What is *Formal* in Husserl's *Logical Investigations*?

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1. Language and Ontology

Not so long ago it was common to claim that ontological questions ought to be solved by an analysis of language. A good example of this would be Tugendhat's celebrated *Vorlesungen zur Einführung in die sprachanalytische Philosophie* (Tugendhat 1976)[1]. Surprisingly, however, Tugendhat does not refer to Carnap's or Quine's arguments in this respect, but to Husserl's notion of formal ontology. On Tugendhat's account, Husserl maintains that the ontological question as to what it means to be an object belongs to the formal presuppositions of all sciences and as such, to the domain of 'a priori and analytic knowledge' (Tugendhat 1976: 39). Tugendhat himself holds that 'we attain analytic *a priori* sentences through the analysis of language or, more precisely through the analysis of the meaning of our linguistic expressions' (ibid.: 19). How do we reach the domain of the formal presuppositions of all sciences if barred from relying on empirical enquiry? 'By reflecting upon our way of referring to objects', says Tugendhat (ibid.: 39). Singular terms are the linguistic instruments used to refer to objects. Rather than enquiring into what it means to be an object, we should instead ask: 'what does it mean to understand a singular term?' (ibid.: 53). The question as to what it means to be an object becomes a question about the way we refer to objects through language. The truth-value of an utterance of the form '*a* is an object' can be established only by an intial understanding of the meaning of its components, i.e. by grasping the rules which govern the usage of the expressions occurring in it, and not by looking at the empirically given properties of the object referred to.

Although Husserl considered the question at stake as formal and not empirical, he did not believe that formal questions in general ought to be solved through linguistic analysis. This particularly applies to the domain of formal ontology even if the latter belongs to the realm of analytic and a priori knowledge, as Tugendhat correctly points out. In Husserl's writings then, notions such as *formal*, *analytic* and *a priori* do not correspond entirely to the way Tugendhat appears to be using them. In what follows I intend to determine more precisely the nature of those, and of some related notions in Husserl's *Logical Investigations*.[2] If I succeed in clarifying these notions, the idea that things have formal properties which are not just properties of our way of speaking about them may become more transparent.

2. Pure Logic

In the last, methodologically decisive, chapter of the *Prolegomena*, Husserl explains the relation between pure logic, the discipline whose foundations ought to be provided in the *Logical Investigations*, and the various other sciences. Pure logic ought to be understood as a 'theory of theory', a 'science of the sciences' (Prol.: A243/B242/$F_1$236).[3] The progression from a given scientific discipline to pure logic, however, cannot be achieved by a process of generalisation, but by means of formalisation. Both procedures, according to Husserl, correspond to a form of abstraction. By way of generalisation we move, for instance, from the utterance 'Bucephalus is a horse' to 'Bucephalus is an animal'. We obtain a different sort of abstraction when we proceed by way of formalisation. Here, the focus is on the *form* of the sentence. We establish that 'Bucephalus is a horse' is an utterance of a sentence or that it contains a singular and a general term. Hence, suppose we have a theory T containing an utterance of the sentence: 'All horses are mammals'. Suppose, further, that at some other place in T one finds the utterance: 'Bucephalus is a horse, but not a mammal'. We may then reject T as involving a contradiction without having to know what Buchephalus is, what horses and what mammals are. We may reject T on formal grounds only, without having to determine what it is about.

Each theory, according to Husserl, constitutes a unity (see Prol.: A228–33/B228–33/$F_1$225–7), and the formalisation is supposed to provide the means for testing the formal adequacy of this unity (see LI I: A92/B92/$F_1$323). Pure logic deals with the form of each theory, independently of its 'material' content, i.e. independently of the theory's subject matter. This appears to be the reason for Husserl's claim that pure logic is *a priori*. On Husserl's view, however, there are three levels of formal adequacy: pure or formal grammar, formal logic in the strict sense (Husserl sometimes calls it 'apophantic logic'; see LI IV: B336/$F_2$524) and formal ontology.

Formal grammar, to which *Logical Investigation* IV is dedicated, comprises laws which determine the way 'meanings belonging to different semantic categories can be united to form one meaning, instead of producing a senseless chaos' (LI IV: A287/B295/$F_2$493). Complex expressions as 'this careless is green' or 'this house is same' (LI IV: B319/$F_2$512) are what Husserl would call senseless. They comprise expressions which, taken together, do not yield any unified meaning. To establish senselessness it is enough to look at the grammatical laws governing the composition of linguistic expressions by virtue of the category to which they belong (LI IV: A315/B330/$F_2$519). Again, one does not need to understand the meaning of the expressions under consideration in order to apply those laws.

At this point, one must mention Husserl's celebrated distinction between senselessness (*Unsinn*) and nonsense or absurdity (*Widersinn*). Contrary to senseless expressions, nonsensical expressions such as 'round square' or 'wooden iron' (LI IV: A313/B327/$F_2$517) do have a unified meaning, but the object being referred to here 'neither exists nor can exist' (ibid.). It does not suffice to know the rules of grammar in order to recognise that these expressions are nonsense. Of

course, one might wonder whether nonsense can be recognised at a merely formal level at all. We need to have acquired all sorts of empirical knowledge about iron and wood before being able to state that 'wooden iron' is nonsense. Indeed, Husserl himself states that the examples given above do not yield 'a formal or analytical nonsense', but a 'material (synthetic)' one (LU IV: A318/B335/$F_2$523). Examples of formal non-sense can thus only be found with complex expressions which offend 'laws such as that of contradiction, of double negation or the *modus ponens*' (ibid.). In this sense, the conjunction of 'all horses are mammals' and 'Bucephalus is a horse, but not a mammal' yields a formal nonsense. This ought to be established in light of the laws of logic, since the laws of grammar alone do not suffice.

Formal ontology, certainly the most disputed part of pure logic, is said to deal with the formal laws governing the unity of the 'objective correlate' (Prol.: A249/B248/$F_1$241)[4] of a theory (see also Prol.: A244–245/B244/$F_1$237). Here, Husserl is referring to the laws discussed in *Logical Investigation* III concerning the relations between dependent and independent parts of a whole ('moments' and 'pieces' as he calls them). The laws he formulates in the third *Investigation* are incomplete and not always easy to grasp.[5] Yet, leaving these problems to one side, interpreters do not agree about the precise status of formal ontology. Some think it constitutes a domain of pure logic, independent of formal logic. Others insist that the subject matter of formal ontology really belongs to formal logic.[6] Part of this dispute depends on the question as to whether formal ontology is analytic or synthetic (its *aprioricity* being generally acknowledged). If formal ontology is synthetic *a priori*, then it cannot just be part of formal logic, which is analytic.

The most important passages in the *Logical Investigations* with regard to this question can be found in §11 and §12 of the third *Logical Investigation* (see LI III: A246–7/B252-6/$F_2$455–9).[7] Husserl contraposes material concepts and propositions to formal ones. In the domain of ontology proper, he distinguishes concepts such as '*Something, One, Object, Quality, Relation, Association, Plurality, Number, Order, Ordinal Number, Whole, Part, Magnitude* etc.', which are said to be formal-ontological, from material concepts such as '*House, Tree, Colour, Tone, Space, Sensation, Feeling* etc.' (LU III: B252/$F_2$455). He states that the concepts of the first kind are related to each other by virtue of 'formal ontological axioms', as opposed to the concepts of the second kind, whose usage is governed by the laws of the various 'material ontologies'. We are thus confronted with a clear distinction between material and formal ontology: 'This cardinal division between the sphere of the "formal" and that of the "material" essences gives us the true distinction between the *analytically a priori* and the *synthetically a priori disciplines*, viz. *laws* and *necessities*.' (L III: B252/$F_2$456)

The laws of formal ontology are thus supposed to belong to the realm of the analytic. And Husserl states that: '*analytically necessary propositions* […] are propositions whose truth is completely independent of the material peculiarity of their […] object […], propositions which can be *completely formalised* […]' (LI III: A247/B255/$F_2$458). Therefore the statement:

(1) A whole cannot exist without parts,

which expresses a formal-ontological law, ought to be analytic (LU III: A246/B253/F$_2$456). A statement like:

(2) A colour cannot exist without something coloured,

on the other hand, is synthetic, 'since the existence of something coloured […] is not "analytically" founded on the notion of colour' (ibid.). Statement (2), then, does not express a law of formal ontology. It expresses a 'synthetic *a priori* law' (LU III: B256/F$_2$458). Husserl calls an instance of (2), e.g.:

(3) This red cannot be without this sheet of paper,

'a synthetic necessity' (ibid.). He generally maintains that '[…] all the laws or necessities governing the different sorts of *dependent* entities fall into the spheres of the *synthetic a priori*' (B252/F$_2$456).

Husserl makes a clear distinction between the analytic and the synthetic a priori. The notions themselves, however, are not entirely clear. Husserl uses 'analytic' both for the idea of a logical truth and for the Kantian condition that the predicate be contained in the subject. It is not clear, moreover, why a statement such as (3) ought to be true *a priori*. It appears necessary to reconstruct Husserl's line of argument in order to determine the notions at issue with greater accuracy. This, however, might involve some additional terminological distinction with respect to Husserl's original text.

To start with, Husserl does not always distinguish epistemic from metaphysical necessity. We may say that a statement or a judgement is metaphysically necessary when the proposition associated with it holds in every possible world, and that it is epistemically necessary when the proposition associated with it is believed to be true by any subject having our conceptual abilities in any world in which it is in fact true. As far as statement (2) is concerned, Husserl appears to believe that it is both epistemically and metaphysically necessary. It is recognised as true in every world in which it is true. But, in fact, there is no world where the proposition expressed by (2) could be false: there is no world with colours without there also being coloured things. Indeed, colours are dependent entities.

The fact that Husserl does not explicitly state the distinction between epistemic and metaphysical necessity does not mean that he tends to reduce the one to the other (e.g. the metaphysical to the epistemic). On the contrary, Husserl clearly believes that we are sometimes in a position to grasp the essence of a thing. In such cases, epistemic necessity mirrors metaphysical necessity. In other words: there are metaphysical necessities which are necessarily recognised (by such minds as ours).

We generally use the notion of *a priori* in order to characterise the method used to determine the truth or falsity of a proposition. The sentence used to express a given proposition is said to be *a priori* if the truth value of the latter can

be established without any appeal to experience. If it is possible to establish the truth of a proposition *a priori*, then the statement expressing it is epistemically necessary. For, in such a case it suffices to understand the statement in order to recognise its truth. *Aprioricity* implies epistemic necessity. The converse, however, does not hold. Self-presenting states of affairs, for instance, might be considered as yielding *a posteriori* certainties.[8] An utterance of the sentence 'I am in pain' is not true *a priori*. And yet, it is argued, a person who is in pain and who understands such a sentence cannot wonder whether, by uttering it, she would be saying something true or false. It must be noted here that, contrary to (2), an utterance such as 'I am in pain' is not only *a posteriori* but also contingent. So epistemic necessity does not imply metaphysical necessity either. And epistemic necessity has to be carefully distinguished from *a prioricity*. Husserl has not used this distinction. He occasionally appears to use the expression '*a priori*' in order to characterise epistemic necessity.

It is common to make a distinction between metaphysical necessity, analyticity and *aprioricity*. Of course, there are synthetic *a posteriori* statements. The statement 'Water is H_2O' is *a posteriori* in so far as its truth is established on the basis of empirical observation. It is also synthetic, since it cannot be derived by logical laws alone. And yet it is said to be metaphysically necessary, since if water is in fact H_2O, then it is essentially H_2O. There are metaphysically necessary propositions which are contingently believed to be true.

There is no reason preventing Husserl from admitting such cases. But he clearly wants more: he considers cases such as (2), namely metaphysically necessary propositions which are known with epistemic necessity. He uses the expression *a priori* for such statements or judgements. But this is questionable, since it appears to be an insufficient ground for sustaining synthetic judgements *a priori*. All Husserl really needs at this stage is the idea of a judgement which is both synthetic and epistemically necessary. This is compatible with its being *a posteriori*. As long as one keeps *aprioricity* and epistemic necessity distinct, then Husserl's argument does not require acceptance of synthetic judgements *a priori*.

Let us now consider Husserl's usage of the notion of analyticity. According to Husserl, there appears to be no reason to countenance epistemically contingent analytic judgements. We have established, however, that on his view there must be room for epistemically necessary synthetic judgements. In other words: it appears impossible for somebody to understand a statement expressing an analytic truth and yet sincerely to believe that it is false. But a statement cannot be said to express an analytic truth just by virtue of the fact that it is impossible to find some human mind taking it to be false in a world in which it is in fact true. Husserl's conception of formal-logical truths is in conformity with this view. The judgement expressed by (2) may well be epistemically necessary without having to be a formal-logical truth. Indeed, from a purely formal perspective, (2) is not much different from a statement such as: 'A dog cannot exist without somebody who owns it'. None of those statements can be said to be true merely by virtue of logical laws. This is the reason why Husserl states that (2) is not analytic, although epistemically necessary ('*a priori*', as *he* says). Similar considerations

would apply to 'I am in pain', which is said to be epistemically necessary without being logically true. And one could even tolerate the metaphor of the predicate being included in the subject, at least if this is interpreted as meaning that one cannot entertain a thought involving the subject-concept without entertaining a thought involving the predicate-concept. One should be able to entertain a thought about oneself without having to think of pain.

In the light of the foregoing considerations, we may establish the following relations between analyticity, *aprioricity* and epistemic necessity. If a statement or judgement is analytic, then it is epistemically necessary, where the converse is false. If a statement or judgement is analytic, then it is metaphysically necessary, where the converse is false. If a statement or judgement is true a priori, then it is metaphysically necessary, where the converse is false. Notice however that a statement or judgement is analytic if and only if it is a priori, and the epistemic and metaphysical necessity are independent of each other.

With these clarifications in mind, let us now look more closely at the relation between (1), (2) and (3). (1) is said to express a formal-logical law. It is analytic, a priori and both epistemically and metaphysically necessary. Given the definition of analyticity in terms of formal truth, (1) ought to be derivable from formal logic alone. If similar considerations apply to all theorems of formal ontology, then the latter ought to be considered as being part of formal logic.

The statement (2) is said to express a material-ontological law. It is synthetic and, in the light of our terminological specifications, it should be said to be *a posteriori* and both epistemically and metaphysically necessary. What is now the relation between (1) and (2)? Husserl appears to believe that (2) holds by virtue of a law of formal ontology: (2) is true because colours are dependent entities and because formal ontology states that dependent entities cannot exists without something on which to depend. But then, one might wonder, why is (2) any less analytic than (1)? The answer, it would appear, is the following: because it is no part of the meaning of 'colour' that colours are dependent entities. It is rather a matter of empirical evidence. So the statement expressed in (2) instantiates a law of formal ontology not by virtue of its meaning, but by virtue of its objective correlate.

On Husserl's view a scientific theory is first of all 'an anthropological unity, viz. a unity of acts of thinking' (A228/B228/F$_2$225). But of course, not any arbitrary sequence of acts of thinking constitutes a theory. In the *Logical Investigations* meanings are ideal (we would rather say: *abstract*) entities which are instantiated by real (concrete) mental acts.[9] In order to obtain a theory, the meanings which are instantiated by mental acts must stand in some specific inferential relation to each other. These relations are governed by the rules of formal logic. But in addition to its meaning, every mental act, e.g. every act of thinking, has an objective correlate. So, for each theory, there is also a relation between the objective correlates of the mental acts which constitute it.

There are specific relations between meanings and objective correlates. Mental acts which instantiate the same meaning cannot have different objective correlates, but mental acts with the same objective correlate can instantiate different

meanings (see LU V: A390/B416/ F$_2$589). This enables us to clarify the relation between the connection of meanings, on the one side, and the connection of objectual correlates, on the other. If two expressions stand in a necessary relation to each other by virtue of their meaning (the meaning instantiated by the mental acts associated with those expressions), then this must also be true for their objective correlate, as in the statement 'there cannot be a father without children' (see LU III: A246/B253/ F$_2$456). There are expressions, however, which do not stand in any necessary relation to each other by virtue of their meaning, but by virtue of their objective correlate only. Our statement (2) ought to be a case in point, if what Husserl claims is correct. If a necessary relation holds by virtue of the meaning, the statement or judgement is said to be analytic. If it holds by virtue of the objective correlate, the statement or judgement is said to be synthetic. All this corresponds to the view described above, that analyticity implies metaphysical necessity but not the converse. There might be synthetic judgements which express a metaphysical necessity. And these can be epistemically necessary without having to be a priori.

3. Concluding remarks

We should now be in a better position to understand what is wrong with Tugendhat's claim that the question about what it means to be an object ought to be replaced by the question about what it means to understand a singular term. On Tugendhat's account, a statement such as *'a is an object'* is analytic *a priori* because the fact that *a* is an object ought to be clear merely by virtue of understanding the expression 'a'. This, of course, depends on what one requires as a condition for understanding a linguistic expression. Husserl, at any rate, believes that there is a level of understanding at which one simply recognises the logical and grammatical categories an expression belongs to. Once that level has been attained, one can test the formal soundness of a theory without having to know what the expressions occurring in it refer to, without even having to know what the theory as a whole is about. Nothing in all this suffices, however, to determine the formal ontological category the referent of an expression like 'a' belongs to, whether it is an object, a relation, a whole or part, a dependent or an independent entity. Ontological questions of this kind cannot be solved merely by looking at the grammatical and logical properties of our language. We have to know something more about the items the expressions of our language refer to. If one shares Husserl's optimism concerning our faculty of recognising metaphysical necessities, one might think that epistemically necessary synthetic judgements carry that sort of information. One does not need to believe in this faculty, however, in order to admit that for something to be an object is not merely for it to be the referent of a singular term.[10]

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NOTES

¹ For an English translation, see Tugendhat 1982.

² See Husserl 1970. All references in the following are made on the basis of *Husserliana* XVIII–XIX. 'Prol.' stands for the *Prolegomena*, 'LI I' for the first *Logical Investigation*, 'LI II' for the second, etc. 'A' refers to the first, 'B' to the second edition of the German original. 'F' refers to Findlay's translation of the second edition (subscripts identify the volume); my translations are not always in accordance with Findlay's.

³ See Smith 1989.

⁴ For the notion of the objective correlate (*Gegenständlichkeit)*, see Husserl's footnote in LU I: A38/B38/F128₁.

⁵ Some interpreters have argued that the logic of parts and wholes provides the argumentative basis for large parts of the *Logical Investigations* (see for instance Sokolowski 1967/68). There are a number of attempts to reconstruct Husserl's laws of formal ontology (see for instance: Simons 1982; Bell 1990: 93–101 and Fine 1995).

⁶ See Bell 1990: 94 and footnote 18, p. 245. Bell explicitly opposes Smith & Mulligan 1983.

⁷ I refer mostly to §11 and §12 of the second edition. §12 of the first edition no longer appears in the second edition.

⁸ See Chisholm 1966: 24-37 and Chisholm 1981: 79-85.

⁹ More about this in Soldati 1994 and in Soldati 1996.

¹⁰ I wish to thank an anonymous referee for the EJP for indicating an error in the version of this paper originally submitted.

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