

The Birth of Ontology

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Abstract

This review focuses on the *Ogdoas scholastica* by Jacob Lorhard, published in 1606. The importance of this document turns on the fact that it contains what is almost certainly the first published occurrence of the term “ontology.” The body of the work consists in a series of diagrams called “diagraphs.” Relevant features of these diagraphs are: 1. that they do not in fact contain the word “ontology,” and 2. that Lorhard himself was not responsible for their content.

Key words: Jacob Lorhard; Peter Ramus; Clemens Timpler; Ontology; 17th century Scholasticism; Diagrammatology

1 Lorhard’s *Ogdoas scholastica*

1.1 Three Interesting Questions

The focus of this essay is Jacob Lorhard’s *Ogdoas scholastica*, a compilation of eight books published in 1606.¹ We are interested specifically in Book 8, titled *Metaphysics, or Ontology*, an English translation of which can be found in Uckelman (2008).

As is now well known, what is almost certainly the first published occurrence of the term “ontology” (*ontologia*, in Latin) is to be found in this work. What is less well known is the peculiar character of the *Ogdoas*, which apart from a title page, epigrams, and a list of errata, consists entirely of some 198 diagrams, examples of which are provided in Figures 1 and 2 below.²

Significantly, the word “ontology” itself does not appear in any of these diagrams. Rather it appears only

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¹The word “*Ogdoas*” (from the Greek *ὀγδοάς*) means “[group of] 8.” One reading of “*Ogdoas scholastica*” might be: *Scholastic octet*. The text of all 8 books is reproduced at [1].

²My interest in these diagrams was sparked by their use in representing the ontological doctrines of Dietrich of Freiberg by Augusto in his (2021, 2022).

1. as part of the title of the work as a whole (which also lists the subject-matters of the remaining Books): *Ogdoas Scholastica continens Diagraphen Typicam artium: Grammatices (Latinæ, Graecæ), Logices, Rhetorices, Astronomices, Ethices, Physices, Metaphysices, seu Ontologiæ*;
2. as part of the title of Book 8, which appears as the header on its first page: *Metaphysicæ seu ontologiæ diagraphæ*;
3. in the *conclusio* (benediction?) which marks the end of Book 8, namely: *FINIS ONTOLOGIÆ. ξὸν θεῶν*.

Already, however, these three occurrences of the term, raise a number of interesting questions:

Ad 1. If the *Ogdoas* contains “diagraphs” which are “typical of their corresponding art,” then what are diagraphs, and what is an art?

First, a diagraph is a diagram consisting of textual elements and left and (sometimes) right braces (for examples see Figures 1 and 2). Each diagraph has the mathematical structure of a graph. The diagraph begins on the left with a single textual element and ends on the right with multiple such elements. Initial and terminal elements are connected via braces that lead through sequences of intermediate elements of various types, each of which has one input and two or more outputs.

When the diagraph is rendered in graph-theoretical form, as in Figure 3, then the textual elements are the nodes and the left-pointing braces are the edges of the graph. More precisely, each left-pointing brace corresponds in the graph to n edges, where n is the number of nodes to its immediate right (in most cases $n = 2$).

Right-pointing braces, as in diagraph A, lead in the corresponding graph-theoretical representation to a duplication of textual elements, as in Figure 3. Here, the right-pointing brace that joins the “Real” and the “Imaginary” to the “Both are” node generates a duplication of the nodes to the immediate right. But the result is still a graph in the mathematical sense.

As we work from left to right through the diagraphs presented on successive pages of the *Ogdoas*, we are presented at any given non-terminal node with alternatives as to which node we should follow next. This makes the diagram in some ways comparable to a decision tree ordered through the dichotomy between “yes” and “no.” Diagraphs were used, however, not to guide decision-making, but rather as teaching tools for schoolboys on their way to studying in universities in what we still nowadays refer to as faculties of arts. Collections of diagraphs like the *Ogdoas* were used as schoolbooks in something like the following fashion: Starting from the initial node of the first diagraph, the schoolboy traces through each branch, thereby learning not only the meaning of each successive term, but also how the term is derived from its predecessor to yield its successor.

An “art,” in Lorhard’s day, and in a tradition extending back to Pythagoras, means a principled practice or acquired skill or *habitus*. Medieval universities were built around the seven “liberal arts” of astronomy, mathematics, geometry, music, rhetoric, grammar, and logic, each of which finds its source in another skill or habit, namely the love of wisdom or *φιλοσοφία*. Lorhard and his commentaries are continuing this tradition, but we shall see that they are also serving as agents of its transformation.

Ad 2. In using the phrase “*Metaphysicæ, seu Ontologiæ*,” Lorhard announces that he is proposing the term “ontology” as an alternative for what is otherwise called

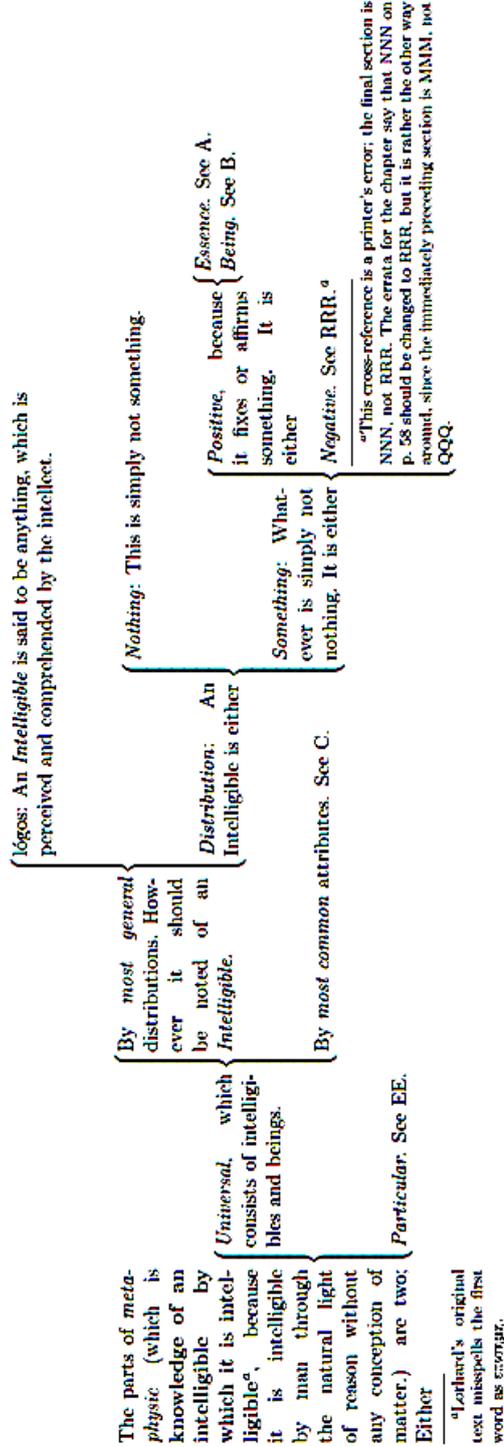


Figure 1: Diagram on the domain of what is intelligible. (Source: Uckelman, 2008, p. 1. Reprinted with permission.)

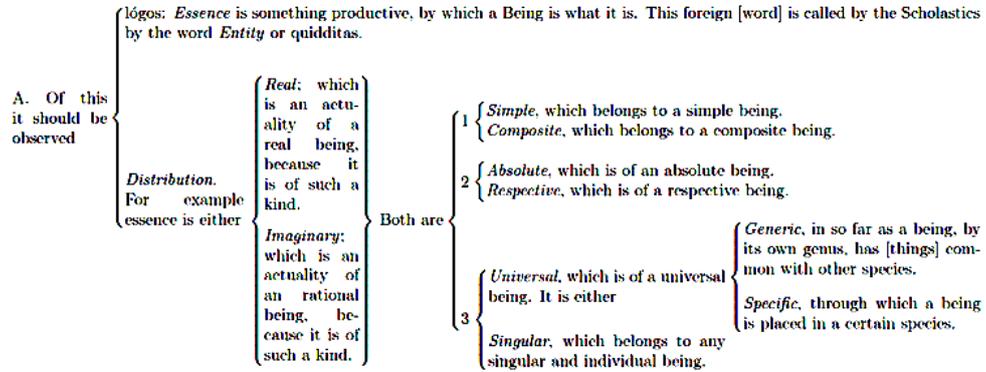


Figure 2: Treatment of essence, and of the real and the imaginary. (Source: Uckelman, 2008, p. 2. Reprinted with permission.)

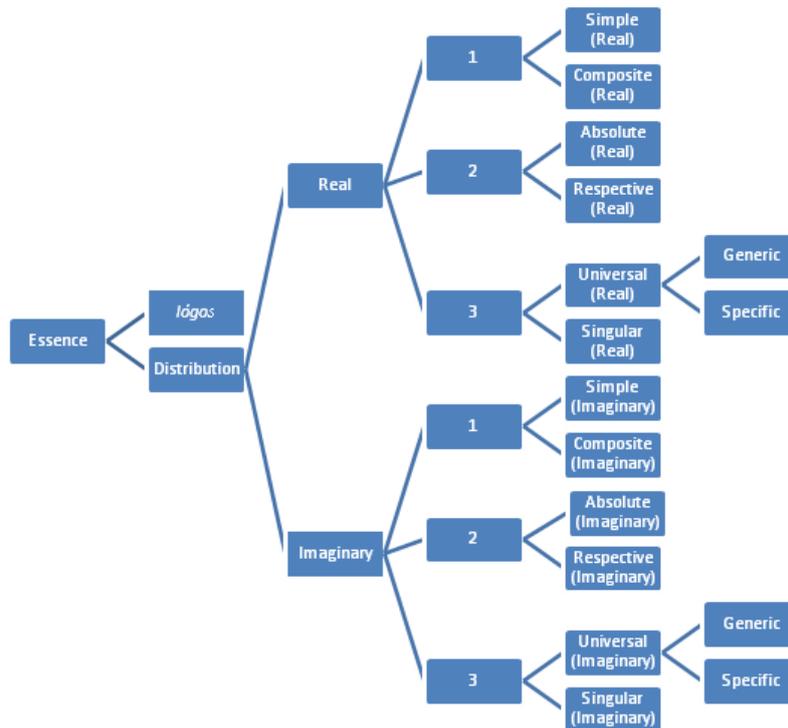


Figure 3: Graph-theoretic rendering of Figure 2.

“metaphysics.” The motives and subsequent history of Lorhard’s neologism seem to have run along two parallel tracks.³ The first was documented by Clauberg in his *Elements of Philosophy or Ontosophia* of 1647:

we need new names, because the name metaphysics does not say clearly what its object is. If the object is being, then ontology or ontosophy are better names, because the word being appears in them directly (*onto-logia*, *onto-sophia*). (Cited in a chapter dealing with “The Founders of Ontology. From Lorhard to Clauberg” in Jaroszyński & McDonald, 2018, p. 97.)

In another passage from the *Elementa* (cited by Gilson in his *Being and Some Philosophers*, 1952, pp. 112-113), Clauberg remarks:

Since the science which is about God calls itself Theosophy or Theology, it would seem fitting to call Ontosophy or Ontology that science which does not deal with this and that being, as distinct from the others owing to its special name or properties, but with being in general.

Of this text Gilson remarks that it

may be held, in the present state of historical knowledge, for the birth certificate of ontology as a science conceived after the pattern of theology, yet radically distinct from it, since being qua being is held there as indifferent to all its conceivable determinations.⁴

We note in passing that if “ontology” is conceived in this fashion, then it would of course be an oxymoron to talk, for example, of an “ontology of systems engineering” or of an “ontology of infectious diseases.” It may still, however, make sense to draw a comparison between the *Ogdoas* ontology and what is nowadays standardly referred to as a “top-level ontology.”⁵

As concerns the second track, Øhrstrøm et al. (2008) suggest that Lorhard in the *Ogdoas* was contributing to a larger renewal of the way metaphysics itself should be conceived and taught. Where, as we saw, it had earlier been viewed as a matter of acquired ability, during the 17th century we see a move in German scholasticism (or “*Schulmetaphysik*”) towards a view of metaphysics (and of the arts and sciences in general) as *systems of propositions*, a move which reached its apogee in Leibniz’s *New System of Nature and the Interconnection of Substances* of 1695.

Ad 3. Uckelman’s translation of Lorhard’s terminal phrase in Book 8 is: “END OF THE ONTOLOGY. With God.” Lorhard was of course not here embracing a view according to which the word “ontology” could rightfully be used with a definite article, as in phrases such as “the Protein Ontology” or “the DOLCE ontology.” Rather, “*FINIS ONTOLOGIÆ*” means simply: “End of the [book of] ontology,” in conformity with the way in which earlier books in the *Ogdoas* had concluded with similar phrases, such as, for Book 2, “*Finis Syntaxeos*” and for Book 6, “*Finis Philosophiæ*.”

³Ragni (2017) documents the evolution of the meaning of the word “ontology” in the most important 17th century lexica. For the more general background, see Novotny (2013).

⁴Quoted by Raul Corazzon at his excellent history of ontology site at [2].

⁵See ISO/IEC 21838 Top-Level Ontologies (TLO), documented at [3].

1.2 The Diagraphs of the *Ogdoas*

Five diagraphs in Book 8 of the *Ogdoas*—namely Figures 1 and 2 (reproduced above), together with those labeled B, C and D, contain what is called a “*lógos*,” by which is meant an elucidation of what we can see as the diagraph’s principal term. For Figure 1 this principal term is “[an] Intelligible.” For Figure 2 (diagraph A.) it is “Essence.” Principal terms for diagraphs B, C and D are, respectively, “Real being,” “Existence” and “Duration.” (There are more than 100 further principal terms in later diagraphs in Book 8.) In the remaining diagraphs, we are presented simply with what are called distributions (effectively nodes connected to two or more right-pointing edges), with further elucidatory content incorporated into the nodes which are the inputs and outputs of distribution.

Many terminal nodes point to other diagraphs, as Figure 1 points to EE, C, A, B, M, and NNN. Øhrstrøm, et al. (2008) identify in this connection an interesting feature of each of the books in the *Ogdoas*, which they compare to the use of hypertext links in contemporary online documents. Earlier diagraphs incorporate links in this way to later diagraphs, but there are no links in the opposite direction. The first diagraph (Figure 1) is for this reason not labeled, since, while it points forward to other diagraphs, no diagraph points back to it, and so no label (hyperlink) is needed for this purpose. The fact that what we might think of as the definitional content of any given diagraph does not depend on (in the sense of: is not linked from) the definitional content of any later diagraph means that, in this respect at least, the entire framework avoids circularity. Book 8 is, accordingly, comprised of diagraphs which, like most contemporary ontologies, have the structure of a *directed acyclical graph*.

The fact that the term “ontology” occurs nowhere in any of the diagraphs is another positive feature of this work—since it means that Lorhard, unlike many ontologists in recent decades, did not confuse use and mention. An ontology is a representation of a certain subject matter. The ontology itself does not belong to the represented subject matter.

The letter-combination pointers to other diagraphs in Figure 1 now provide, in principle at least, a means of linking together the separate diagraphs of each Book into a single whole, which we might call the full diagraph. Figure 1 then represents what we might refer to as the “top-level” of this full diagraph, in the sense that it is the most general portion, given that successive steps of distribution bring a move to something more specific. Ultimately, we arrive at the right-most (terminal) portions of the full diagraph, where we in some cases find diagrams that are not diagraphs at all, but rather single sentences, which are labelled as endpoints of links inserted in earlier diagraphs. An example is diagram $\gamma\gamma\gamma$:

$\gamma\gamma\gamma$. Supreme simplicity is a property of God, according to which he is most simple, having no part in any real composition. (Uckelman, 2008, p. 43)

to which a link is inserted in diagraph FFF (dealing with what is *Uncreated*).

Distribution concerns how the contents of any given node are distributed between its (in the typical case) two successors. Thus for example “what is intelligible” is distributed between the *universal* and the *particular*. “Universal” on the other hand is first of all distributed at a metalevel, between both

- (i) its most general distribution, which is to say, according to the highest level sub-universals, which are for Lorhard *nothing* and *something*; and
- (ii) a distribution according to most common attributes of the universals themselves, which for Lorhard are *simple* and *conjunctive* (dealt with in diagraph C).

Outputs of distribution are also repeated at different points in the full diagraph. Thus for example there are 15 nodes at which *real* occurs as such an output, in 7 of which it is contrasted with *rational*, in 6 with *imaginary*, and in 1 each with *verbal* and *of reason*, respectively. Øhrstrøm et al. (2008) draw the conclusion that terms in the *Ogdeas* are functioning not as types in a hierarchy, but rather as what they call “metaproperties.” Given what we have to say below, however, it may be an equally reasonable (and perhaps complementary) speculation that Lorhard had not fully thought through what he was doing in building his metaphysical diagraphs, since he was not himself responsible for their contents.

2 Peter Ramus and Clemens Timpler

Lorhard (1561–1609) did not invent the diagraph. Rather, he took the idea, and the model of their use as pedagogical tool, from Peter Ramus (1515–1572), whose writings, and whose diagram-driven approach to pedagogy were of considerable influence in Lorhard’s day. Ramus, too, however, did not originate the diagraph. Documents containing diagraph representations are available from as early as the *Electorium magnum* of Thomas le Myésier from 1323. This contains a “stemmatic analysis of ‘being’ (*ens reale*)” comparable to a Porphyrian tree hierarchy that is rotated through 90° (Evans, 1980). Both the diagrams provided by Augusto (2021, 2022) and the diagraphs in the *Ogdoas* also have these features.

After all that has been said, we must now point out that *Ogdoas scholastica* is not an original work. As is shown by the concordance created by Lamanna [4], Lorhard’s contribution to Book 8, in particular, consists in the addition of the Ramistic diagraph representation to the theorems found in the introduction to each chapter of the *Metaphysicae systema methodicum* of Clemens Timpler from 1604.⁶

As Joseph Freedman (2009) has documented, Timpler’s works constituted the standard of *Schulmetaphysik* and were most widely distributed in gymnasiums—such as the *Stiftsgymnasium* at St. Gallen in which Lorhard served as Rector—and more generally in reformed academies in the first decades of the 17th century. And in deploying Timpler’s metaphysics literally, Lorhard was proposing an approach “in which the subject of metaphysics was the universal concept of the intelligible, and not that of being. The real difference with Timpler is that Lorhard gave to metaphysics the name ontology, coining the Latin neologism.” (Devaux & Lamanna (2009).

Finally. to give the reader some idea of the ontology proposed by Timpler in his *Metaphysicae systema methodicum*, we present it here (Fig. 4) in the now more commonly used graph-theoretic form.

⁶“Ramus was obsessed with the *Tree of Porphyry* and applied the binary tree to so many topics that it thereafter became known as the *Tree of Ramus*.” (Ben-Menahem, 2009, p. 82). A paradigm example of a Ramean diagraph is reproduced in Ong (2004, p. 202, reproduced at [5]). See also Lamanna (2006).

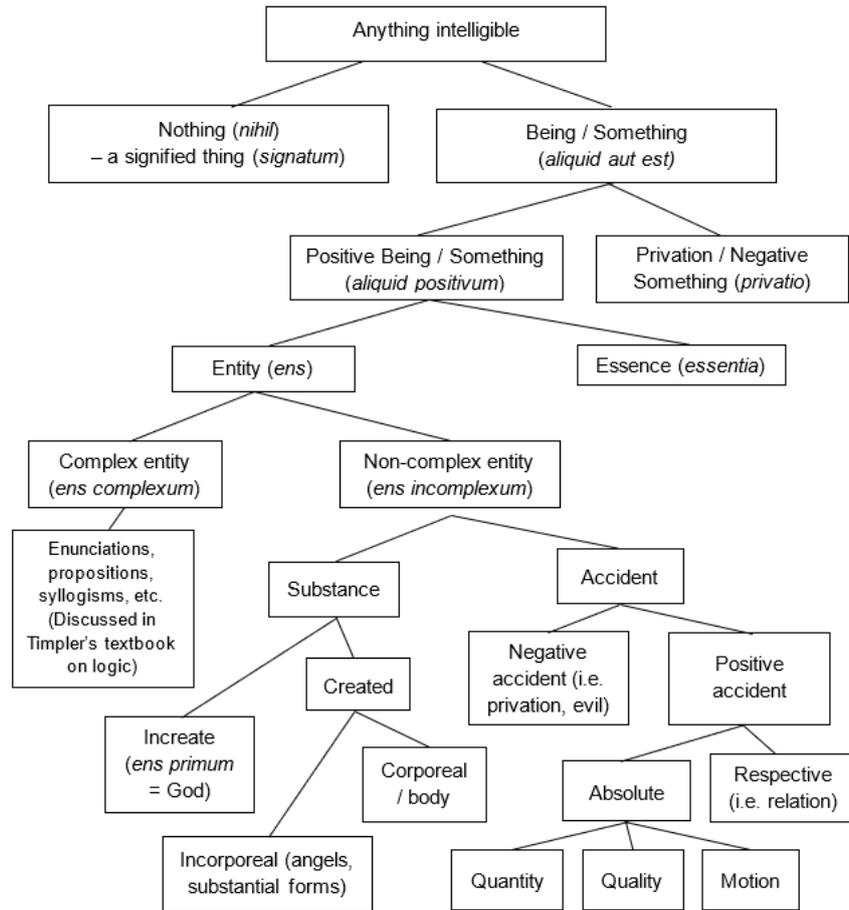


Figure 4: Basic ontological components within Clemens Timper’s writings. (Adapted from Friedman, 2009.)

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⁷See [1].

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Online Resources

- [1] https://www.google.com/books/edition/Ogdoas_Scholastica_continens_diagraphen/EIvc1kak6xEC
- [2] <https://www.ontology.co/>
- [3] http://ncorwiki.buffalo.edu/index.php/BFO_2020
- [4] <https://www.ontology.co/essays/correspondences-timpler-lorhard.pdf>
- [5] <https://i.pining.com/564x/54/d3/6e/54d36eb9340cdc7d5543e1ade565f52e.jpg>
- [6] <https://eprints.illc.uva.nl/id/eprint/668/1/X-2008-04.text.pdf>

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⁸Manuscript; contains a complete translation of Book 8 of Lorhard (1606). See [6].