

The First Age of Logic in Lithuania: An Interpretation of *Discursus* and *Syllogismus*

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This publication is a part of a larger *corpus* investigating the 16th century Lithuanian Logic. It analyses the explanation of the third operation of human intellect, that is, reasoning, or discourse (*ratioinatio sive discursus*). The author of the article focuses on the interpretation of a certain precognition as the necessary precondition of the discourse, as well as on the conception of syllogism as the most prominent species of the discourse. The article comes to the conclusion that the authors of the aforementioned logic traditionally affirmed that, in order to reach the conclusion in the discourse, it is necessary to know in advance the significates of the conclusion's terms, the fact of the existence of the conclusion's subject as well as the fact that the premises of the discourse are true statements. It was also traditionally asserted that the precognition required for the discourse has nothing in common with Plato's concept of anamnesis that was regarded as entirely fictional one. The article also concludes that scholastic tradition was as well followed within frames of the conception of syllogism.

Keywords: scholastic logic in Lithuania, 16th century, discourse, or ratiocination, Smiglecki, Ortiz, precognition, *anamnesis*, syllogism, *extrema syllogismi*, *medius terminus*

INTRODUCTION

This publication is a part of a larger *corpus* (Valatka 2004; 2009; 2020; 2021; 2022; 2024 a; 2024 b; 2025) that investigates the 16th century Lithuanian Logic. The last publication of *corpus* was dedicated to the phenomenon of necessary proposition. The first part of this particular article is dedicated to the third operation of human intellect, i.e. reasoning, or discourse (*ratioinatio sive discursus*). Meanwhile, the second part of the article deals with syllogism as the most excellent type of the above-mentioned operation.

The authors of the scholastic logic interpreted reasoning as derivative operation (*illatio sive derivatio*) that infers conclusion from premises. It is important to note that this operation of intellect has received the extensive analysis in scholastic logic. Particular attention has been paid to the demonstration as reasoning, which is made up of necessary, i.e. always true, propositions. This type of reasoning was considered the main instrument of scientific cognition (*scientia*).

The third operation of intellect was also analysed in the most important remaining sources of the Lithuanian logic of 16th century that is hitherto considered the first age of logic in Lithuania (Smiglecius 1987; Ortizius 1596; Haius 1574; Viana 1578). In the first two aforementioned sources, we can find an exhaustive interpretation of reasoning. As for the last two sources, they include only separate short theses, from which it is quite difficult to reconstruct the entire concept of the discourse. Therefore, in this article we shall confine to the sources of Smiglecki and Ortiz.

As it was typical of the entire scholasticism, the interpretations of discourse in the Lithuanian logic of the 16th century were comments on Aristotle's treatises *Prior Analytics* and *Posterior Analytics*. In the frames of *Prior Analytics*, the reasoning as such was investigated, whereas the comments of *Posterior Analytics* concentrated on the necessary discourse, i.e. demonstration.

The Aristotelian-scholastic system of logic was lately investigated in different aspects by Polsky (2021), Hanke (2020 a; 2020 b), Batalla and Vergari (2019), Redmond (2019), Plėšnys (2017), Symchych (2016), Kačerauskas (2011), Salas (2008), Di Liso (2005), etc. As for the conception of the reasoning involved in the 16th century Lithuanian logic, it was more or less analysed by Darowski (1994), Plečkaitis (1975; 2004) and Valatka (2004). The article of the latter, published in Lithuanian, deals with particular aspects of the above-mentioned conception. Nevertheless, there is still no publication presenting this conception in detail to the international scientific community. This article is an attempt at such a presentation, based on the application of doxographical and analytical methods. The main thesis of the article is that representatives of the first age of logic in Lithuania used to explain the operation of reasoning within the frames of scholastic tradition.

DISCOURSE AND PRECOGNITION AS ITS PRECONDITION

Vilnius scholiasts traditionally started analysis of reasoning by consideration of its nature. Based on the Aristotelian-scholastic tradition, it was affirmed that reasoning is a derivation of a proposition from the other propositions called premises. According to Ortiz, 'every discourse must include three items: a) that from which something else derives and which is called the antecedent, b) that which is derived from the another and is called the consequent, c) the derivation itself (*illatio*) as a certain judgment (*judicium*) of intellect, by which the intellect decides the consequent to derive from the antecedent' (Ortizius 1596: folium (further fol.) 169).

In the discourse analysis, much attention was given to the question whether discursive cognition derives from certain precognition (*praecognitio sive cognitio antecedens*). Based on the position of the Stagirite himself, authors of scholastic logic in Lithuania in the 16th century gave the affirmative answer to the above-mentioned question. Such an answer was dictated by the very definition of reasoning that presented discourse as drawing a conclusion from premises. So, it was obvious that a certain precognition of premises was necessary for cognition of the conclusion.

However, the fact that discursive cognition is impossible without corresponding precognition does not mean that the latter is identical to discursive cognition itself in its content. In other words, no discursive knowledge is a reminiscence (*reminiscentia*) of knowledge that was once possessed. On the contrary, each discursive knowledge is nothing but a discovery of new, as yet unknown things, based on the things that are already known and common. Thus, Vilnius scholiasts traditionally rejected the Platonic concept of anamnesis asserting every human cognition to be the recollection of *a priori* concepts acquired in the world of ideas.

The theory of *anamnesis* itself has been criticised on the basis of the Aristotelian-Scotist principle. According to it, any cognition accessible to a human being is based not on non-existent intellectual *a priori* ideas, but on the sense perception of things, because nothing is in the intellect that was not first in the senses (*nihil est in intellectu quod non sit prius in sensu*). According to Ortiz (1596: fol. 172), 'in order to achieve some kind of knowledge, we need the senses (*sensus*)'. Meanwhile, the recollection of a once-known object can do without any sense perception of that object: 'in order to remember something, it is not necessary to possess the sense whose object is the above-mentioned thing' (Ortizius: fol. 172). For example, a person who has once and for all acquired knowledge of a certain colour, can remember that colour by actualising its concept preserved in his memory, even if he gets blind. So, if human cognition were identical to the reanimation of innate ideas of intellect, this cognition would not require sense perception as a necessary condition. We could remember the innate idea of an object even without any sensory experience of that object. However, in reality, no human cognition is possible without the senses. Therefore, before sense perception, the human intellect is just a *tabula rasa*, that is, it does not possess any *a priori* ideas which it could forget or remember. Thus, the theory of human cognition as the reminiscence of these ideas is a fiction of Plato and his followers, as every human cognition begins with the sensory experience of something unknown to the intellect at the moment of cognition.

Therefore, discursive cognition is not the recollection of knowledge once possessed, but the discovery of something unknown and unexperienced. On the other hand, this knowledge of new and unknown things derives from already known and familiar things. So, the precognition of what kind of things should be considered a necessary condition for discursive knowledge?

It is important to note that scholastic logic ascribed the status of discursive cognition to the very conclusion of the discourse, in which a certain predicate is attributed to a certain subject. Therefore, it is obvious that discursive knowledge requires a certain precognition of the above-mentioned subject and predicate and as well as of premises which lead to the conclusion. However, the question arises as to what specific precognition of these items is required in order to arrive at a conclusion in the discourse.

Based on the classical scholastic position, Vilnius logicians affirmed that it is necessary to know in advance, what concrete natures, or entities, the conclusion's subject and predicate denote. For, if we are not clearly aware of the significates of the terms of that conclusion, we shall not be able to connect these terms to each other in any way. In this case, no conclusion will derive from the premises of the discourse.

As for the premises, it is necessary to know in advance that they are true, as premises are the reason because of which a conclusion is drawn in the discourse. As Smiglecki explains, 'the premises should be precognized before the conclusion, because the truth of the conclusion depends on and derives from the truth of the premises as well as their mutual connection' (Smigleckius 1987: 113). Therefore, if we did not know in advance that the premises of the discourse are true, the corresponding conclusion could not necessarily follow in the discourse. On the other hand, in order to know that the premises of the discourse are true, we must clearly understand what they mean, that is, what state of affairs they signify. Thus, in order to achieve discursive knowledge, it is necessary to know in advance both what the discourse's premises denote and the fact that these premises are true.

However, these are not all the types of precognition necessary for discursive knowledge. Following the scholastic tradition, the authors of logic in Lithuania in the 16th century stated

that in order to infer the conclusion in a discourse, it is necessary to know in advance that the conclusion's subject actually exists. For, a non-existent subject is a kind of non-being, or nothingness, to which no really existing predicate can be attributed. However, the Vilnius scholiasts encountered a certain difficulty concerning demonstrative reasoning, the conclusion of which is a necessary, or always true, proposition. In this conclusion, a necessary predicate is attributed to the subject. Such a predicate is a property that can never be separated from the subject, since it is characteristic of the subject regardless of whether that subject ever actually exists or not. Therefore, it would seem that in order for the necessary predicate to be attributed to the subject in the conclusion of the discourse, it is not necessary to know in advance that the subject actually exists.

Still, based on the authority of the Master himself, Vilnius scholiasts rejected such a possibility. According to them, even in order to draw a necessary, or always true, conclusion, it is necessary to know in advance that its subject actually exists in the world. True, a necessary predicate is characteristic of its own subject regardless of whether the latter ever actually exists or not. Yet, a necessary property is peculiar to its subject only insofar as this subject actually exists.

In other words, for a property to be a necessary predicate of some subject, it is not necessary that the above-mentioned subject ever exist. Still, it is definitely necessary that whenever this subject exists, its predicate also exists. So, as Smiglecki asserts, 'any property can be attributed to a thing only inasmuch as that thing exists; consequently, any property can be understood to be present in some other entity only if this property is conceived to be present in a really existing entity' (Smiglecius 1987: 108).

Therefore, even in order to infer a necessary conclusion, we need to possess the precognition of its subject's existence. On the other hand, it should not be a precognition that the conclusion's subject really exists while a certain necessary predicate is being attributed to it, or that this subject ever exists in the world. Actually, it absolutely suffices to know in advance that the subject can exist, i.e. that its existence does not contradict the divine plan of the creation of the world. Then we just need to suppose that this subject exists. According to Smiglecki, 'the fact that we must suppose the subject to exist is nothing else than that we must utilize the subject in the demonstrative discourse as if it actually existed in a certain individual entity' (Smiglecius 1987: 112). Finally, having supposed that the subject exists as well as having investigated its nature, we attribute to it the corresponding necessary predicate.

Here we face another important question. Namely, is it necessary to know in advance that the predicate of the discourse's conclusion also actually exists, in order to draw this conclusion? Based on the scholastic tradition, Vilnius logicians gave a negative answer to this question. According to them, the existence of the predicate of the conclusion is deduced in the discursive cognition itself, as the conclusion of any discourse asserts the existence of a certain predicate in a certain subject (Ortizius 1596: fol. 174).

ANALYSIS OF SYLLOGISM

Following the scholastic tradition, Vilnius logicians distinguished four types of discourse: syllogism, induction, example and enthymeme. The latter was traditionally defined as a contracted discourse in which the conclusion or one of the premises is omitted. Out of the above-mentioned types, it was the syllogism alone that was basically analysed by Vilnius scholiasts, as it was considered the most prominent type of discourse, to which all the other types are reduced.

The syllogism itself was interpreted based on the Aristotle's definition. It was asserted that syllogism is a discourse in which a conclusion is drawn from two premises due to a certain disposition of syllogism's terms, that is, due to the connection of the extreme terms (*extrema syllogismi*) with the middle term (*medius terminus*) in the premises.^{*} To be more precise, within the premises of syllogism, the middle term is connected to the extreme terms, and it is exactly because of this connection that the extreme terms are immediately related to each other in the conclusion. For example, within the syllogism 'All animals are substances. All human beings are animals. Therefore, all human beings are substances', the substance is predicated of a human being precisely due to the middle term 'animal'. For, in the premises of this syllogism, animal nature, being the subject of substantiality, possesses at the same time the status of the predicate of human nature. In other words, within the premises, the middle term 'animal' is connected to the extreme terms 'human being' and 'substance'. Therefore, the both extreme terms acquire an immediate mutual connection within the conclusion.

After presenting the definition of syllogism, Vilnius scholiasts distinguished three classical figures of syllogism, differing from each other in the position of the middle term within premises. It was traditionally asserted that 'in the first figure, middle term is the subject of the major term as well as the predicate of the minor term' (Smiglecus 1987: 87). The above-mentioned syllogism could serve as a representative example of this figure. Meanwhile, within the premises of the second figure, the middle term is predicated of the both extreme terms (Smiglecus 1987: 88). We can find such a figure in the syllogism 'All human beings are animals. No stone is an animal. Therefore, no stone is a human being'. Finally, in the third figure, the both extreme terms are predicated of the middle one (Smiglecus: 88). We find such a connection of terms within the syllogism, 'All men are rational beings. All men are animals. Therefore, some animals are rational beings.'

After having analysed the above-mentioned figures of syllogism, the question was raised concerning the so-called Galenic figure (*figura Galenica*), in the premises of which the minor term is attributed to the middle one, and the latter is predicated of the major one. Namely, it was asked whether that figure could be regarded as the fourth figure of syllogism. Based on the scholastic tradition, Vilnius logicians came to the conclusion that the figure in question cannot be in any way considered a separate, independent figure, that is, a genuine figure of syllogism. According to them, it is nothing but a pseudo-figure that should be reduced to the first figure of syllogism, as the conclusion of this pseudo-figure is a conversion of the first figure's conclusion. The representative example of such a supposedly independent figure could be the syllogism 'All human beings are animals. All animals are substances. Therefore, some substances are human beings' (Smiglecus 1987: 88). In fact, it is just a slightly rearranged syllogism of the first figure, in which the direct conclusion of the first figure, namely proposition 'All human beings are substances' is converted into the proposition 'Some substances are human beings'. So, as Smiglecki asserts, 'the Galenic figure acquires the power of making conclusion (*vim concludendi*) from the first figure, since it is within the first figure that its natural conclusion [that is, natural conclusion of the first figure] is correctly inferred, whereas nothing but the conversion of that conclusion derives in the Galenic figure' (Smiglecus 1987: 90).

* Extreme terms are the following: a) the predicate of the conclusion called the major term (*maius extremum*); b) the subject of the conclusion called the minor term (*minus extremum*). In turn, premises containing these terms are called major and minor premises. The middle term repeats in the both premises.

CONCLUSIONS

Based on the Aristotelian-scholastic tradition, the authors of logic in Lithuania in the 16th century defined the third operation of human intellect as inferring a conclusion from one or more premises. They have traditionally derived discursive cognition from a certain precognition. It was maintained that in order to reach the conclusion in the discourse, it is necessary to know three items in advance: a) the significates of the conclusion's terms; b) the fact of the existence of the conclusion's subject; c) the fact that the premises of the discourse are true statements. It was also traditionally asserted that the precognition required for the discourse has nothing in common with Plato's concept of anamnesis that was regarded as entirely fictional one.

Within the interpretation of the syllogism, Vilnius scholiasts also did not deviate from the scholastic tradition. Namely, they regarded syllogism as the most perfect reasoning, to which the other types of discourse (i.e. induction, example and enthymeme) are reduced. They also traditionally distinguished three classical figures of the syllogism. Meanwhile, the so-called fourth, or Galenic, figure was considered a certain transformation of the first figure.

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Pirmasis logikos amžius Lietuvoje: diskurso ir silogizmo interpretacija

Santrauka

Šis straipsnis tęsia publikacijų seriją, skirtą scholastinei logikai Lietuvoje XVI a., t. y. pirmajame logikos amžiuje Lietuvoje. Jame analizuojama žmogaus intelekto trečiojo veiksmo, t. y. samprotavimo arba diskurso (*ratioinatio sive discursus*), interpretacija šioje logikoje. Straipsnio autorius susitelkia į išankstinio pažinimo, kaip būtinos diskurso prielaidos, aiškinimą, taip pat silogizmo, kaip tobuliausios diskurso rūšies, apmąstymą. Straipsnyje daroma išvada, kad minėtų logikos autorių, veikusių scholastinės tradicijos kontekste, požiūriu, siekiant diskurse gauti išvadą, būtina iš anksto žinoti išvados terminų signifikatus, išvados subjekto egzistavimo faktą, taip pat tai, kad diskurso prielaidos yra teisingi teiginiai. Tradiciškai pabrėžiama, kad diskursui reikalingas išankstinis pažinimas neturi nieko bendra su Platono anamnezės samprata, kuri buvo laikoma visišku prasimanymu. Galiausiai konstatuojama, kad silogizmo sampratos kontekste taip pat buvo nenukrypta nuo scholastinės tradicijos principų.

Reikšminiai žodžiai: scholastinė logika Lietuvoje, XVI amžius, diskursas, arba samprotavimas, Smigleckis, Ortizas, išankstinis pažinimas, *anamnesis*, silogizmas, *extrema syllogismi*, *medius terminus*