everyone. Consequently, in accordance with P.V. which entails the distinction between k -sentences having literal significance and those having α -nonsense, a distinction between two *kinds* of nonsense is necessitated, namely that between α -nonsense and β -nonsense. We may therefore divide the proper sub-set C_2 of the class of k -sentences into the following two mutually exclusive sub-classes :

- k_2 , the class of C_2 -sentences which express pseudo, or non-verifiable, h -propositions ;
- k_3 , the class of C_2 -sentences which express no propositions whatever.

I.e., " s is a member of k_2 " is equivalent to

$$(\exists p) . s \in k . e(s, p) . \sim \phi(p) ;$$

and " s is a member of k_3 " is equivalent to

$$\sim (\exists p) . s \in k . e(s, p).$$

The class of k -sentences thus divides into the mutually exclusive, though perhaps not completely exhaustive, sub-classes C_1 , k_2 , and k_3 . It is to be noted that C_1 and k_2 have a defining property in common, which is that the sentences of each class express propositions, pseudo or otherwise.

As has been already pointed out, in order to insure that any particular application of P'.V'. be non-vacuous, the k -sentence to which P'.V'. is to be applied must be so selected as to satisfy I. It is clear, for this reason, that as a non-vacuous principle of literal significance P.V. provides a test for sentences of C_1 and k_2 only, and

fails to provide one for those of k_3 . At best, then, P.V. would not furnish a test sufficient for deciding whether *any* given k -sentence is literally significant.

It will be clear now, were it the case that all non-significant k -sentences are β -nonsensical (and to speak of α -nonsense is to speak in a confused way of β -nonsense), that P.V. would be no criterion at all for determining whether a given k -sentence is literally significant. For in that case *all* h -propositions would be genuine, and "*h*-proposition" and "*genuine h*-proposition" would be synonymous expressions. And since, *prior* to the application of P'.V'. \therefore a given s it would have to be determined whether s fulfilled condition I, it would at the same time be ascertained whether s was literally significant, *without the use of P'.V'*. For then the determination that s did satisfy I, or that s did express an h -proposition, would be equivalent to the determination that s was literally significant; and the determination that s failed to satisfy I would be equivalent to the determination that s lacked literal significance. P.V. would then become completely useless, if not nonsensical, as being constructed on a non-significant distinction.

Since P.V. is constructed upon the (supposed) distinction between genuine and pseudo h -propositions, such as to become inoperative as a criterion of k -sentence significance without it, it becomes pertinent to investigate this distinction, and to consider what precisely Mr. Ayer means by "*pseudo-proposition*". If the designation "*pseudo-proposition*", or non-verifiable h -proposition, is to be taken quite literally, " s expresses a pseudo-proposition p " translates into " s expresses an h -proposition p which *seems* to be an h_1 -proposition but which actually is an h_2 -proposition"; i.e., " s expresses a pseudo-proposition p " entails

$$(\exists p) \cdot e(s, p),$$

where p *seems* to be an h_1 -proposition, in virtue, it may be supposed, of having certain properties which h_1 -propositions do have, but is not an h_1 -proposition, though it is an h -proposition, because it lacks another property which they all do have, namely the property of being verifiable. Such propositions, he claims, are "*not even false but nonsensical*"¹. But of what sort such *propositions* would be except to be *unthinkable* propositions is certainly not easy to see. It is to be noted that the supposition to the effect that s both *lacks* literal significance and expresses a *proposition* p of a special kind (by virtue of which it lacks literal significance) is equivalent to the supposition that p is an *unthinkable* proposition, and therefore is a patently absurd supposition to make. It must for this reason be supposed that s fails to express any proposition whatever.

The same result also follows from this further consideration: Any non-analytic proposition p , and therefore in particular any h_1 -proposition, will obviously be a *description* of the so-called real

¹ A. J. Ayer, *Language, Truth, and Logic*, p. 26.

world,¹ such that the truth-value of p will be contingent upon the existence of a state of affairs of the kind ϕ , asserted by p . An h_1 -proposition q , which is "not even false but nonsensical", will, however, fail to be a description, not only of an actual state of affairs but even of a *theoretically possible* state of affairs. For since q is supposed neither true nor false, q could not possibly describe a state of affairs, the existence of which would render q true and the non-existence of which would render it false. Hence, whereas a C_1 -sentence will express a proposition which could be apprehended as asserting or denying the existence of a state of affairs of some kind ϕ , and which therefore could be apprehended as a descriptive complex, a k_1 -sentence s , which in L could only express a non-analytic proposition q (if it expressed a proposition at all), will on the other hand express nothing which could be apprehended as asserting or denying the existence of a state of affairs of some kind ψ . For this reason, an h_2 -proposition q could not be a descriptive complex. This together with the fact that s , if it expressed anything at all, could express a descriptive proposition only, entails that s expresses no proposition whatever.

It would seem plain that no tenable distinction can be made between h -propositions, according to which some are genuine and others are pseudo. All h -propositions must be supposed genuine. And all k -sentences which lack literal significance must be held to be β -nonsensical. Consequently no such distinction as that between α and β nonsense, from which it would follow that k_2 -sentences express unthinkable h -propositions and k_3 -sentences express no propositions, can be made. Without exception, k -sentences will lack literal significance because they are β -nonsensical.

This, I believe, will be admitted by everyone. No one, if he thinks clearly about it, would insist upon a distinction between non-analytic propositions, some of which will be thinkable and others 'unthinkable'. It seems to me that in saying a given k -sentence s expresses a pseudo-proposition Mr. Ayer is simply misled by the language he uses, and it is not difficult to see the kind of confusion he may be making. It does not seem to me that he wishes to say, or at any rate that he should say, of a given k -sentence s which lacks literal significance that it expresses a proposition. What he should intend to mean by " s expresses a pseudo-proposition" is " s seems to express a proposition but actually does not". It is not difficult to see how one might pass from " s expresses nothing thinkable" to " s expresses something unthinkable", and then suppose that s does express something. And similarly it is an easy matter to identify " s seems to express a proposition but actually does not" with " s expresses a pseudo-proposition", and therefore to suppose that the first statement entails that s expresses a proposition.

The primary cause for making such a confusion is perhaps the

¹ L. Wittgenstein, *Tractatus Logico-Philosophicus*, 4-01, 4-023.

following: The separate *words* of a sentence *s* which lacks literal significance may themselves possess literal significance, or express items of meaning, such that *separately* they could occur in sentences which are literally significant, but which in *s* fail of literally significant synthesis, though not of formally significant synthesis. It is not difficult to see that because this is the case with regard to the separate *words* of *s* it might be supposed that, at a minimum, *s* expresses *something*, ϕ , which is the meaningless combination of the separate items of meaning of the separate words. That is, it may be thought that to the sentence *s*, as a linguistic *unit*, there corresponds a *unit* of non-significance which is the proposition expressed by *s*.

Obviously, however, even though the *words* of a sentence *s* singly express items of meaning, *s* itself, as a *single* expression, or as a *sentence*, may express nothing *unitary* at all; and in such a case *s* will express nothing which could be apprehended as the propositional unit of nonsense which supposedly it does express. This seems plainly to be the case in regard to *all k*-sentences lacking literal significance. Hence, as regards such sentences, there will be no apprehendable propositional unit concerning which the question of verifiability could possibly be asked. And if this is the case, P.V. cannot be taken as a criterion for determining whether any given *k*-sentence is literally significant.

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