

Universals in Ontological Investigations*

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Abstract

Universals appear to be as central in today’s computational-based ontology as they were in medieval ontological investigations. As the author of a recent work on the history of universals (Pinzani, 2018), I was asked for a commentary on Augusto’s article “Bridging Mainstream and Formal Ontology” (Augusto, 2021), which aims at showing that medieval ontological investigations can be relevant for contemporary ontology engineering. In this commentary, I begin by saying something about my way of reading 12th-century logical literature and then offer some modest considerations on the general theme addressed in Augusto’s article.

Key words: Universals; Medieval ontology; Expressions and meanings

1 Interpretative Insights

At the origin of the problem of universals there is the need to justify the truth of a statement.¹ The semantic turn of the 12th century takes place in the context of a scholastic discussion on this problem.² The goal of semantic analysis is to define the conditions of truth, having assigned meanings to the components of the sentences. In the philosophical tradition from the early Middle Ages to the present day, the prevailing idea is that the assigned meanings are composed in accordance with syntactical composition and what is thought to be the order of things. But what is the order of things? A philosopher thinks he knows that and can choose between meanings or, if one likes, between different ontologies; he can explain how objects can be composed.

*On the sidelines of L. M. Augusto’s article (Augusto, 2021).

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¹See Pinzani (2018).

²See de Libera (1996).

12th-century scholars, in commenting Boethius’ logical works, are engaged in this enterprise.

I do not believe that it can be said that semantics and traditional Boethian ontology are divergent. The idea that looking for meaning can be less demanding than looking for universal things is often misleading and does not explain how the semanticist approach of the 12th century is so closely linked to the metaphysical positions of the authors. This is an observation that concerns medieval logic, but it suffices to read the most recent literature to be convinced that the interplay between the theory of meaning and metaphysics is a constant in the history of semantics, even in the modern and contemporary times. In any case, between the end of the 11th century and the beginning of the 12th, thanks to the complete knowledge of the Boethian commentaries (sd/1906) and the discovery of significant sections of the works of the Latin grammarians, the use of semantic terminology is pervasive.

The cultural environment is that of Boethius’ commentaries enriched by contemporary studies on Latin grammarians. From these derives a certain way of reading authoritative texts and the philosophical problems they pose, in particular the question of genera and species. The semantic equipment seems primitive, as can be seen from Table 1; however, if one looks at the subsequent history, one will not find much more, a curious fact that needs to be taken into account.

Table 1: Expressions and meanings in 12th-century logic.

Expressions	Denominative Meaning	Determinative Meaning
“Plato”	Plato	Plato
“man”	Any man	Being man
“stone”	Any stone	Being stone
“grammarian”	Any grammarian	Grammar
“laugh(s)”	S/he who laughs	Laughing

The terminology is variable, the main technical terms being: “*nominatio*”, “*demonstratio*”, “*significatio*”, “*impositio*” (or “*positio*”). “*Significatio*” is used in a generic way, in the sense that each linguistic expression (categorematic) has a certain signification; for example, nouns mean SUBSTANCE + QUALITY, the verbs ACTION-PASSION... The *nominatio* / *denominatio* / *appellatio* / *denotatio* is understood as a relationship between proper and common nouns and single things. The *determinatio* is a relationship between a noun (say, “*homo*”), multiple forms (e.g., *rationalitas*, *gressibilitas* ...), natures, essences, or status (*esse homo* or *humanitas*, *esse animal* or *animalitas*, ...).³

³There are different stylistic variants of “*determinatio*” as the formulas suggest: “*’man’ determines the nature of animal; ’man’ denotes the same nature; an individual expression denotes no nature or form; (a second substance) designates also the nature of essence; he who invented the word [...] considered the nature of the thing and to indicate it imposed the name on it.*” (My translation, by transliterating the terms.) The terminological diversification is due, on the one hand, to the “stratified” character of the Boethian commentaries; on the other hand, to the different use of notions in the logical-grammatical tradition. The translated citations are taken from the following Abelardian passages of his *Logica Ingredientibus* (in order): 157, 40-42; 171, 3-4; 50, 20; 157, 39-40; 112, 34-36.

Abelard (sd/1919-27) claims as an original idea to have proposed a semantic *tertia lectio* of the Boethian texts. It is not so important whether he is right or not—in fact, he is wrong—but what matters is why he believes that taking a semantic perspective is a safer choice than the different positions of realism. It seems that speaking of meanings is less demanding than speaking directly of essences, properties, or wholeness; the impression, however, lasts until one is asked to provide explanations on the ontological status of meanings.

2 Some Peripheral Considerations

In the historical perspective, the choice of an ontology is challenging: we choose for instance totalities of things rather than essences, because we think that reality is fragmented into parts having some congruence. However, the ontological table that we prefer, from a different point of view, is presented as a list of items, as such not too different from other ordinary lists, apart from perhaps the lack of effectiveness of the ordering and the convenience in finding the listed things. Take a segment of the Aristotelian biological classification system, as shown in Figure 1.

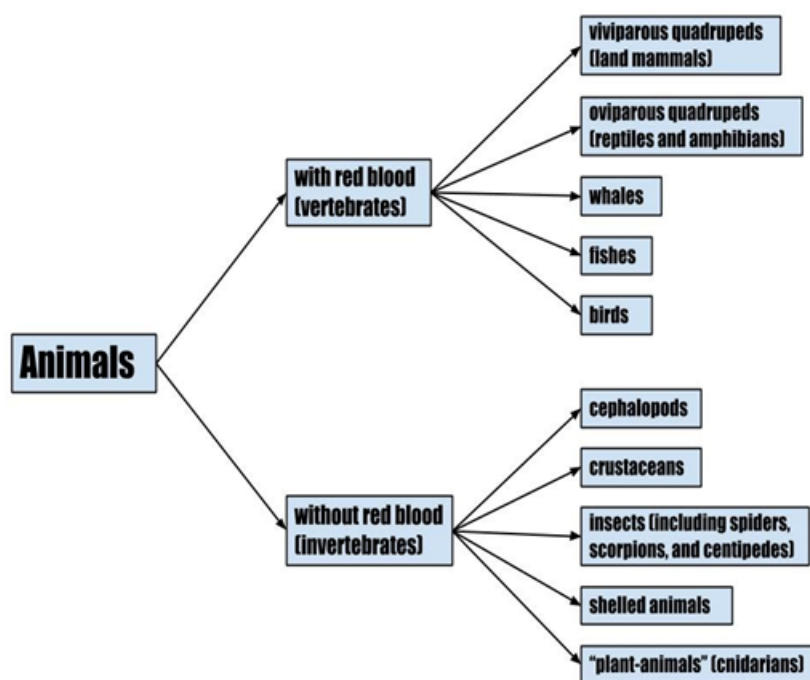


Figure 1: A fragment of the Aristotelian biological classification. (Source: [1].)

Cf. Abelard (sd/1919-27).

We can imagine dealing with species / genera of which we are required to provide ontological credentials or simply with a list of things. One arranges cages or shelves, putting tags or identification codes and inside books, animals, or other things. For most of these activities a particular philosophical competence is not required; rather, in some cases, the ability to interact with the inhabitants of the cages. The same or similar things can be said for the medical lists referred to in Augusto's article.

There are potentially dangerous animals in cages and useful things in some boxes. In my computer there are directories and (sub. . .) sub-directories, and sophisticated search systems are also available. One does not always have to pay attention to what is in a cage, partly because robots are able to do it without taking any risks. Classification systems are useful for finding things in (virtual) cages. I am not an expert in formal ontologies, but apart from the suggestive name, the goal seems to me to have an efficient way of finding information. On the other hand, philosophical classifications are not generally conceived with the aim of finding information or looking for things arranged in some warehouse. Aristotle's categories ultimately have limited or no utility, even understood as a system of grammatical classification.

A famous motto says "to be is to be the value of a quantification variable." I have always had problems understanding this dogma: it seems that Quine in formulating it was thinking about what one had to accept in order to clear the logic of higher-order predicates. A point of view shared by mathematicians is to minimize the basic notions and axioms, while not losing sight of the completeness of a certain formal system. However: Why should the philosopher be cautious in ontological spending? It is not very clear to me what the answer is. A Quine nominalist thinks that one should only accept individual things and the bare minimum that one needs. A first-hand realist thinks that for each term there is a meaning available.

The author of the article I write in the margin of distinguishes between domain ontologies, largely investigated solely by computer scientists, and upper ontologies, also computer-based but which may be of interest to philosophers. His idea is to build a bridge between the two fields, philosophy and computer science, via upper ontologies. It seems to me that this reflects a way of considering philosophical research as a producer of ideas that can be developed and clarified in scientific research. I am reminded of a passage from Husserl's *Logical Researches* where he talks about meaning categories; at a certain point, the author emphasizes how the science of meanings will deepen and clarify the problem investigated at a philosophical level. Husserl's text certainly had prophetic value, as the contemporary categorial grammar actually starts from the concept of meaning category to build a complex theoretical system.⁴

This is a useful perspective for both science and philosophy. I would just like to modestly add a word of warning about the intentions and objectives which, being different, could lead philosophical and scientific research onto two divergent paths. From what I have been able to see and study, as I said in the previous pages, it is very important for a certain philosophical tradition to succeed in identifying the ultimate elements of reality, in the belief that the truth of ordinary sentences reflects

⁴Let me quote the passage from Husserl's *Logical Investigations*: "An actual exposition of the pure theory we are thinking of here should define all concepts with mathematical exactness and deduce the theorems by argumenta in forma, i.e. mathematically [...] the progress that leads from theories and from vague conceptual constructions to mathematically exact theories and conceptual constructions is here, as always, the precondition for a full understanding of a priori connections and an indispensable requirement of science" (LR III, 24, 287-288). (cf. Husserl, 1913/2006-8.)

the world as described by philosophy. Conversely, the compilation of lists such as those considered by the author (cf. dental technician or mechanical examples) must have a practical utility, like all lists. It can be a matter of reckoning, cataloging, or finding information. A well-organized cataloging system is essential for this purpose.

At a certain point, the author talks about *Zeitgeist*, intended, I believe, as a cultural environment in which some linguistic practices are defined. These practices can and should be the object of study for philosophy and science, but the abstraction made by our way of ordering objects and using expressions to label classes is not always reversible. Scientific abstraction is, in general: I start from a simple operation such as adding objects or grouping them and end up considering algebraic properties of structures. The exemplification of abstract objects brings me back to ordinary use. Not so in metaphysics: certainly ordinary use is always at the beginning, but the abstractive process is often not reversible: I see Socrates, I speak of him as a substance; if I try to exemplify the abstract concept of substance, do I still get Socrates?

References

- Abelard (sd/1919–27). *Logica Ingredientibus*. In B. Geyer (ed.), *Peter Abelards philosophische Schriften* (BGPhM, XXI, Heft 1–3). Münster: Aschendorf.
- Augusto, L. M. (2021). Bridging mainstream and formal ontology: A causality-based upper ontology in Dietrich of Freiberg. *Journal of Knowledge Structures & Systems*, 2(2), 1-35.
- Boethius (sd/1906). *In Isagogen Porphyrii Commenta*. Ed. by S. Brandt. Vienna: F. Tempsky.
- de Libera, A. (1996). *La querelle des universaux de Platon à la fin du Moyen Age*. Paris: Éditions du Seuil.
- Husserl, E. (1913/2006-8). *Logical Investigations*. Vols. 1-2. Ed. by D. Moran. Milton Park: Routledge.
- Pinzani, R. (2018). *The Problem of Universals from Boethius to John of Salisbury*. Leiden: Brill.

Online Resources

- [1] <https://sites.google.com/site/aristotlethebiologist/aristotle-s-biology/classification>

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EDITORIAL INFORMATION

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