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The First Age of Logic in Lithuania: *Propositio* as Such and the Necessary Propositions

VYTIS VALATKA
Department of Philosophy and Cultural Studies, Faculty of Creative Industries, Vilnius Gediminas Technical University,
1 Trakų Street, 01132 Vilnius, Lithuania
Email: vytis.valatka@vilniustech.lt

This article continues the series of publications dedicated to the scholastic logic in Lithuania in the 16th century, i.e. the first century of logic in Lithuania. The author of the article focuses on the explanation of the second operation of human intellect, that is, proposition or judgement (*propositio sive judicium*). The article comes to the conclusion that Lithuanian scholiasts adhered to the traditional Aristotelian-scholastic definition of a proposition. Namely, the proposition was defined as a true or false sentence. In the same traditional way, opposition, equivalence (*aequipollentia*) and conversion were considered the main properties (*propria*) of the intellect's second operation. One more conclusion is that Lithuanian logicians of the16th century traditionally regarded necessary, or always true, propositions as the main elements of scientific knowledge (*scientia*). Nevertheless, while analysing terms of the necessary proposition, they presented an approach certainly close to modern logic. More concretely, both the subject and the predicate of the necessary proposition were considered not to require their actual existence in the real world.

Keywords: scholastic logic in Lithuania, 16th century, second operation of human intellect, or proposition, Smiglecki, Ortiz, necessary proposition, subject, predicate

INTRODUCTION

This article continues the series of publications (Valatka 2004; 2009; 2020; 2021; 2022; 2024 a; 2024 b) dedicated to the scholastic logic in Lithuania in the 16th century, that is, the first century of logic in Lithuania. The last article of the series analysed a noun (*nomen*) and a verb (*verbum*) as the fundamental elements of a proposition. Meanwhile, this particular article is dedicated to the second operation of intellect as such, as well as to the necessary, or always true, propositions as the perfect species of judgments.

Within frames of this article, the above-mentioned topics are investigated based on the main extant sources of the scholastic Login in Lithuania in the 16th century. Those sources comprise Marcin Smiglecki's (*Martinus Smiglecius*) course in logic taught at Vilnius University in 1586–1587 (Smiglecius 1586–1587), as well as Diego Ortiz's (Iacob Ortizius) course

in logic delivered at the same university in 1596 (Ortizius 1596). All the above-mentioned courses included the comprehensive interpretation of the intellect's second operation.

The Aristotelian–scholastic logical paradigm was recently analysed from various perspectives by Batalla and Vergari (2019), Di Liso (2005), Hanke (2020 a, 2020 b), Kačerauskas (2011), Plėšnys (2017), Polsky (2021), Redmond (2019), Salas (2008), Symchych (2016), etc. As a matter of that, the conception of proposition, or judgement, in the scholastic logic in Lithuania in the 16th century has been little investigated so far. Among Polish historians of philosophy and logic, it was Darowski who analysed certain aspects of the proposition's conception in the aforementioned logic (Darowski 1994). Still, Darowski focused on the entire Jesuit philosophy in the Polish–Lithuanian Commonwealth in the 16th century, rather than on any particular discipline or conception of it. As for Lithuanian historians of philosophy, the interpretation of the proposition in the scholastic logic in Lithuania was first investigated by Plečkaitis (1975; 2004). Yet, that researcher concentrated on the entire legacy of scholastic philosophy in Lithuania, without paying exclusive attention to any specific period, discipline or conception of that philosophy. Starting from the beginning of the 21st century, Lithuanian researches were supplemented by investigations of Valatka. That author's articles (Valatka 2004, 2024) analysed the certain aspects of the proposition's conception found in the scholastic Logic in Lithuania in the 16th century. However, until now there has been no publication that would present in detail the conception of the proposition as such as well as of the necessary, or always true, propositions to the international scientific community. This article is an attempt at such a presentation, based on the application of doxographical and analytical methods.

INTERPRETATION OF THE PROPOSITION AS THE SECOND OPERATION OF HUMAN INTELLECT

The authors of scholastic logic in Lithuania in the 16th century traditionally interpreted proposition as an association of a certain predicate with a corresponding subject. The noun, or name (*nomen*), and the verb, or word (*verbum*) were considered the essential elements of this operation of intellect. The noun was assigned the subject's status whereas the verb acquired the status of the predicate.

Based on the scholastic tradition, Vilnius logicians provided several complementary definitions of the second operation of human intellect. Firstly, it was maintained that a proposition is a 'sentence (*oratio*) which asserts that something is or is not in something else' (Ortizius 1586: folium (further – fol.) 165). In other words, a proposition is attribution or non-attribution of some predicate to some subject. Along with this definition, the definition proposed by Aristotle himself was presented: 'Aristotle defines a proposition as a sentence that denotes true or false matters' (Smiglecius 1987: 60; Ortizius 1586: fol. 165). Thus, a proposition was explained as a sentence that denotes a true or false connection between two entities, or, in other words, a connection between the subject and the predicate that corresponds to or contradicts reality. For example, the statement 'Peter is sitting' signifies a specific position of Peter. Such a position is true when Peter is really sitting. Still, it contradicts reality when he is running, standing, falling, etc.

Thus, the definitions of a proposition found in the lectures of Smiglecki and Ortiz basically correspond to the definition provided by modern symbolic logic, which asserts a proposition to be a true or false sentence. Yet, the above-mentioned scholiasts interpreted those values (i.e. truth and falsity) of a proposition without deviating from the scholastic tradition. Actually, they distinguished two types of truth: a) transcendental truth (*veritas transcendentalis*); b) logical, or intellectual, truth (*veritas logica sive in intellectu*).

Transcendental truth was interpreted as one of six transcendentals, that is, the most general predicates characteristic of any being.[1] This type of truth was regarded as the correspondence of a certain being to the divine plan of the world's creation. Meanwhile, logical truth was defined as the correspondence of the intellect to the object being cognised by intellect. According to Smiglecki, 'intellectual truth consists of nothing but the correspondence of intellect to a thing, when intellect cognizes the thing exactly as that thing is, or [intellect cognizes the thing] according to what really exists in the thing as its essential or accidental predicates' (Smiglecius 1987: 61).

This logical truth is precisely the truth that Vilnius scholiasts attributed to the proposition. In fact, they claimed that the truth of the proposition is the correspondence of this second operation of human intellect to reality. Moreover, logical truth was considered an essential feature of a proposition, which distinguishes proposition from the other species of its genus, that is, a sentence. For, only a proposition designates a real or fictitious order of things, and it is because of this designation that it is a true or false sentence. For example, the proposition 'Every human being is a rational being' corresponds to reality, whereas the statement 'A human being can be as perfect as his Creator' is a false statement. As for the other types of sentences, they do not indicate any relation of entities that either corresponds to reality or contradicts it. These sentences only ask about the order between things (for example, 'Is God merciful?') or call for some action (for example, 'Open the door!').

However, why does a proposition alone possess the quality of being true or false? In other words, why does a mere proposition designate a real or fictitious relation between entities? It is evident that only that cognition by which something is affirmed or denied about a certain entity denotes a connection of things corresponding to or contrary to reality. Meanwhile, without affirming or denying anything about a certain thing, we do not indicate any relation of this thing to any predicate, and therefore we can neither be wrong nor right concerning that thing. Therefore, it is obvious that only a proposition, that either affirms or denies a certain predicate about some being, can denote things that are true or false.

As for the other kinds of sentence, they do not associate any entity with any predicate, and therefore do not possess the quality of truth or falsity. For example, the imperative sentence 'Open the door!' does not affirm or deny anything about the door or about its opening. Similarly, the first operation of intellect (*apprehensio*, or forming a concept of a certain being) is nothing but the simple conception of a being, neither affirming nor denying anything about that being. Therefore, this intellectual operation as well cannot be considered either right or wrong.

PROPERTIES AND CONVERSION OF PROPOSITION

After discussing the essential features of a proposition, the authors of scholastic logic in Lithuania in the 16th century analysed the main types of this operation of intellect as well as its properties (*propria propositionis*). Propositions were traditionally divided into simple and compound, affirmative and negative, particular and universal ones. In the same traditional way, the opposition and equivalence (*aequipollentia*) of a proposition to some other proposition as well as conversion were enumerated as the main features of the intellect's second operation.

As for the property of opposition, it was said to be of four types. These types were distinguished as well as interpreted within the frames of a logical square of opposition. It has been

[1] Those predicates include being itself (ens), thing (res), unity (unum), otherness (aliquid), truth (verum) and goodness (bonum).

asserted that the strongest opposition exists between the propositions of opposite quantity and quality. This opposition was traditionally called contradiction. In turn, statements of opposite quality alone possess the relation of contrariety (in case where the both of them are universal) or subcontrariety (in case where the both of them are particular). Finally, there is a relation of subordination (*subalternatio*) between propositions of the opposite quantity. True, 'subordinated propositions are not the opposites in the true sense of the word, since one of these propositions includes the second one, namely the universal subordinated proposition includes the particular subordinated proposition' (Smiglecius 1987: 61). For example, the particular subordinated statement 'Some people are rational beings' is included in the universal subordinated proposition 'All people are rational beings'.

While analysing the above-mentioned types of opposition between statements, Vilnius scholiasts presented the traditional rules of the logical square: contrary propositions cannot both be true; subcontrary propositions cannot both be false; contradictory statements always possess the opposite truth values; subordinated propositions can both be true or false etc. (Smiglecius: 67–68; Ortizius: fol. 166). The equivalence of propositions was also interpreted, based on the rules of logical square. Namely, it was asserted that the negation of one of the contradictory propositions is equivalent to the another. Similarly, the negation of connective[2] of one of the contrary or subcontrary statements is equivalent to another contrary or subcontrary statement. Finally, the negation both of one of the subordinated propositions and its connective is equivalent to another subordinated proposition (Smiglecius: 68; Ortizius: fol. 166).

While interpreting the conversion of proposition, Vilnius logicians also did not deviate from the classical scholastic approach. Conversion was defined as act of interchanging proposition's subject and predicate according to the certain rules. Namely, the subject and predicate of a particular affirmative proposition are interchanged while maintaining the same quantity and quality of the proposition. In other words, having performed the particular affirmative proposition's conversion, we get another particular affirmative proposition. For example, having converted the statement 'Some people are good beings', we get the statement 'Some good beings are people'.

Meanwhile, 'a universal affirmative proposition is converted into a particular affirmative proposition'. For example, the conversion of the statement 'All human beings are living beings' is nothing but the proposition 'Some living beings are human beings' (Smiglecius: 90). In turn, the universal negative proposition is converted into a proposition possessing identical quality and quantity. That is why the conversion of the statement 'No human being is a mineral' is nothing but the universal negative proposition 'No mineral is a human being'. Finally, 'conversion cannot be performed for a particular negative proposition, such as conclusion of [syllogism's mode] *Ferio*' (Smiglecius: 90).

Thus, within the scholastic logic in Lithuania in the 16th century, we can find all the rules of conversion as one of the types of direct reasoning. As for the other types, i.e. obversion and contraposition, they were not analysed in the aforementioned logic.

NECESSARY, OR ALWAYS TRUE, PROPOSITIONS

Within the analysis of the second operation of human intellect, Vilnius scholiasts paid special attention to necessary, or always true, propositions (*propositiones necessariae sive sempiternae veritatis*). Such attention was determined by the special status that the aforementioned statements

[2] In a proposition, such a connective is denoted by the word 'is' or 'is not'.

acquired in scholastic logic. Namely, necessary propositions were regarded as the only statements that constitute the content of evident, certain, necessary, complete and perfect, that is, scientific cognition (*scientia*). While investigating those propositions, a fundamental focus was placed on identifying their necessary conditions. The aim was to find out whether, in order for any proposition to be always true, it is necessary that its subject and predicate always or at least at some concrete time actually exist, or it completely suffices that if the subject existed, the predicate would also exist and could not be separated from the subject.

In this matter, Smiglecki held the position that the eternal truth of a proposition does not require eternal or, at least, real momentary existence of this proposition's subject and predicate. In order for a statement to be always true, it is sufficient that: a) the subject of this statement can actually exist, i.e. that its existence does not contradict the divine plan of the world's creation; b) when the subject exists, it possesses the necessary and inseparable connection with the predicate. For, only when the subject actually exists, any predicate can really be attributed to it. Therefore, if, for one reason or another, the proposition's subject can never exist (for example, if this subject is an obviously absurd entity, such as a round square, etc.), then any affirmation or negation concerning this subject will be a proposition that is not always true, but, vice versa, always false. According to Smiglecki himself, 'Always true proposition, in which the predicate is truly attributed to the subject, require the actual existence of terms, not in the sense that these terms must actually exist in the world at the time when always true proposition is made about them. For, such a proposition does not assert that its predicate actually exists in the subject in the present world, but only that the predicate exists in the subject according to the latter's nature. Always true proposition requires the actual existence of its terms in the sense that those terms must be conceived by the intellect according to their actual existence, which is peculiar to them whenever they exist. So inasmuch as these terms, while actually existing, possess a necessary connection with each other, just as much they, conceived by intellect due to their actual existence, possess this connection of one with the another' (Smiglecius: 126). In other words, in order for a statement to possess the value of eternal truth, it is only necessary for intellect to assume that the subject of this statement actually exists, and having assumed this, to come to the conclusion that whenever the subject exists, the predicate of that statement also exists and cannot be separated from the subject.

A similar interpretation of necessary propositions was given by Ortiz. He also affirmed that the eternal truth of a proposition does not require the permanent existence or, at least, the existence at any particular time, of that proposition's terms. Yet, we cannot completely identify this scholiast's position with that of Smiglecki. For, unlike Smiglecki, Ortiz claimed that the permanent and indestructible connection of terms is not necessary for an always true statement. According to Ortiz, a necessary proposition, however, does not assert that if its subject exists, its predicate also inevitably exists. Yet, any necessary proposition affirms that its subject, according to the natural order of things, and usually when it actually exists in the world, possesses the predicate of that proposition (Ortizius: fol. 187). Thus, in order for a proposition to be always true, it is sufficient for its subject to be inseparable from the predicate by its own essence, and usually when it actually exists. Therefore, even if God himself, due to his omnipotence, deviated from the natural order of things created by himself and removed the necessary predicate, which according to the above-mentioned order belongs to the aforementioned subject, even in such an extreme case, the proposition attributing that predicate to that subject would not lose the value of eternal truth. For, as it was already mentioned, a necessary proposition does not in any way indicate a permanent connection between its subject

and predicate, but simply the fact that the subject of this proposition, by its very essence, and usually when it actually exists in the world, is inseparable from the predicate. Therefore, the proposition 'All roses are fragrant beings' will be true even if God takes away the predicate of fragrance from a rose, since a rose, according to the natural order of things, and usually when it exists, is nothing but a fragrant being (Ortizius: fol. 187).

Thus, Ortiz interpreted the necessary conditions of necessary propositions in a way that differed a little bit from that of Smiglecki. Yet, it would be very difficult to envisage any principal difference between the positions of those authors. For, both Smiglecki and Ortiz basically asserted the same principle. Namely, both of them argued that two things are necessary in order for a statement to have the value of a universal truth. Firstly, the existence of the statement's subject should not contradict the divine plan of the world's creation. Secondly, this subject must by its very nature be connected to the predicate of that statement. It is important to note that this position of the authors of logic in Lithuania in the 16th century is close to the interpretation found in the modern logic. True, the latter does not investigate relations of always true propositions to the divine plan of the world's creation. Still, just like the position of Smiglecki and Ortiz, it asserts that for a proposition to be always true, it is not necessary that its terms always or at least at any particular time actually exist in the world. For, in fact, for the status of the always true proposition, it is sufficient that if the subject of the proposition actually exists in the world, its predicate must necessarily exist and cannot be separated from the subject.

CONCLUSIONS

Lithuanian scholiasts adhered to the traditional Aristotelian-scholastic definition of a proposition. Namely, the proposition was asserted to be a true or false sentence. In the same traditional way, the opposition and equivalence (*aequipollentia*) of a proposition to some other proposition as well as conversion were enumerated as the main properties (*propria*) of the intellect's second operation.

Lithuanian logicians of the16th century traditionally regarded necessary, or always true, propositions as the main elements of scientific knowledge (*scientia*). While analysing terms of the necessary proposition, they presented an approach close to modern logic. Namely, it was affirmed that neither the subject nor the predicate of this proposition has to actually exist in the world. Yet, it is required that if the subject actually exists in the world, its predicate must necessarily exist and cannot be separated from the subject.

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VYTIS VALATKA

Pirmasis logikos amžius Lietuvoje: teiginys kaip toks ir būtinieji teiginiai

Santrauka

Šiuo straipsniu tęsiama publikacijų serija, skirta scholastinei logikai Lietuvoje XVI a., t. y. pirmajame logikos amžiuje Lietuvoje. Straipsnio autorius susitelkia į žmogiškojo intelekto antrojo veiksmo, tai yra, teiginio arba sprendinio (*propositio sive judicium*), interpretaciją pirmiau minėtoje logikoje. Straipsnyje daroma išvada, kad Lietuvos scholastai laikėsi tradicinės aristotelinės-scholastinės teiginio definicijos. Būtent, teiginys čia buvo apibrėžiamas kaip teisingas arba klaidingas sakinys. Pagal tą pačią scholastinę tradiciją priešingumas (*oppositio*), lygiavertiškumas (*aequipollentia*) ir konversija (*conversio*) buvo laikoma pagrindinėmis intelekto antrojo veiksmo savybėmis (*propria*). Straipsnyje taip pat prieinama prie išvados, kad logikos Lietuvoje XVI a. kūrėjai pagrindiniais mokslinio pažinimo (*scientia*) elementais tradiciškai laikė būtinus, arba visada teisingus, teiginius (*propositiones necessariae sive sempiternae veritatis*). Kita vertus, analizuodami būtino teiginio terminus, jie pateikė požiūrį, artimą šiuolaikinei logikai. Būtent, tvirtinta, kad tiek būtino teiginio subjektas, tiek ir jo predikatas nereikalauja faktinio jų atitikmenų egzistavimo realiame pasaulyje.

Raktažodžiai: scholastinė logika Lietuvoje, XVI amžius, antrasis žmogiškojo intelekto veiksmas, arba teiginys, Smigleckis, Ortizas, būtinas teiginys, subjektas, predikatas