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Chapter XY

Ayer on Analyticity

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Abstract: In the first edition of *Language, Truth and Logic*, Ayer defines an analytic proposition as one whose ‘validity depends solely on the definitions of the symbols it contains’. In the introduction to the second edition of the book, he defines it as a proposition that is ‘true solely in virtue of the meaning of its constituent symbols’. In this paper, I spell out how the two formulations are to be understood and how they relate to each other. I discuss a problem that arises in connection with the question whether definitions are analytic or synthetic before elaborating Ayer’s conception of propositions and his explanation of the necessity of analytic truths. Furthermore, I respond to the idea that propositions such as ‘Nothing can be red and blue all over at the same time’ are true independently of what words mean and, hence, cannot be true *in virtue of meaning*.

Keywords: A. J. Ayer, analyticity, definitions, propositions, necessity

XY.1. Introduction

A. J. Ayer’s definition of analyticity is of great significance for his whole philosophy, not least because he regards philosophical truths as analytic propositions (*LTL*, 61f.).¹ His conception is often cited as “truth in virtue of meaning”. However, this is not the definition he gives in the first edition of *Language, Truth and Logic* (*LTL*), where he defines an analytic proposition as a proposition whose “validity depends solely on the definitions of the symbols it contains”. In this paper, I will clarify Ayer’s account of analyticity and defend it against a number of criticisms.

In Section XY.2, I will reconstruct Ayer’s remarks on analyticity in *LTL*. In Section XY.3, I will make two initial observations about his remarks: First, their deviation from the “truth in virtue of meaning” definition and secondly, the similarity of Ayer’s notion of syntheticity to the traditional notion of aposteriority. Section XY.4 will address the status Ayer attributes to definitions: Are they synthetic or are they themselves analytic? In Section XY.5, I will consider the definition of analytic propositions as propositions that are true in virtue of meaning. I will discuss the relationship between this definition and the one given in the first edition of *LTL* and explain what it means for a proposition to be true in virtue of meaning. In this connection, I will elaborate Ayer’s conception of propositions and the relationship between propositions and sentences. In Section XY.6, I will reply to a famous objection to accounts of analyticity along the lines advocated by Ayer. This objection appeals to the supposed fact that propositions such as “Nothing can be red and blue all over at the same time” would be true even if there were no language and so cannot be true in virtue of meaning. Finally, in Section XY.7, I will examine three different explanations for the necessity of analytic propositions which can all be found in *LTL*.

XY.2. Ayer’s Notion of Analyticity

In *Language, Truth and Logic*, Ayer defends a version of Empiricism according to which (i) every proposition that has factual content is empirical and allows for justification by appeal to experience, and (ii) no empirical proposition is necessarily true. With regard to logical and

¹ Unless indicated otherwise, the page numbers refer to Ayer 2001 [1936].

mathematical truths Ayer is thus confronted with the dilemma of saying either (a) that they do not have any factual content or (b) that they are not necessarily true (*LTL*, 65).

For Ayer, option (b) is out of the question: if logical and mathematical truths are not necessary, then it is conceivable for them to be false. Ayer argues that the easiest way to see that this is not the case is to consider the kind of situations in which one might be tempted to say that a purported logical or mathematical truth has been refuted by experience. Take the proposition ' $5 \times 2 = 10$ '. One might think that an empirical refutation of this proposition could consist in our counting five pairs of socks and getting the result 'nine'. However, Ayer argues, in such a situation we would not say that the proposition ' $5 \times 2 = 10$ ' has been refuted. Rather, we would conclude that we did not really have five, but only four and a half pairs of socks in front of us, or that we miscounted the socks or that somebody took away a sock while we were counting them (*LTL*, 68f.).²

The situation with logical truths is analogous. Let us take as an example the law of excluded middle to which Ayer also appeals in order to illustrate his argument:

(L) When we have a proposition and its negation, one of them is always true and the other one false.

One might think that this principle is refuted by the pair of propositions 'My friend has stopped writing to me' and 'My friend has not stopped writing to me': If my friend has never written to me, both of these propositions are false, in seeming contradiction of the principle. Ayer points out, however, that this observation does not make us conclude that (L) does not hold. Instead, it makes us realize that 'My friend has not stopped writing to me' is not, in fact, the negation of 'My friend has stopped writing to me'. The proper negation of 'My friend has stopped writing to me' is the complex proposition 'Either my friend did not write to me in the past or he writes to me now'.³ Thus, the truth of (L) can be upheld (*LTL*, 70).

Hence, Ayer insists on the necessity of logical and mathematical truths and goes for horn (a) of the dilemma mentioned above: Logical and mathematical truths do not have any factual content. Such truths are, he declares, *analytic*,⁴ explaining the concept of analyticity and its opposite, syntheticity, in the following way:

[A] proposition is analytic when its validity depends solely on the definitions of the symbols it contains, and synthetic when its validity is determined by the facts of experience. (*LTL*, 73)

The remarks Ayer makes immediately after this definition suggest that the terms 'validity' and 'depend' are to be understood such that 'the validity of proposition p depends on x ' means: It is necessary to appeal to x in order to verify p .⁵ In order to demonstrate that an analytic proposition is true, we do not need to appeal to anything other than the meaning of the words

² Ayer's alternative conclusions all present the situation as being in some way exceptional. He does not consider what we would say if these exceptional cases became the norm, if people consistently arrived at the number '9' when counting what they take to be five pairs of objects. One could argue, following Wittgenstein, that while such cases might (pace Ayer) cause us to abandon the proposition ' $5 \times 2 = 10$ ' as useless, they would not thereby refute the proposition itself (see Wittgenstein's *Remarks on the Foundations of Mathematics*, 51f., 204).

³ Ayer's point is not compromised by the fact that 'my friend' is a definite description, although this makes the proper formulation of the negation more complicated.

⁴ As opposed to Frege in his *Foundations of Arithmetic*, Ayer holds that not only arithmetic but also geometrical truths are analytic. Cf. *LTL*, esp. 77-80.

⁵ Some interpreters (e.g. Swinburne (1975) and Piazza (2016)) understand Ayer such that he means truth by 'validity'. Accordingly, they conceive of Ayer's definition of analyticity such that a proposition is analytic just in case it owes its truth solely to definitions of linguistic expressions. This formulation is similar to the formulation Ayer later uses in his introduction to the second edition of *LTL*. And suitably understood, it is consistent with the conception of analyticity that I present above. I will come back to this formulation in sect. XY.5.

contained in the proposition.⁶ In order to show that a synthetic proposition is true (or false), on the other hand, we also need to invoke certain facts of experience (p. 73).⁷

Ayer argues that the reason why we do not have to appeal to any facts of experience in order to establish the truth of analytic propositions, is that such propositions do not say anything about the world. To quote one of the examples from *LTL*: “Either some ants are parasitic or none are” does not tell us anything about the nature or the behavior of ants (*LTL*, 73). Accordingly, we cannot use analytic propositions to communicate facts about the world. This invites the question what meaningful role analytic sentences can have in our speech. Ayer makes the following suggestion: On the one hand, analytic propositions can draw our attention to complex relations between our concepts that were hitherto unnoticed (*LTL*, 74). For example, according to Ayer, sentences about tables are synonymous with complicated sentences about sense-contents (*LTL*, 53f.). If this is a truth that can be shown to follow from the meaning of ‘table’, ‘sense-content’, ‘synonymous’ etc., this would be an interesting insight, even for people who are perfectly familiar with what these terms mean. On the other hand, analytic propositions can be useful in that they help us to deduce propositions from other propositions that we or other people already know (*LTL*, 74f.). If somebody says, for example, that he has heard that most of his colleagues voted Tory but that he is not sure if any of his female colleagues voted Tory, his friend might give him a helping hand by saying: ‘But did you not mention before that most of your colleagues are female? If most of your colleagues voted Tory and most of your colleagues are female, then at least one of your female colleagues voted Tory!’ Hence, we can adduce analytic propositions in order to help somebody (or ourselves) realize what follows from what they know. What we can come to know in this way is always entailed by what we already know. But since our reason is limited, as Ayer puts it (*LTL*, 82), and we are therefore not aware of all the implications of what we know, we can still be surprised by complex analytic propositions or by logico-conceptual consequences of our previous knowledge (*LTL*, 82f.).

XY.3. Initial observations

Two observations about Ayer’s definition of analyticity can be made straightaway: *First*, it is not the definition of analyticity which is standardly ascribed to Ayer: ‘truth in virtue of meaning’. *Secondly*, the definitions of analyticity and of syntheticity do not explicitly exclude the existence of a proposition that does not fall in either of the two categories (viz. a proposition whose validity neither depends solely on definitions nor is it determined by the facts of experience). And more strikingly still, Ayer’s definition of syntheticity is more akin to the traditional definition of *aposteriority* than to that of syntheticity.⁸

Let us start with the first point and the formulation ‘truth in virtue of meaning’. This is in fact the definition of analyticity that Ayer gives in his 1946 introduction to the second edition of *LTL*:

[A] proposition is analytic if it is true solely in virtue of the meaning of its constituent symbols, and cannot therefore be either confirmed or refuted by any fact of experience. (*LTL*, 185)⁹

I will address in detail the question how this formulation should be understood in Section XY.5. For now, it should be noted that Ayer would not have endorsed this definition of analyticity when he wrote the first edition of *LTL*. For, at that point, Ayer conceived of meaning in a

⁶ The issue of how propositions relate to sentences and whether or not it makes sense to talk of symbols being contained in a proposition, will be taken up below, in sect. XY.5.

⁷ However, Ayer holds that *conclusive* verification is impossible in the case of synthetic propositions Cf. *LTL*, 19 and ch. 5.

⁸ On this point, see also Broad et al. (1936, 106). Compare especially Kant’s definition of *aposteriority* in the *Critique of Pure Reason*, which can be paraphrased in the following way: ‘An *a posteriori* judgement is a judgement whose justification has to appeal to facts that can only be known through experience.’

⁹ The introduction to the second edition is included as an appendix in the edition of *LTL* cited above.

psychologistic way. This can be seen from his discussion of the question whether it is appropriate to say that philosophers should be concerned with the clarification of meaning:

It is sometimes said that the purpose of [...] philosophical definitions is to reveal the meaning of certain symbols, or combinations of symbols. The objection to this way of speaking is that it does not give an unequivocal description of the philosopher's practice, because it employs, in 'meaning', a highly ambiguous symbol. [...] I think that if we are to use the sign 'meaning' in the way in which it is most commonly used, we must not say that two sentences have the same meaning for anyone, unless the occurrence of one always has the same effect on his thoughts and actions as the occurrence of the other. And, clearly, it is possible for two sentences to be equivalent, by our criterion, without having the same effect on anyone who employs the language. (*LTL*, 59f.)¹⁰

The property of analyticity, on the other hand, is precisely not supposed to depend on what individual speakers associate with certain expressions. This is evident from Ayer's critique of Kant's conception of analyticity (*LTL*, 71-73).¹¹ It is therefore to be assumed that at the time when he wrote *LTL*, Ayer would not have accepted the definition given in the introduction to the second edition.

Let us now proceed to the second observation. Ayer's (first edition) definition of syntheticity is very similar to the traditional definition of aposteriority, and if we understand the definition in the epistemological way suggested above, one may argue that Ayer's concept of analyticity, as well, is rather a concept of apriority. The argument would be that, according to the traditional conception, developed by Kant, the distinction between analytic and synthetic propositions is a *semantic* or '*metaphysical*' distinction, whereas the distinction between *a priori* and *a posteriori* propositions is epistemological. Now, it is one of the central theses of *LTL* that all propositions that can be known without appeal to experience are analytic. Hence, it would be futile for Ayer's argumentation, if he trivialized this thesis by stipulating a definition of analyticity according to which it is the same thing as apriority. This is not the case, however. Although Ayer's conception of analyticity, as outlined above, is epistemological, it is in a very important respect different from the relevant notion of apriority: Ayer does not simply define analytic propositions as propositions that can be verified without any appeal to the facts of experience. He defines them as propositions that can be verified solely *by appeal to definitions*. With this specification, Ayer's claim that all *a priori* propositions are analytic is anything but trivial.

XY.4. The status of definitions

In the literature on Ayer's account of analyticity, Ayer is sometimes criticized for not being clear about the status of definitions (see e.g. Juhl and Loomis 2010, 182). Are they themselves analytic propositions or are they synthetic? Some philosophers regard it as obvious that definitions are synthetic (cf. e.g. Ewing 1937, 350), but if they are, it seems problematic for Ayer to say that analytic propositions – whose validity depends on such synthetic (and hence contingent, empirical) propositions – are themselves necessary.

In actual fact, the problem with Ayer's account is not that he does not say anything about the question as to whether definitions are analytic or synthetic but that he gives (or implies) different answers to this question in different places in *LTL*. In Chapter 5, in the context of outlining his holism concerning empirical propositions, he writes:

¹⁰ See also *LTL*, 72: "[I]t is possible for symbols to be synonymous without having the same intensional meaning for anyone."

¹¹ Ayer is wrong, however, in his assumption that Kant's containment criterion is supposed to be understood psychologically. Cf. Siebel (2014, esp. 198, 204, 207).

[A]lthough any particular instance in which a cherished hypothesis appears to be refuted can always be explained away, there must still remain the possibility that the hypothesis will ultimately be abandoned. Otherwise it is not a genuine hypothesis. For a proposition whose validity we are resolved to maintain in the face of any experience is not a hypothesis at all, but a definition. In other word, it is not a synthetic but an analytic proposition. (*LTL*, 94)

Ayer's claim in the second half of this quote is, of course, not quite true, not even by his own lights: First of all, there is a sense in which we can and do abandon definitions, viz. when we give words a new meaning, for example, for pragmatic reasons. The key point is that in such cases we do not regard the old definition as *proven wrong*. But even if we restrict Ayer's claim to sentences that we would not under any circumstances regard as proven wrong, it is still incorrect because not all of these sentences are definitions. On the one hand, it is not clear that every proposition that we would not regard as proven wrong under any circumstances is analytic,¹² and on the other hand, many analytic propositions are not themselves definitions but only *follow from definitions*. "All drakes are male" or "If x is parallel to y and y is parallel to z , then x is parallel to z " are, e.g. not definitions of 'drake', 'parallel' or any other word. Relevant to our subject, however, is the fact that Ayer explicitly states in the quote above that definitions are analytic propositions.¹³

A passage that points in the opposite direction can be found in Chapter 4 of *LTL*. At the place in question Ayer is concerned with logical *systems* and the idea that all logical truths can be deduced from logical axioms which are self-evident. Against this idea, Ayer avers that "every logical proposition is valid in its own right" (*LTL*, 76f.):

Its validity does not depend on its being incorporated in a system, and deduced from certain propositions which are taken as self-evident. [...] [T]he validity of an analytic proposition in no way depends on its being deducible from other analytic propositions [...]. (*LTL*, 77)

Ayer says that the validity of analytic propositions does not depend on their being deducible from other analytic propositions. However, Ayer is also committed to the claim that the validity of analytic propositions depends on their being deducible from definitions.¹⁴ Together with the above quote, this entails that definitions are not analytic propositions.

Is there any way to dissolve this tension? In fact, from what Ayer writes after the above quote on pp. 77f. it becomes clear that what he means is that the validity of analytic statements does not depend on their being deducible from other analytic statements *apart from definitions*. He writes, for example:

[T]he axioms of a geometry are simply definitions, and [...] the theorems of a geometry are simply the logical consequences of these definitions. [...] All that the geometry itself tells us is that if anything can be brought under the definitions, it will also satisfy the theorems. It is therefore a purely logical system, and its propositions are purely analytical propositions. (*LTL*, 78)

¹² For example, there are no circumstances under which I would regard the proposition that I exist as proven wrong. Nevertheless, this proposition seems to be synthetic. Ayer could perhaps solve this problem by pointing out that *other people* might regard the proposition that I exist as refuted under certain circumstances. In the context of this paper it is not possible to discuss this issue further.

¹³ It might also be possible that Ayer actually meant that propositions that cannot in principle be refuted are true *by definition* and not that they *are* definitions. In this case, he would not be committed to the claim that definitions are analytic propositions.

¹⁴ It is debatable whether or not this claim is straightforwardly contained in Ayer's definition of analytic statements in which there is no mention of deduction ('[A] proposition is analytic when its validity depends solely on the definitions of the symbols it contains' (*LTL*, 73)). However, the way in which Ayer spells out the nature of analytic statements throughout *LTL* makes it quite clear that he would agree that their validity depends on them being deducible from definitions. The closest he comes to making this very claim explicit is on p. 77, where he writes that the validity of an analytic proposition 'follow[s] simply from the definition of the terms contained in it'.

Evidently, Ayer does not completely reject the idea of logical or conceptual systems in which complex analytic truths can be traced back to axioms. He just denies that these axioms are self-evident truths. Instead, they are definitions. And these definitions, according to Ayer, should not be understood as empirical propositions about the way certain expressions are actually used but as analytic propositions that do not impose any constraints on the world: As long as we have a consistent set of definitions, Ayer argues, all the propositions that can be derived from them are, in the relevant sense, true. Whether or not we do actually use words in accordance with the definitions underlying some conceptual system that a philosopher is concerned with does not affect the truth of the propositions in the system but only their *usefulness*. We will only be interested in analytic propositions which conform to the way we actually use words because only they can be drawn on in order to clarify connections between our concepts. But, according to Ayer, neither the axioms of a conceptual system, i.e. the definitions, nor the complex analytic propositions assert that such a conformity exists. And that is why the question how we actually use words is irrelevant for the question of whether analytic propositions are true (*LTL*, 62).¹⁵

XY.5. Truth in virtue of meaning

What is the relationship between Ayer's definition of analyticity in *LTL* and the one he gives in the introduction to the second edition? I have argued above that in his original definition of analyticity, Ayer understands the question "What does the validity of proposition *p* depend on?" to mean: What do we have to appeal to in order to verify *p*? It is not just the way in which Ayer applies his definition to examples on p. 73 that speaks in favor of this interpretation but also a preceding passage in which Ayer elucidates the sense in which analytic propositions are independent of experience:

What we are discussing [...] when we say that logical and mathematical truths are known independently of experience, is not a historical question concerning the way in which these truths were originally discovered, nor a psychological question concerning the way in which each of us comes to learn them, but an epistemological question. [...] We maintain that [the propositions of logic and mathematics] are independent of experience in the sense that they do not owe their validity to empirical verification. (*LTL*, 68)

Pursuant to these remarks, I have suggested that Ayer's conception of analyticity is an epistemological one. In contrast, the definition Ayer puts forth in the introduction to the second edition gives us the classical version of what Boghossian in his famous 1996 paper calls the "metaphysical" notion of analyticity. According to Ayer's later definition, "a proposition is analytic if it is true solely in virtue of the meaning of its constituent symbols" (*LTL*, 185). This definition is consistent with everything that was said above about the nature of analytic propositions, if we understand it in the right way. "Truth in virtue of meaning" should in this context not be understood in the sense that meaning is responsible for things being the way a proposition says they are.¹⁶ Since, as we have seen above, analytic propositions do not say that things are one way rather than another way, they cannot be made true by things happening to be a certain way (e.g. by certain expressions meaning what they mean) either. Rather, the meaning of the expressions involved in an analytic proposition are responsible for the proposition not imposing any constraints on the world and, thus, being true under every possible circumstance. Hence, in virtue of the meaning of the constituents of analytic propositions, these propositions are true no matter how things are, and no truth-makers are needed.

¹⁵ Ayer repeats this point in his introduction to the second edition of *LTL*, 186.

¹⁶ This might hold for propositions that are about what certain expressions mean, though. "‘Bachelor’ means unmarried man", understood as a synthetic proposition, could be said to be true in virtue of the meaning of 'bachelor'.

This last point can also be spelled out by reference to the so-called ‘two factors model’ of the truth value of a sentence, according to which the meaning of a sentence determines under what conditions the sentence is true and then ‘the world’ determines whether these conditions are fulfilled. In the case of analytic sentences, their meaning determines that they are true *under all conditions*, hence the world aspect falls out of the equation. Accordingly, they are true in virtue of meaning alone.¹⁷

One thing that I have ignored so far is the distinction between a sentence and a proposition. Ayer’s talk of propositions containing symbols does not conform to modern philosophical usage, according to which a proposition is not a linguistic expression, but *what is expressed* by a meaningful sentence. Some interpreters explicitly criticize Ayer for mixing up sentences with what they express (cf. e.g. Juhl and Loomis 2010, 182). Does Ayer, when speaking about analytic propositions really mean analytic sentences? The best way to shed light on this issue is to consider Ayer’s own definition of ‘proposition’:

Regarding classes as a species of logical constructions, we may define a proposition as a class of sentences which have the same intentional significance for anyone who understands them. Thus, the sentences, “I am ill”, “Ich bin krank”, “Je suis malade”, are all elements of the proposition “I am ill”. And what we have previously said about logical constructions should make clear that we are not asserting that a proposition is a collection of sentences, but rather that to speak about a given proposition is a way of speaking about certain sentences, just as to speak about sentences, in this usage, is a way of speaking about particular signs. (*LTL*, 85)

When claiming that the proposition ‘All drakes are male’ is necessarily true, we are neither exclusively referring to the sentence ‘All drakes are male’ nor referring to a non-linguistic entity expressed by this sentence. Rather, we are talking about all sentences that mean the same as ‘All drakes are male’, viz. ‘Alle Erpel sind männlich’, ‘Tous les malards sont mâles’ and so forth. And that propositions are logical constructions out of sentences means that we can translate any sentence about propositions into a statement about sentences in which there is no (explicit) mention of a proposition (on the concept of logical construction, cf. *LTL*, 53f.).

If we understand ‘proposition’ in this sense, what does it mean to say that an analytic proposition is true solely in virtue of the meaning of *its constituent symbols* (or that the validity of an analytic proposition depends solely on the definitions of the symbols *it contains*)? Does it even make sense to talk of the constituent symbols of a logical construction?

One might think that Ayer is committed to saying that the constituent symbols of a proposition are *all* the constituent symbols of *all* the sentences of the relevant equivalence class, and that he would analyze

- (1) The proposition ‘All drakes are male’ is true in virtue of the meaning of its constituent symbols.

as

- (2) The class of sentences with the same intentional significance as ‘All drakes are male’ is true in virtue of the meaning of the symbols ‘all’, ‘drakes’, ‘are’ and ‘male’, and of *all* the other constituent expressions, such as ‘Alle’, ‘Erpel’, ‘malards’, ‘mâles’ etc.

However, this analysis is unattractive, for a number of reasons. First, it is not clear that classes, whether of sentences or anything else, can, literally, be true; but more importantly, the truth of the analytic proposition seems to be overdetermined – the meaning of the constituents of any

¹⁷ See Büttner (ms.) for a forceful presentation of this approach.

single sentence in the class seems to be sufficient to show that the proposition must be true, and yet this analysis invokes the meaning of innumerable symbols in innumerable sentences.

In fact, however, Ayer is careful to say that a proposition is not a collection of sentences, merely that talk of propositions should be understood as talk of sentences. It seems more likely, therefore, that he would have endorsed the following analysis of (1):

- (3) All the sentences with the same intentional significance as ‘All drakes are male’ are true in virtue of the meaning of their respective constituent symbols.

On this analysis, truth is ascribed to sentences and not to logical constructions; and the meaning of ‘drake’ is directly relevant only to the truth of the English sentence.

However, it is possible to give an analysis that is more in line with the verificationist spirit of *LTL*. For the verification of the claim that the proposition ‘All drakes are male’ is true in virtue of meaning does not proceed via the verification of all of the sentences that have the same intentional significance. Rather, when establishing that ‘All drakes are male’ is true in virtue of the meaning of its constituents, we *eo ipso* establish that *any* sentence with the same intentional significance *must* be true as well – since it could not otherwise be regarded as having the same intentional significance as ‘All drakes are male’. For this reason, Ayer might instead have endorsed the following analysis of (1):

- (4) The sentence ‘All drakes are male’ is true in virtue of the meaning of its constituents and (so) specifies an equivalence class of co-significant sentences containing only true sentences.

XY.6. A famous objection

One objection that is often raised against conceptions of analyticity along the lines presented above is the following: If analytic propositions were true in virtue of meaning, then it should be possible for a change in meaning to result in a (formerly) analytic proposition being false. But this is not the case: While it might be possible to swallow the idea that the proposition that all bachelors are unmarried would no longer be true if ‘bachelor’ came to mean young man, the truth of certain other analytic propositions does not seem to be susceptible to changes in meaning in this way. Take, for example, the propositions “A material thing cannot be in two places at once” (*LTL*, 45) and “Nothing can be coloured in different ways at the same time with respect to the same part of itself” (*LTL*, 74). It seems that no matter what our linguistic expressions mean or whether there even are languages, it would always be true that material things cannot be in two places at once and that things cannot have different colors in the same part of themselves at the same time. But if these propositions are true independently of what words mean, they cannot be true *in virtue of* what words mean. Or so the objection goes (cf. e.g. Boghossian 1996, 365).

In reply to this objection it is, first of all, necessary to come back to the question as to what analytic propositions say. Since analytic propositions are not statements *about* meaning and do not entail any statements about meaning, it should not surprise us that their truth value? does not vary with changes in meaning either. People who raise the objection described above would of course admit that the *sequence of words* “A material thing cannot be in two places at once” might come to express a falsehood if we changed the meaning of the words it contains. What they want to say is that *what this sequence of words currently expresses* is true irrespective of what words mean. And this we can easily grant, when we recall that analytic sentences do not express statements about the meaning of words.

Secondly, the fact that a proposition (e.g. that a material thing cannot be in two places at once) would still be true if there were no language does nothing to show that the truth of this proposition is not in virtue of meaning. It just illustrates the obvious fact that we can still use

our language and the concepts expressed by the words of our language when concerning ourselves with a scenario in which there is no language. What the sentence “A material thing cannot be in two places at once” means is determined by what the words in the sentence currently mean, even if we are talking about a world in which there are no words to mean anything. And since the meaning of the words involved in the sentence “A material thing cannot be in two places at once” determine that this sentence (in its current meaning) is true under any possible condition, it is obviously also true about a world in which there are no languages.

If this line of reasoning is correct, then we should not grant that *any* analytic proposition can become false through semantic change, not even a proposition like “All bachelors are unmarried”. If ‘bachelor’ meant young man, it would still be true that all bachelors are unmarried. It would just no longer be possible to express this claim by using the words “All bachelors are unmarried”. And the same thing holds for synthetic propositions. If ‘bachelor’ meant turtle, would my neighbor still be a bachelor? Of course! For changes in meaning do not affect the marital status of my neighbor.

Ayer brings out an important upshot of the above discussion when he writes that in the classification of certain propositions as necessary, we *presuppose* the relevant meanings:

[I]f [*a priori* propositions] are necessary it is only because the relevant linguistic rules are presupposed. Thus, it is a contingent, empirical fact that the word ‘earlier’ is used in English to mean earlier, and it is an arbitrary, though convenient, rule of language that words that stand for temporal relations are to be used transitively; but, given this rule, the proposition that, if A is earlier than B and B is earlier than C, A is earlier than C becomes a necessary truth. (*LTL*, 186f.)

It is not that we cannot change the meaning of words such that sequences of words that are now used to express analytic truths come to express falsehoods. But if we take for granted what the words of our language mean, certain sentences cannot be false.

XY.7. Necessity and linguistic dispositions

In Section XY.2 of this paper, I have reconstructed Ayer’s argument against the idea, defended most notably by John Stuart Mill, that logical and mathematical propositions allow of empirical refutation *in principle* and are thus not necessary. Ayer argues that in situations that may seem to refute supposed analytic truths, we would always preserve truth by falling back on alternative explanations of what has happened. For example, if we count what we take to be five pairs of socks and get the result ‘nine’, we would not abandon the proposition that five times two equals 10 but explain the incident, e.g. with reference to somebody having removed a sock or there not having been five pairs of socks in the first place. At the end of the relevant passage Ayer makes the following remark about the necessity of analytic truths:

The principles of logic and mathematics are true universally simply because we never allow them to be anything else. And the reason for this is that we cannot abandon them without contradicting ourselves,^[18] without sinning against the rules which govern the use of language, and so making our utterances self-stultifying. In other words, the truths of logic and mathematics are analytic propositions or tautologies. (*LTL*, 71)

This passage is slightly confusing. At the beginning, Ayer seems to claim that the reason for the universal truth of analytic propositions is that we would not under any circumstances give them up. This suggests that the necessity of analytic truths is grounded in the dispositions of competent speakers.¹⁹ On the other hand, in the next sentence, Ayer writes that the reason why we do not give these sentences up is that giving them up would amount to contradicting

¹⁸ See Sect. XY.4 above: We can in fact abandon analytic propositions, but we cannot declare them to be false.

¹⁹ We can ignore the difference between universal and necessary truth here because according to Ayer we are only justified in the claim that a proposition is universally true by appeal to its being necessarily true.

ourselves, thereby implying that giving up analytic propositions is not something we can (meaningfully) do after all. Ayer needs to decide whether analytic truths are necessary because we do (or would) not *in fact* ever give them up (although we *could* give them up in principle) or because we *cannot* give them up, because denying them does not make any sense (such that it would not be relevant for their necessity what we actually do).

The following passage points in yet another direction:

[T]he proposition “Either some ants are parasitic or none are” provides no information whatsoever about the behaviour of ants, or, indeed, about any matter of fact. And this applies to all analytic propositions. They none of them provide any information about any matter of fact. In other words, they are entirely devoid of factual content. And it is for this reason that no experience can confute them. (*LTL*, 73)

Here, Ayer accounts for the necessity of analytic propositions neither by reference to what competent speakers do nor by reference to what they *can* do (or what makes sense), but rather explains the necessity of these propositions by recourse to the meaning of analytic sentences: Since such sentences do not say anything about the world, they cannot be refuted by any possible experience.

In a passage towards the end of Chapter 4, all three explanations of the necessity of analytic propositions come up again:

We saw that the reason why [analytic propositions] cannot be confuted in experience is that they do not make any assertion about the empirical world. They simply record our determination to use words in a certain fashion. We cannot deny them without infringing the conventions which are presupposed by our very denial, and so falling into self-contradiction. And this is the sole ground of their necessity. (*LTL*, 80)

In this quote, Ayer first accounts for the necessity of analytic truths by reference to the fact that they do not say anything about the world. He then mentions our actual use of linguistic expressions (or our determination to use them in a certain way) again, and finally claims that the *sole* ground of the necessity of analytic truths consists in it not being possible for us to deny them without contradicting ourselves. In what follows, I will explain how these three aspects relate to each other and to the necessity of analytic truths:

- (a) what we are prepared to say
- (b) what we can say without contradicting ourselves
- (c) whether or not a proposition says something about the world

In order to discuss the relationship between these aspects, it is helpful to have a look at the history of the debate around analyticity. In their “In Defense of a Dogma”, Paul Grice and Peter Strawson (1956) stress the importance of (b) as opposed to (a). As a response to Quine’s claim in “Two Dogmas of Empiricism” that there are no statements that cannot in principle be given up, not even logical principles or other statements that are commonly regarded as analytic, Grice and Strawson make the following observation: Although it is possible to abandon a statement such as ‘All drakes are male’, this would necessarily involve a revision of certain concepts (e.g. an ascription of a new meaning to ‘drake’) and cannot amount to conceding the falsehood of what the sentence ‘All drakes are male’ *expresses now*. The proposition that this sentence expresses now would remain true even if we changed the meaning of ‘drake’ (or of some other expression contained in the sentence) and hence could no longer express the truth that all drakes are male by uttering the words ‘All drakes are male’ (cf. Grice and Strawson 1956, 156-158). An analogous point can be found in *LTL*, where Ayer is concerned with the

opposite case: the idea that a contingent truth can all of the sudden turn into a necessary one just because of a change in meaning:

[A] philosopher may use the word ‘man’ in such a way that he would refuse to call anything a man unless it were mortal. And in that case the sentence ‘All men are mortal’ will, as far as he is concerned, express a tautology. But this does not mean that the proposition which we ordinarily express by that sentence is a tautology. Even for our philosopher, it remains a genuine empirical hypothesis. Only he cannot now express it in the form ‘All men are mortal’. (*LTL*, 95f.)

The upshot of the above argument by Grice and Strawson is the following: What is pertinent to the statement ‘All drakes are male’ being analytic is not that we would not under any circumstances give up this sentence. Instead, what is pertinent to the statement’s analyticity is that denying it would be *inconsistent*, as long as the sentence ‘All drakes are male’ means what it does.

So much for Grice and Strawson’s argumentation for aspect (b) being more important for a proposition’s necessity than (a). However, aspects (a) and (b) are very closely connected. First of all, since it would be inconsistent to deny analytic statements, competent speakers are usually not prepared to deny them. Secondly, and more importantly, how people use words, what they are prepared to say and what statements they regard as permissible and impermissible is *constitutive* of what linguistic expressions mean and hence also for which sentences are analytic and which sentences are inconsistent. Accordingly, it is correct for Ayer to say that people’s determination to use words in a certain way is relevant for the necessity of analytic propositions; it is indeed the ultimate source of their necessity.

Finally, the way in which aspect (c) is related to the other two aspects should now be clear: If aspect (a) determines what linguistic expressions mean it does also determine which propositions say something about the world and which do not. And, as discussed in Section XY.5, it is because analytic propositions do not say anything about the world that they are true under all circumstances and hence, necessary. Accordingly, all three aspects mentioned in Ayer’s explanations of the necessity of analytic propositions can be shown to be relevant, while aspects (b) and (c) derive from aspect (a).

XY.8. Conclusion

In this paper, I have tried to show that Ayer’s account of analyticity is fundamentally correct, if we understand it in the way I have suggested. I have argued, among other things, that the two definitions of analyticity given in *LTL* and in the introduction to the second edition can be brought into accord, that the truth of analytic propositions so understood is not contingent upon the existence of language, and that the different factors Ayer appeals to in his explanation of the necessity of analytic propositions are all important, although one of them is more fundamental than the others.²⁰

XY.9. Bibliography

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