

Actualism and Analyticity:
Leibniz's early thoughts towards a synthesis between
Lutheran metaphysics and the foundation of knowledge

Marine Picon

Abstract

Recent scholarship has established that, until the mid-1670s, Leibniz did not hold the possibilist ontology which, in his mature philosophy, provides the foundation for both his account of human freedom and of eternal truth. Concentrating on the Mainz period (1667-1672), this paper examines the conciliation, in those early writings, of an actualist ontology and a conception of necessary truth as analytical. The first section questions the view that Leibniz was educated in a "Platonist" tradition; the second section presents the actualist metaphysics that he adopted in the wake of his teachers; the third section shows how Leibniz could, contrary to those same teachers, hold an analytical view of eternal truth, even without the support of his later possibilist ontology and doctrine of real definitions.

Introduction¹

In a well-known passage of Book IV of the *New Essays on Human Understanding*, Leibniz concentrates in a few lines his views on the foundation of truth. These lines deal more precisely with truth in its strongest sense, that is, with eternally true propositions: independently of the actual existence of the particular things named by their terms, these propositions are made true by what Leibniz calls the "linking together of ideas" (A VI, 6, 447). These *ideas* or *possibilities* exist, in his view, in the divine understanding, which he calls elsewhere "the region of the possible" (*Théodicée* I, 42; GP VI, 126).

This doctrine shows what a close connexion existed between metaphysics and the theory of demonstrative knowledge as the mature Leibniz conceived them. This connexion was already present, of course, in his earlier writings, just as it was in the works of most of his contemporaries. What did change in the course of Leibniz's development was the terms between which this connexion fell: the metaphysical and epistemological theses invoked to support the doctrine of eternal truth went through significant transformations. By entitling this paper "actualism and analyticity," I would like to call attention to the following question: if Leibniz's

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theory of demonstrative knowledge refers, throughout his works, to relations of inclusion between concepts, and therefore to the analytical nature of truth, did this epistemological view always rest on the same theological foundation as it did in his later writings, namely on the existence of the possibles in God's understanding?

Recent progress in Leibniz scholarship indicates that the answer to this question should be negative: Robert Adams, Francesco Piro and Mogens Laerke, among others, have shown that the ontology of possibility sketched above was not to be found in Leibniz's writings before the mid-1670s.² It actually emerged during the crucial period of his last months in Paris, sometime between his discovery of Spinoza's writings and his discussions with the Cartesian Arnold Eckhard. Before that transformation took place, Leibniz appears to have held a weaker conception of the possible. Scholars have hitherto concentrated on the consequences of that view for Leibniz's early understanding of contingency and freedom. We now need to tackle the corresponding problem in the field of his theory of knowledge. If Leibniz's discovery that an infinite number of alternative possibilities have some existence of their own was what saved him from the "precipice" of necessitarianism, this ontological commitment also provided, as we just recalled, the "real foundation" granted to eternal truths in his mature writings. My question will then be: how did Leibniz conceive that foundation in the early period when his mature ontology of possibility was not yet available to him ?

Answering this question implies some preliminary clarification about the background of the development of his early metaphysics and epistemology: if, as it was once argued, the young Leibniz had received in Leipzig an education inspired by "pure Platonism,"³ then he would have had no need of a possibilist ontology to account for the eternal truth of propositions of reason. The autonomous subsistence of eternal ideas would have been perfectly sufficient. I will therefore begin by taking another look at the allegedly Platonic tradition in which Leibniz was raised. This will imply reviewing the main problems and diverging doctrinal solutions which our familiar use of the labels "Platonism" or "Augustinianism" tend to confuse, before concentrating on the image of Plato resulting from those debates in 1660s Germany. The second section will show that the weaker conception of the possible extant in Leibniz early writings was not just an immature aspect of his thought, but reflected a deliberate actualism grounded on fundamental theological motives. The third section finally shows how the young Leibniz, on the background of that inherited actualism, evolved an original – if not always explicit – conception of necessary truth, resting on semantic analyticity, in relative autonomy from ontology.

1. Platonism in Leipzig?

1.1 The Augustinian legacy: a complex of problems

It has become usual for us to say, following Massimo Mugnai and Fabrizio Mondadori, that, regarding the ontological status of the intelligibles, Leibniz was an “Augustinian.”⁴ Leibniz himself claims this filiation in a number of places, among which the *New Essays* passage with which we began.⁵ In both Mugnai’s and Mondadori’s studies, that statement was a clear answer to the accounts of Leibniz’s philosophy which, following Benson Mates, understood him as having defended, throughout his life, strictly nominalist and actualist positions.⁶ As such, that answer was perfectly convincing: it established the historical conditions that had made it possible for Leibniz to hold at the same time that all existing entities are singular, and that universal essences are endowed with some kind of subsistence in God.

However, the “Leibniz-as-an-Augustinian” phrase has gradually been taken for granted beyond the context of that early 1990s discussion, to the point of being sometimes alleged as sufficient, by itself, to explain Leibniz’s views on the ontology of possibility. Yet, the statement that Leibniz was an Augustinian is true but somewhat unspecific: Augustine’s legacy to his followers, on the question of the status of the intelligibles, was much more of a problem than a solution. At the centre of medieval interpretative controversies was this passage from his *De Diversis Quaestionibus LXXXIII*:

“Plato is known as the first to have named ideas (...). In fact, ideas are the primary forms or the permanent and immutable reasons of things, that have not themselves been formed, and are contained in the divine intelligence” (Q. 46, *Patrologia Latina* 40, col. 29-30).

Reading this passage in the light of doctrinal elements borrowed from pagan Neoplatonists such as Themistius and Porphyry, medieval thinkers understood that the divine Creator contained in himself the intelligible archetypes for all creation.⁷ This left them facing the following problems: if those archetypes are distinct from one another and are in God, how can God be considered as being really one? And if those archetypes enjoy some kind of being prior to the creation of the existents modelled after them, how can this creation be, according to Christian faith, a total, *ex nihilo* creation? Such were, roughly summarized, the challenges that Scholastic philosophers, up to the seventeenth century, had to tackle. Among them were

Leibniz's teachers at the university of Leipzig. Strict Lutherans as they were, they were nonetheless familiar with the doctrines of their Catholic colleagues, especially with those of the Jesuit masters from France or Spain, some of whom held positions in the universities of central Europe.⁸ On the problem of the ontological status of the intelligibles, those Catholic authors were – very roughly – divided between the followers of the Ockhamist, reductionist interpretation of Augustine, and the followers of his Scotist interpretation. For the former, ideas or possibilities had no reality of their own. God knew and created singular beings without resorting to mediating exemplars. An idea was therefore nothing but the existing creature itself, insofar as it is known by God;⁹ as to the term “possible,” they understood it not as referring to some intrinsic potentiality somehow preceding God's decision to create, but as meaning “compatible with the order of things created by God.”¹⁰ Duns Scotus, on the contrary, had broken with his predecessors's reading of Augustine by introducing the notion of *potentia logica*, implying that the possibles are known by God as intrinsically non-contradictory before his intellection bestows them *realitas objectiva*: intrinsic logical possibility is prior to God's thinking and willing, and independent from them.¹¹ Hence the charge, repeatedly levelled at Scotism by its adversaries, of reviving pagan Platonism.

1. 2. The Lutheran Plato

Platonism and Nominalism are nowadays two broad categories used in metaphysics to designate two fundamentally opposed positions, the first defending the existence of abstract entities, the second stating that particular things are all there is. Now, if we are to understand the background to the origin and development of Leibniz's metaphysics, we need to forget about this opposition: the Plato that Leibniz's predecessors thought they knew had been passed down to them by Augustine, whose own doctrine, including his understanding and praise of Plato, had been circulated in Germany by the fifteenth century masters of the *via moderna*, of Ockhamist persuasion.¹² Re-interpreted as it had been by those nominalist authors, followers of Gabriel Biel (1410–1495), the Augustinian understanding of Plato's theory of ideas seemed compatible with a strict ontological parsimony, admitting of no distinction between essence and existence.¹³ So that, surprising as it may seem, Plato was not an unpopular figure in nominalist Lutheran Germany (conversely, the Calvinist authors of the period who advocated a moderate realism did not do so with reference to Platonic idealism, but to Aristotle's theory of second substances¹⁴).

Aristotle was usually charged by orthodox Lutherans with having calumniated Plato by attributing to him the view that Ideas were eternal outside of and independently of God's intellect.¹⁵ Consider for instance this passage by Abraham Calov (1612-1686), a Wittenberg professor also known as "the Lutheran pope," striving to make sense out of the ancient saying that "the essences of things are eternal:"

"The ideas of things have been in God from all eternity, and those things that are said to be of eternal truth were modelled after them. If such was Plato's view, it was unduly criticized by the Peripatetic school. For nothing is more certain that the fact that everything that was produced was produced according to some archetype in the divine mind."¹⁶

The views attributed here to Plato are of course nothing but the elementary Augustinian formula, which Calov could repeat without committing himself to any one of the interpretative options that we reviewed in the previous sub-section. Three chapters before, however, when dealing with existence, he had adamantly upheld the nominalist view that "a real essence without existence is fictitious and impossible, since real being does not belong to something merely non-contradictory. And 'essence of a potential creature' is only said by extrinsic denomination from the power of God, implying no reality in the creatable."¹⁷

1.3. Anti-platonism in Leipzig : Jakob Thomasius

Jakob Thomasius, Leibniz's main teacher at the university of Leipzig, had no inclination for such syncretism. He was a historian of philosophy, with a much more accurate knowledge of the Greek texts than many of his predecessors.¹⁸ Yet, I would like to show that his concern for historical authenticity did not free his understanding of Plato, any more than of other past authors, of the preoccupations of his day; and, therefore, that the very notion of a "pure form of Platonism," which according to Mercer was taught at Leipzig at the time,¹⁹ is a highly questionable one. The most relevant text in this respect is Thomasius's lecture "On Plato's Exemplar Ideas."²⁰

A long first part of that lecture is spent looking for the reasons why Plato could ever have been considered as an authority by some of the Church Fathers. Thomasius intends, so to say, to diagnose his respectability among them. The main point was of course that, whilst Aristotle considered the world as eternal, Plato in the *Timaeus* describes its creation by God. But that is far from enough, in Thomasius's view, to make Plato's conception of God and of his relation to the created world acceptable

for a Christian. Undaunted by Augustine's praise of the Platonic theory of ideas, Thomasius urges his audience to distinguish between the Christian doctrine of God's knowledge and Plato's:

“Who would be mad enough and senseless enough, Augustine asks, to think that God made what he did not know?’ Yet, regarding those notions in God, I very much doubt that Plato's view was correct. Gregory Nazianzen's warning, in his first oration on Theology, calls much suspicion on it: he urges those suffering from an excessive eagerness to dispute (...) to attack the Platonic ideas, the re-embodiments and cycles of our souls in other bodies, and their recollections.”²¹

The true authority on the question is not for Thomasius Augustine, but the church father Tertullian:

“How much pestilence is concealed in Plato's exemplar ideas can be surmised from the fact that Tertullian has proven that Platonic ideas were the sources of the Gnostics and the Valentinians's aeones; and he does not hesitate to call Plato the purveyor of heretics.”²²

The rest of the lecture develops this charge by contrasting what Thomasius presents as Plato's metaphysics with the fundamental tenets of Christian faith: the unicity and absolute simplicity of God, the creator of absolutely every thing *ex nihilo*. “Let us now examine, he goes on, whether Plato believed the same things, or whether, with his ideas and archetype world, he corrupted the sound sentiments about God” (297). Thomasius proceeds to demonstrate the second answer, his principal complaint being that Plato did not conceive of matter as created by God, but as eternal too. Among the reasons why Plato held this view was the fact that “having granted God no ideas of the particulars that are only numerically distinct,” he “believed that matter was the principle of individuation of corporeal things” (*Ib.*). In a word – even if Thomasius does not write it explicitly – Plato was a Thomist. Or, as Thomasius does write it in his *Preface to Leibniz's 1663 Disputation on the Principle of Individuation*, Plato was not only the “purveyor of heretics”, but the ancestor of a realist Scholastic doctrine once taught as part of the *via antiqua*, and which Thomasius and his student expressly fought.²³

I hope to have shown in this section that, even though, until the middle of the seventeenth century, German metaphysicians had conciliated the positive – though largely fictitious – image of Plato forged by Martin Luther with their own nominalist answers to the problems of Augustinian exemplarism, Jakob Thomasius clearly broke with that tradition. Yet, he did not do so on the basis of the recovery of a

“pure Platonism” achieved by Renaissance humanists, but on the basis of the radical anti-platonism of some of the church fathers, such as Tertullian and Gregory Nazianzen. Thomasius used their image of Plato as a foil, lumping together with it the doctrines of his adversaries, be they Thomists, Scotists... or even Cartesians.²⁴

One passage in the young Leibniz’s writings indicates with particular clarity that he was receptive to his master’s teaching on this score. Mercer happens to refer to it as stating Leibniz’s view that “the mind as subject is capable of understanding all essences.”²⁵ But Leibniz’s actual purpose, in this paragraph of his 1671 essay “On the Utility and Necessity of Demonstrations of the Immortality of the Soul,” is to ridicule Kenelm Digby who “believes that we think of things through some formalities and realities of these things inscribed in our minds. The mind would be something capable of all essences, as the polyp of all colours.” Leibniz concludes these strictures by writing: “But those remains of Scholastic metaphysics, incapable of explaining anything and resulting in Platonic grandiloquence, cannot satisfy the reader who demands solid and clearly perceptible notions” (A VI, 2, 181, formerly A VI, 2, 113).

2. Actualism: the Definition of Being and the Ontological Status of Essences or Possibilities

2.1. An early-Leibniz enigma: being as “whatever can be sensed”

The various attempts made by the Scholastics to meet the doctrinal challenges inherited from Augustinian exemplarism must be remembered if we are to understand the “doctrine of being” that surfaces in Leibniz’s early writings. The following passages were written between 1664 and 1667:

1. “It is not correct to call *being* a potential being; if it was otherwise, it would follow that God could not cause a being to become a non-being, that is, to be annihilated. We shall therefore say more properly that this is no being, and that *potential being* is a contradictory expression, just as a potential husband is not married.”²⁶

2. “A potential being is a non being. Calov.”²⁷

3. “Whatever has sensible Qualities, or whatever can be sensed, is called a *being*. And that is the most perfect definition of being (...).”²⁸

This “most perfect definition” might seem to echo the Hobbesian equation of “being” with “body” (*De Motu, loco et tempore*, XXVII, § 1). And yet this

Leibnizian definition should not be understood in a materialistic sense: in the following paragraph of the first part of the 1667 *Nova Methodus*, to which it belongs, Leibniz enumerates what he takes to be the different modes of sensation. The first of them happens to be “the mind alone [*mente sola*],” as opposed to *phantasia* (A VI, 1, 286), that is, according to Aristotelian psychology, to the system of the external senses. This very unusual, comprehensive conception of *sensus* obliges us to set aside the notion that Leibniz may be here under the influence of some empiricist theory of cognition, whether Hobbes’s or Gassendi’s. An alternative reading is suggested by Robert Adams, who includes this definition of being among the early Leibnizian passages which “anticipat[e] Berkeley’s famous thesis that to be is to be perceived” (Adams 169). Yet, Berkeley’s thesis rested on a fundamental distinction between the type of being proper to minds, on the one hand, and that of everything else on the other. No such distinction can be found here: paragraph 34 of the *Nova Methodus* clearly includes minds – “or something ‘I know not what’ within us which we observe to be thinking” (A VI, 1, 286 / L 89) – among the other perceivable objects. As Adams notes elsewhere about other passages, “despite the striking resemblance to Berkeley (...) there is reason to doubt the presence of any sort of reductive intent” (Adams 235). We need therefore to account for this definition as that of being in its strongest sense.

Since neither the materialist nor the anti-materialist hypothesis seem to fit, let us try a more internalist approach by comparing Leibniz’s definition of being with the ontological views expressed in neighbouring texts, even if those are not very explicit, like quotations 1 and 2. Those passages are all the more puzzling as they do not come from proper argumentative developments, but are simply notes written by Leibniz around 1664 in the margins of his copy of Daniel Stahl’s *Compendium Metaphysicae*. Stahl’s own text is not very helpful either, because it appears that Leibniz is not so much reacting to what he reads in it as complementing it with what he has learned elsewhere on the same topic, namely the theory of being, of its species and its opposites.

2.2. *The doctrinal background: Leibniz’s teachers against Scotism*

However, a useful lead to the missing doctrinal context is given by the reference in quotation 2 to Abraham Calov, whose teachings had probably been inculcated to the young Leibniz by Jakob Thomasius. Indeed, Thomasius’s metaphysics textbook, consisting mostly of a summarized theory of being, does provide the context that

is necessary for a better understanding of Leibniz's marginal notes on Stahl. In the *Preface* to those *Erotemata Metaphysica*, Thomasius writes:

“As to Being, which is the object of Metaphysics, I restricted it to actual being only, leaving potential or possible beings, which are not really beings, among beings of reason. That doctrine which assimilates potential being to real beings and realities is in many respects incorrect. Before me, the same opposite view was held among us [Lutherans] by the most reverend Calov, and among the Reformed by Paul Voetius.”

Thomasius is obviously anxious to show that this actualist restriction of being finds support across the confessional divide, among Calvinist as well as among Lutheran metaphysicians. This was not exactly the case. We know that Calvinist universities had been more receptive to Scotist teachings than Lutheran ones.²⁹ And Scotism is indeed the target, when Thomasius, after Calov, censures the “incorrect” doctrine which “assimilates potential being to real beings.” What he has in mind is more precisely Scotus's promotion of what is *thinkable* or *possible*, because non-contradictory, to the status of being.

Against that doctrine, Leibniz's teachers – Jakob Thomasius, but also Johann Adam Scherzer – resort to the reductionist notion of possibility evolved in the nominalist tradition and resumed by Suarez in his complex *Disputatio Metaphysica XXXI*. Against the idea of an infinite domain of the possibles *qua* thinkables which would precede and limit God's intellection and will, and in order to deprive the notion of possibility of any ontological autonomy, Suarez had defined it with reference to the order created by God.³⁰ Scherzer adopts this notion of possibility in his 1654 *Vade Mecum sive Manuale philosophicum*, clearly making his point against Scotus:

“[The possible] must not be defined *by some non-contradiction assumed to be independent from existence*, but [it must be defined] *as presupposing existence as an hypothesis*, which means that something is possible if, *should it come into existence*, it would imply no contradiction” (11-12).

2.3. *The young Leibniz on possibilities, divine ideas and the meaning of “being”*

The distinction made by Scherzer between two definitions of “possible” will reappear and play a crucial role in the development of Leibniz's thought. Whilst in his Mainz writings Leibniz inclines towards necessitarianism on the basis of the notion of possibility defended by Scherzer (and his nominalist predecessors)

– possibility as the compatibility of a thing’s existence with the existence of God and of the world he chose to create³¹ –, from his first years in Hanover onwards, he will explicitly distinguish between that definition of possibility and a notion of possibility as intrinsic non-contradiction.³² In other words, the mature Leibniz will revive the distinction made by his teacher and endorse the second acceptance as allowing to conciliate the perfection of the divine will and the freedom of men. But before he left Germany for Paris in 1672, his masters’s actualist teaching certainly inspired his various notes reducing the possible to non-being.

His adherence, at that time, to the corresponding Ockhamist reinterpretation of the divine ideas as being nothing but the singular creatures themselves is documented by these statements from his drafts for the *Catholic demonstrations*:

“If one asks: ‘is the idea created or not?’ one cannot but answer ‘is the creature created or not?’” (A VI, 1, 510 / L 120 modified).

“There are no ideas in God but those of the things existing out of him” (A VI, 1, 513 / L 118 modified).³³

One will remember that, contrary to most Scholastic authors, Ockham did not blame Aristotle for his presentation of Plato’s Ideas as subsisting out of God’s mind: not only did he accept that reading, but he invoked the Platonic precedent to support his own breaking with the Scholastic tradition as he identified the divine ideas with the creatures:

“The Philosopher attributes to Plato the view that the ideas are things really distinct [from the divine essence], just as the things produced are distinct specifically. His intention, therefore, was not that the divine essence be the idea, but that the ideas be some other [things] known by God, which would be exemplary and which God would contemplate as he produces. But, among all [things] known, the theologian can chose nothing better to be the idea than the creature itself (...)” (OT IV, 489-90).

This of course was a misappropriation of Plato, whose writings warrant no such identification of ideas with singular existent things. This reinterpretation, however, made it possible for the young Leibniz to claim an understanding of Plato’s doctrine according to which the “Idea of Plato is therefore the same as the substantial form of Aristotle” (A VI, 1, 511 / L 118).

Finally, the “most perfect definition of being” as “whatever can be sensed,” set forth in the contemporary *Nova Methodus*, clearly is a rephrasing of the view reducing the possible to non-being. As we saw, Leibniz then used a very broad notion of *sensus*, so that we can only determine what he really meant by that term

by considering what *sensus*, in his view, was *not*. The two faculties that make up the knowing subject, according to the *Nova Methodus* succinct psychology, are *sensus* and *imaginatio* (A VI, 1, 285), the latter term being used by Leibniz in those years as a synonym for thinking. Now, of course, whatever is, i.e. can be perceived by the senses, is also imaginable or thinkable. But what can only be imagined or conceived, and not perceived by sense, is no being. This is just another way of saying – this time in the style of a modern metaphysics, centred around the knowing subject – that there are no such things as separate essences, that would be really or formally distinct from singular and temporal existences. And this was, as one will recall, the view defended by Leibniz in his 1663 *Dissertation on the Principle of Individuation*.

3. Analyticity

What consequences did these ontological views have in the *epistemological* field, where Leibniz and his contemporaries had to tackle the problem of propositions of eternal truth and their truth-makers ?

3.1 *The controversial subjects of eternal truths*

As to Jacob Thomasius, far from being a Platonist, he simply denies that those propositions may be true if their subject terms do not refer to some temporally existing subject:

“As to what we previously said, namely (...) that the *existence* of the subjects is not necessary for the *truth* of essential propositions, this should be understood of existence restricted to the present. But some existence is indispensable [to make these propositions true], be it present, past, or future existence.”³⁴

Johann Adam Scherzer stands close to his colleague, while being more explicit about the reasons why he held such a view. In keeping with his definition of the possible with reference to creatable existence, Scherzer considers that our knowledge of essences (i. e. of the possibles) depends on what can be observed in our experience of what actually exists. We should, he writes “use existence as a touchstone to determine what essence is due to each being” (*Vade Mecum*, 12). This of course is reminiscent of some well-known passages from Leibniz’s later philosophy, like paragraph 68 of the 1686 *General Inquiries About the Analysis of Concepts and Thoughts*, where Leibniz writes that we learn from experience what

elements are compatible as constituents of a definition (A VI, 4 A, 761). One less famous passage deserves to be quoted here, though; it comes from the drafts written by Leibniz around 1671 for his project of *Elements of Natural Law*:

“By *possible*, we mean whatever is understood clearly and distinctly; as to mankind, no other criterion of *possibility* (...) is available besides existence itself” (A VI, 1, 473).

It seems that, at this stage, Leibniz was evolving from the restrictive notion of possibility, defended for instance by Scherzer, towards the notion of possibility as intrinsic intelligibility of his mature works. But a strong epistemological restriction remains: whatever the possible may be by itself, limited understandings such as ours can only know it by extrapolation from what actually exists. Existence is indeed the “touchstone” for possibility.

It is very interesting to take another look, on this background, at contemporary texts invoked in recent scholarship to document the view that the young Leibniz was a Platonist. Mercer, for instance, quotes an earlier passage from the *Elements of Natural Law* where Leibniz’s purpose is to illustrate the epistemological status of jurisprudence as a demonstrative science:³⁵

“The doctrine of Right belongs to those sciences which depend on definitions and not on experience (...). For (...) we can understand that something is just even if there is no one who practices Justice or upon whom it is practiced. Just so (...) we can predict that a house will be beautiful, a machine efficient, or a commonwealth happy, *if it comes into being*, even if it should never do so. We need not wonder, therefore, that the principles of these sciences possess eternal truth. For they are all conditional truths, and treat not of what does exist but of what follows *if existence is assumed*” (A VI, 1, 460 / L 133, italics mine).

This last sentence is another faithful echo of Scherzer’s view that existence must be used as the touchstone for the truth of propositions bearing on the possibles. The rational, and so to say *a priori* character of jurisprudence as a science does not depend here on the ontological postulate that essences or ideas subsist permanently in God. Leibniz even seems to have deliberately chosen his examples – a house, a machine – to emphasize the fact that no ontological commitment to subsisting universals is implied by his argument for the permanent validity of the sciences – insofar as their propositions depend on definitions only.

3.2 Analyticity in the young Leibniz

This takes us right to the question of analyticity, more precisely to Leibniz's view that these propositions that constitute *scientia* are demonstrable *ex terminis*.³⁶ This view is expressed in famous statements from his early writings such as these:

“All the properties [of a thing] are contained in its definition” (*Demonstrationum Catholicarum conspectus*, A VI, 1, 495).

“The only topic [*locus*] for demonstrations is: definition” (*De Arte combinatoria*, A VI, 1, 199).⁷

The latter sounds like a phrase that Leibniz could have learned in his early years. He will keep repeating it at least until his first years in Hanover (see for instance the 1678 *De Legum interpretatione*: “the one topic [*locus*] for perfect demonstrations is definition,” A VI, 4 F, 2787). Yet, if that phrase was indeed a piece of traditional Scholastic logic, Leibniz invested it, as soon as 1666, with a new meaning. As is well known, late Scholastic logic had brought together the Aristotelian theory of the topics (*loci*), originally meant for dialectical arguments, and the theory of demonstration evolved through the Middle Ages in the commentaries on the *Posterior Analytics*. A topic is a class of attributes, or a class of the relations that can exist between an attribute and a subject (an attribute can be the *genus* of its subject, or it can be *proper* to it, or *similar* to it, or *opposed* to it, etc...).³⁸ The system of the topics was originally thought of as a classification of the types of arguments that could be used in disputation; but, as late Scholastic logic became permeated with the Renaissance theories of dialectical invention, the inventive part of the syllogistic reasoning also came to be considered as relying on topics: a small number of them were supposed to provide the middle term of the syllogism. The tenet that “definition is the only topic for demonstration” was then a rephrasing of the traditional Thomist doctrine according to which a syllogism can only be perfectly conclusive (be a *demonstratio potissima*) if its middle term is provided by a real definition of its subject.³⁹ The reason for this was that, in the context of Thomist metaphysics, the first attributes of a thing result immediately from its nature as from their efficient cause, and the secondary attributes result in turn from the first ones. The minor proposition in the syllogism was supposed to be made true precisely by this relation of efficient causality.

It should be noted that, as soon as its first appearance in Leibniz's writings, the “only topic of demonstration” phrase is obviously emptied of any reference to the efficient causality allegedly exercised, in Thomist metaphysics, by real

universal natures. In the context of the “Doctrine of Propositions” of the *De Arte combinatoria*, this traditional causal relation is *de facto* replaced, as the basis of necessary knowledge, by another relation – the relation that was and remained the most fundamental element of Leibniz’s epistemology: conceptual inclusion. This logical relation itself was understood after the arithmetic model of a number including its factors. This inclusion (of the concept of the attribute among the elements constituting the concept of the subject) is what *demonstration*, as Leibniz exposes it in the *De Arte combinatoria*, is supposed to make manifest. Now, the truly remarkable point about this substitution of one relation with the other – which makes this story a lot more interesting than one might believe by reading only the *De Arte Combinatoria* – is that, whilst for traditional logic the middle term of the demonstrative syllogism had to be a *real* definition of the subject, by its genus and specific difference, Leibniz explicitly denied, around 1670, that there were such definitions. Following Hobbes’s definition of definition as “the explication of [a] name by speech” (*De Corpore* I, 6, 14), he wrote:

“A *definition* is nothing but the accurate explanation of a name” (A VI, 2, 454).

“A definition can only be of names” (A VI, 2, 456).

“A definition is nothing but a signification expressed by words or, more briefly, a signification signified” (A VI, 2, 411).

The path that we followed in this section, starting with Leibniz’s claim that the truth of scientific propositions depends on definitions only, to his notion of demonstration, and from there to his conception of definition, ends here. Anxious as he was to define every term he used, the young Leibniz never gives, to my knowledge, a definition of *significatio* – not at least in his Mainz writings. That is to say that the concept of *significatio*, which he inherited from the Renaissance legal philologists and from the exponents of early modern religious hermeneutics,⁴⁰ can be considered as the ultimate, indefinable concept of his first epistemology. The fact that we *mean* such or such thing, and that this meaning can be analyzed into words,⁴¹ lies at the most fundamental level of his early theory of knowledge. This theory can then be considered as still belonging, in this respect, to the tradition of Renaissance Ciceronianism.

The latter stages of this story are better known. We are in general familiar with the fact that, around the end of his stay in Paris, Leibniz comes to consider our very meanings as suspicious: even when it seems to us that we mean something clearly and distinctly, or, in Cartesian style, that we have such or such “idea” – for instance:

the idea of the largest number, of the fastest movement, or of the most perfect being – this meaning or idea contains by itself no guarantee that its content is not contradictory, that we actually grasp a real object of thought and not just a cluster of words or confused images.⁴² This divorce between our meanings or notions, on the one hand, and the order of intrinsic possibilities, on the other, resulting in the risk that our notions may conceal some internal contradiction, led Leibniz to revive the Scholastic “real definition,” endowing it with a new power: if the complete analysis of a notion, up to its simplest components, reveals no contradiction between them, then we are assured that we do grasp, through that notion, a truly possible concept, expressing an idea in God’s mind.⁴³ Duns Scotus’s interpretation of the Augustinian doctrine of divine ideas had of course, by that time, taken over and replaced the Ockhamist tradition as the major influence on Leibniz’s metaphysics.

But the Mainz writings still belonged to a different *Gedankenwelt*. Definitions, then conceived as the explanations of names, were for Leibniz the principal instruments of demonstrative knowledge insofar as its purpose was to establish relations of conceptual inclusion -- or rather of *semantic* inclusion – between the significations historically attached to the words of our languages.⁴⁴ The *clarity* of definitions was paramount, but they were not supposed to give us access to the contents of God’s understanding. “And even if what we usually attribute to things is true of names only,” Leibniz wrote in 1670, “it does not matter; since we use those names to explain things” (A VI, 2, 451). In keeping with the nominalist tradition to which this note to Nizolius implicitly refers,⁴⁵ Leibniz then conceived of the scientific enterprise as resting on a looser connection between the system of words and the world of things than he would later admit.

Conclusion

Let us finally try and elucidate this correspondence assumed to exist between the order of things and the order of discourse, and thereby to summarize the way in which the young Leibniz conciliated his particularist, actualist ontology with his conception of scientific propositions as analytical. As we have seen, the truth-makers for necessary propositions were not for him at that time some Christian avatars of Platonic ideas, nor general non-contradictory concepts subsisting in God’s mind, but individuals: “Science does not consider real universals,” Leibniz wrote in 1670, “but all the singulars, including the possibles” (A VI, 2, 461). Those “possible” singulars were possible in the reductionist sense that their existences would not be

contradictory with the existing order of things as God chose to create them. Though singular, they could be gathered in various classes, depending on what common attribute we chose to consider in them.⁴⁶ The real counterparts of our necessary true propositions were therefore for Leibniz, at that time, the relations of extensional inclusion falling between classes of individuals. The fundamental assumption of his epistemology was that these extensional relations were adequately expressed by relations of intensional inclusion between the significations of names, as fixed in their nominal definitions.

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Marine Picon
École Normale Supérieure de Lyon
Institut d'Histoire de la Pensée Classique
(Mailing address:
21, rue du Champ de l'Alouette
75 013 Paris)
marine.picon@gmail.com

Notes

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² R. M. Adams, *Leibniz: Determinist, idealist, Theist*, New Haven: Yale University Press, 1994, 10-13; F. Piro, *Spontaneità e ragion sufficiente: determinismo e filosofia dell'azione in Leibniz*, Rome: Edizioni di Storia e Letteratura, 2002, 4-6; M. Laerke, “*Quod non omnia possibile ad existentiam perveniant: Leibniz’s Ontology of Possibility, 1668–1678*,” *Leibniz Review* 17 (2007), 1-30. See also P. Rateau, *La*

Question du mal chez Leibniz. Fondements et élaboration de la Théodicée, Paris: Champion, 2008, 186-187.

³ C. Mercer, *Leibniz's Metaphysics: its Origins and Development*, Cambridge: Cambridge University Press, 2001, 176.

⁴ M. Mugnai, "Nominalism and the Reality of Ideas in the Mind of God" and F. Mondadori, "Modalities, representations and exemplars: the 'Region of Ideas'," both in A. Heinekamp *et al.* (eds.), *Mathesis rationis. Festschrift für Heinrich Schepers*, Münster: Nodus, 1990, 153-167 and 169-188 respectively. See also F. Mondadori, "Quid sit essentia creaturae priusquam a Deo producatur": Leibniz's View," in A. Lamarra and R. Palaia (eds.), *Unità e molteplicità nel nel pensiero filosofico e scientifico di Leibniz*, Florence: Olschki, 2000, 185-224.

⁵ "This question brings us at last to the ultimate foundation of truth, namely to that Supreme and Universal Mind who cannot fail to exist and whose understanding is indeed the domain of eternal truths. St. Augustine knew this and expresses it pretty forcefully" (A VI, 6, 447).

⁶ B. Mates, *The Philosophy of Leibniz. Metaphysics and Language*, Oxford: Oxford University Press, 1986, 49, 78, 176-178; N. Jolley, *The Light of the Soul: Theories of Ideas in Leibniz, Malebranche and Descartes*, Oxford: Clarendon Press, 1990, 135-138.

⁷ A valuable presentation of this development is given by O. Boulnois, J. Schmutz and J.-L. Solère in their introduction to *Le contemplateur et les idées : modèles de la science divine du néoplatonisme au XVIII^e siècle*, Paris: Vrin, 2002.

⁸ The nominalist Jesuit Pedro Hurtado de Mendoza (1578–1641) is quoted as an authority by the Lutheran master Daniel Stahl and by Leibniz's teachers Johann Adam Scherzer (1628-1683) and Jakob Thomasius (1622-1684). His student Rodrigo de Arriaga (1592-1667) won a great reputation as a master at the university of Prague. Equally popular was the Augustinian friar Fulgentius Schauthet (1623-1708), who taught nominalist doctrines at Bruges and Leuven. A more realist persuasion, on the other hand, was represented by Eustache de Saint Paul, whose *Summa philosophiae quadripartita* (Paris, 1609) was summarized by Scherzer under the title *Breviarium Eustachianum, cursum philosophiae in compendio exhibens* (Leipzig, 1663).

⁹ See Ockham's *Ordinatio*, Bk. I, dist. 35, quest. 5, in *Opera theologica*, edited by G. Gál *et al.*, St. Bonaventure: Editiones Instituti Franciscani Universitatis S. Bonaventurae, vol. IV, 502.

¹⁰ Ockham's authoritative passage on this point is in his *Ordinatio*, Bk. I, dist. 43,

quest. 2: “Nor is it a proper way of speaking to say that *esse possibile* pertains to a creature, but one should say, more properly, that a creature is possible, not because of anything that pertains to it, but because it can exist in reality” (OT IV, 650).

¹¹“(…) from that possibility [i. e. *logical* possibility] objective possibility follows, and this on the supposition of God’s omnipotence, which contemplates every possible thing (...): that logical possibility, however, could subsist (*stare*) in and of itself, in virtue of its own nature, even if, *per impossibile*, no omnipotence were to contemplate it” (*Ordinatio*, Bk. I, dist. 36, *quaestio unica*, n. 61, quoted in English translation and analysed by F. Mondadori, “Modalities, representations and exemplars,” 175). See also S. Knuuttila, “Duns Scotus and the Foundations of Logical Modalities,” in L. Honnefelder, R. Wood, and M. Dreyer (eds.), *John Duns Scotus: Metaphysics and Ethics*, Leiden: Brill, 1996, 127-143.

¹² See M. Hoenen, “*Via antiqua* and *via moderna* in the fifteenth century : doctrinal, institutional, and church political factors in the *Wegestreit* in R. L. Friedman, L. O. Nielsen (eds.), *The Medieval Heritage in Early Modern Metaphysics and Modal Theory, 1400-1700* (The New Syntheses Historical Library 53), Dordrecht: Springer, 2003, 9-36.

¹³ On the nominalist Augustinian renaissance as a source of the Reformation, see Heiko A. Oberman, *The Harvest of Medieval Theology: Gabriel Biel and Late Medieval Nominalism*, Cambridge (Mass.): Harvard University Press, 1963.

¹⁴ See B. Keckermann’s *Systema Logicum majus*: “A great immaturity has led some to contend that universals are nothing but mere words, mere names, and for that reason they were called *Nominalists* (...). There truly are some universal things in reality, which have a real *ουσιαν* (...), even if they do not subsist separately [etiamsi *ὑπαρξις*, seu subsistentiam per se primo ac separatim non habeant] as Plato fancied ideas to; but they subsist in singular things and through them, as Aristotle taught it when dealing with universal substances” (*Systema systematum*, Hanover, 1613, vol. I, 86 b-87 a).

¹⁵ On the origin of that reproach in the teaching of Martin Luther, see Thesis 8 of the 1518 “Heidelberg dispute”: “Aristotle poorly grasps and ridicules a philosophy better than his own – that of Platonic ideas” (Weimarer Ausgabe I, 355) quoted by L. W. Spitz, *The Religious Renaissance of the German Humanists*, Cambridge (Mass.): Harvard University Press, 1963, 238. A careful analysis of that text and of Thesis 9, developing Luther’s defence of Plato, is provided by Th. Dieter, *Der junge Luther und Aristoteles: eine historisch-systematische Untersuchung*, Berlin-New-York: Walter de Gruyter, 2001, 608-627.

¹⁶ *Metaphysicae divinae pars generalis*, in *Scripta Philosophica*, Lübeck, 1651, 262.

¹⁷ *ib.* chapter 3: “Cognata entis synonymica”, 218.

¹⁸ See G. Santinello, “Jakob Thomasius (1622–1684): *Schediasma historicum*”, in F. Bottin *et al.*, *Storia delle storie generali della filosofia*, I. *Dalle origini rinascimentali alla “historia philosophica”*, Brescia: Edizione La Scuola, 1981, 438-467 (English translation in *Models of the History of Philosophy: From Its Origins in the Renaissance to the “Historia Philosophica”*, Dordrecht: Kluwer, 1993, 409-442); see also R. Bodéüs’s introduction and notes to his edition of Leibniz’s and Thomasius’s *Correspondance, 1663-1672*, Paris: Vrin, 1993.

¹⁹ Mercer, *Leibniz’s Metaphysics*, 176.

²⁰ This is the thirteenth of the *Orationes, partim ex umbone templi academici, partim ex auditorii philosophici cathedra recitatae, argumenti varii*, Leipzig, 1683, 275-300. As indicated on its title page, the first public reading of this text took place in April 1659.

²¹ *Oratio XIII*, 296. Plato actually is only one among the many Greek philosophers censured by Gregory in this passage (see F. W. Norris *et al.* (eds.), *Faith Gives Fullness to Reasoning: The Five Theological Orations of Gregory Nazianzen*, Leiden: Brill, 1991, 223).

²² *Ib.* Cf. Tertullian: “Doleo bona fide Platonem omnium haeticorum condimentarium factum” (*De Anima*, chap. 23).

²³ J. Thomasius, “The Origin of the controversy on the principle of individuation,” (A VI, 1, 5-7). On this polemical genealogy of the Thomist doctrine of individuation according to Thomasius, see Stefano Di Bella, *The Science of the Individual: Leibniz’s Ontology of Individual Substance*, Dordrecht: Springer, 2005, 28.

²⁴ On this last point, see Bodéüs, *Correspondance*, 20, especially fn. 4.

²⁵ Mercer, *Leibniz’s Metaphysics*, 244.

²⁶ Marginalia to D. Stahl’s *Compendium Metaphysicae*, A VI, 1, 23.

²⁷ *Ibid.*, A VI, 1, 40.

²⁸ *Nova Methodus Discendae Docendaeque Jurisprudentiae*, A VI, 1, 285.

²⁹ Bartholomeus Keckermann, who taught theology at Heidelberg and then at Dantzig from 1601 to his death in 1609 and was a major inspirator of the Calvinist metaphysical tradition, presented himself as a follower of Juan Baptista Monllor (Monlorius), one of the prominent Scotists of the sixteenth century (*Systema systematum*, Hanover, 1613, vol. I, 86 b-87 a). For a general overview of the diverging metaphysical traditions in early modern Germany, see F. Trevisani, “Johannes Clauberg e l’Aristotele riformato” in G. Canziani and Y.-Ch. Zarka (eds.),

L'Interpretazione nei secoli XVI e XVII, Milan: Franco Angeli, 1993, 103-126, especially 116-118. On the institutional and intellectual context, see H. Hotson's invaluable book *Johann Heinrich Alsted 1588-1638: Between Renaissance, Reformation and Universal Reform*, Oxford: Oxford University Press, 2000.

³⁰ See J. Doyle, "Suarez on the Analogy of Being," *The Modern Schoolman*, vol. 46, 1968-69, 219-249 and 323-341, especially 337-339.

³¹ See Leibniz's well-known letter to Wedderkopf from 1671 (A II, 1, 186-187 / L 146-147).

³² An illuminating presentation of this distinction is given by Adams, *Leibniz. Determinist, Theist, Idealist*, 12-13.

³³ It is interesting to note that, whilst reading Leibniz's statements on the nature of possibility in the *Confessio Philosophi* (1672) from a different historiographic point of view (i. e. without reference to Ockham), Mogens Laerke comes to the same conclusion, namely that Leibniz's philosophy at the time left "no room for the distinction between actual existence in the world and possible being in God's mind" ("Leibniz's Ontology of Possibility" 6).

³⁴ *Dilucidationes Stahlinae*, Leipzig, 1676, 58.

³⁵ *Leibniz's Metaphysics*, 246.

³⁶ Paragraph 32 of the 1667 *Nova Methodus* defines *scientia* – as opposed to empirical forms of knowledge like *historia* and *observatio* – as consisting of "universal and necessary [propositions], demonstrable from the terms themselves" (A VI, 1, 284 / L 88). On the background of this definition in the history of early modern philosophy, see T. Sorell's introduction to T. Sorell, G. A. J. Rogers, J. Kraye (eds.), *Scientia in Early Modern Philosophy: Seventeenth-Century Thinkers on Demonstrative Knowledge from First Principles*, Dordrecht: Springer, 2009.

³⁷ The translation of *locus* is an awkward matter. I am following the choice made, among others, by L. Jardine in her chapter on "Humanistic Logic" in the *Cambridge History of Renaissance Philosophy* (Cambridge University Press, 1988), and by P. Mack in *Renaissance Argument: Valla and Agricola in the Traditions of Rhetoric and Dialectic*, Leiden: Brill, 1993. N. Lauta offers "place" and "seat of arguments" as alternative translations (*Cambridge Companion to Renaissance Philosophy*, Cambridge University Press, 2007, 206). As to what such a "topic" is, please see below.

³⁸ On the theory of topics, see P. Mack, *Renaissance Argument*, 130-167.

³⁹ An illuminating presentation of these technical points is provided by J. L. Longeway, "Medieval Theories of Demonstration," in *The Stanford*

Encyclopedia of Philosophy (Spring 2009 Edition), E. N. Zalta (ed.)

⁴⁰ Those are only, at this stage, hypotheses for further research: I believe that we should, for instance, look into what André Alciat (1492-1550), well-known to the young Leibniz, makes of the Roman *De Verborum Significatione*. Closer to Leibniz, Johannes Clauberg's *Logica Vetus et Nova* (Amsterdam, 1654) dedicates its second part to the emerging discipline of hermeneutics and should be taken into account.

⁴¹ "There is certainly nothing which cannot be explicated in popular terms, at least by using many of them" (AVI, 2, 413 / L 124 modified).

⁴² On the decisive *De Mente, de Universo, de Deo* from December 1675, see M. Mugnai, *Astrazione e realtà. Saggio su Leibniz*, Milan: Feltrinelli, 1976, 33-34; M. Dascal, "Signs and Thought in Leibniz's *Paris Notes*" in *Leibniz. Language, Signs and Thought*, Amsterdam: John Benjamins, 1987, 47-60; M. Picon, "On the Constitution of Leibniz's formalism" in M. Kulstad, M. Laerke, D. Snyder (ed.), *The Philosophy of the Young Leibniz (Studia Leibnitiana Sonderheft 35)*, Stuttgart: Steiner, 2009.

⁴³ This relation of expression is exposed in the 1677 *Quid sit idea* (A VI 4, 1370-71).

⁴⁴ That the significations of words are the results of historical processes is a central thesis of Leibniz's epistemology. It is exposed in detail in the 1670 *Preface* to Nizolius (A VI, 2, 410-411). On that text and on later ones containing further developments on the same theme, see D. Rutherford, "Philosophy and language in Leibniz" in N. Jolley (ed.), *The Cambridge Companion to Leibniz*, Cambridge University Press, 1995, 224-269; F. Piro: "Are the 'Canals of Tropes' Navigable? Rhetoric Concepts in Leibniz's Philosophy of Language", in K. D. Dutz and S. Gensini (eds.), *Im Spiegel des Verstandes: Studien zu Leibniz*, Münster: Nodus Publikationen, 137-160; "Tra Valla e Scaligero: Leibniz, la linguistica rinascimentale e il problema del cambiamento semantico", in S. Gensini (ed.): *Linguaggio, mente, conoscenza. Intorno a Leibniz*, Roma 2005, 15-38.

⁴⁵ This note echoes a paraphrasis of Boethius's translation of Aristotle's *De Sophisticis Elenchis* (1, 165 a 6-8): "Since the things themselves cannot be brought to the discussion, we use names instead of things and consider that what is the case in names also is the case in things" (*Aristoteles latinus* VI, 6). Variations on that formula had been at the centre of controversies between nominalists and their adversaries since the fourteenth century at least (see W. J. Courtenay, *Ockham and Ockhamism. Studies in the Dissemination and Impact of his Thought*, Leiden: Brill, 2008, chapters 9, 11, 18).

⁴⁶ See *De Arte combinatoria*, *Usus* IX, § 53 (A VI, 1, 192).