

ISAACUS ZABANIUS' *EXISTENTIA ATOMORUM* Searching for a New Historical-Philosophical Context

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In this paper I deal with the *Existentia atomorum* (Wittenberg 1667) written by Isaacus Zabanius (1632 – 1707) when he was professor of the College of Eperjes / Prešov in Upper Hungary. After giving a short biography of Zabanius, I critically examine the results of the earlier Hungarian scholarship on the *Existentia atomorum* presented by János Erdélyi, Jolán Zemplén and András Mészáros. I point out that their interpretations were seriously affected by a given narrative, moreover in certain cases it has even led to factual mistakes. Finally, I try to place the work into a different historical and philosophical context rooted in the Wittenbergian background. The fact that the *Existentia atomorum*, unlike his other writings in the same period, was published in Wittenberg may explain its apologetic character. I argue that in this Wittenbergian context the main feature of the work can be found in a kind of minimalism concerning atomic theory.

Keywords: Isaacus Zabanius – Existentia atomorum – Wittenbergian atomism – College of Eperjes / Prešov – History of Hungarian philosophy – Historiography

Introduction

In the last decades, thanks to the increasing interest, several books and articles were written in Hungary on the history of Hungarian philosophy. These books and articles, however, are concerned mostly with the history of philosophy of the 19th and the 20th centuries, and, except a few ones, disregard the philosophy of earlier times. This statement is especially true of the philosophy of the 17th century in Upper Hungary in spite of the fact that this was not only a momentous century in the history of European philosophy but an interesting time in the philosophy in Upper Hungary and Transylvania as well. In the middle of the century within a relatively short time, several new philosophical writings sprang up primarily in Sárospatak (János Pósa-házi) and in Eperjes / Prešov (Johannes Bayer, Isaacus Zabanius). These, unlike the disputes, were not simply part of a given educational system but had the intention of being original. What connects these works, further, is the common topic, viz. philosophy of nature that

is understood more vaguely: the topic can be concrete issues in natural philosophy as well as the right method for the research of nature.

In this paper my aim is twofold. The first is to present the earlier Hungarian literature on the *Existentia atomorum* in order to show their problematical points and what stand in their background. As I will argue, their narratives so strongly determine the interpretation, that it can cause serious misunderstandings or even simple mistakes. The second is to outline a more adequate context, namely the Wittenbergian atomism, and to place Zabanius' work in it.¹

1. Isaacus Zabanius' Short Biography²

Isaacus Zabanius (Izák Caban, Czabán Izsák) was born in Brogyán / Brodzany in 1632 as a son of a Lutheran pastor. After having studied in Privigye / Priedviza and Sopron, he peregrinated to the University of Wittenberg where he enrolled in 1657. The years in Wittenberg were of capital importance, because he got acquainted here with Johannes Bayer and he could still attend the classes of Johann Sperling (1603 – 1658) who admittedly had a great effect on Zabanius' intellectual life. Sperling was an influential supporter of atomic theory that was originally elaborated by Daniel Sennert (1572 – 1637). Zabanius earned the magister of arts degree in Wittenberg in 1659.

Returning home, he was rector for a short time in Breznóbánya / Brezno from where he was invited to the College of Eperjes / Prešov to be conrector. Under Bayer's rectorate from 1663 a flourishing period began in the College thanks to the growing financial support and trying to raise the institute to the level of academy (Bayer, however, was relieved from his position in 1666.). Zabanius preserved his earlier position as conrector, moreover, he started teaching books which related to physics and metaphysics, among them "Sperling's *Physics*".³ During these years, he published his principal philosophical work, the *Existentia atomorum ab injuria quattuor et viginti argumentorum vindicata* (1667) in Wittenberg. As I wrote in the *Introduction*, the *Existentia atomorum*, similarly to other contemporary philosophical works written in Upper Hungary, has two remarkable characteristics: it is independent from the school-philosophy manifested primarily in disputes and its interest is natural philosophical. Besides, in this productive period, Zabanius also wrote several disputes in

¹ This paper is based on an earlier one written in Hungarian (Guba 2016). Although I am aware of Ján Mikleš's monograph on Zabanius, unfortunately, what I know from its content I owe to Čyževskyj's German review on this book; see Tschizewsky 1954, 282 – 284.

² There is no room for presenting a detailed biography and the list of Zabanius' all works. On Zabanius life and his works see: Szinnyei 1914; *Slovenský biografický slovník* (Slovak Biographical Dictionary) 1986, 359 – 360; Mészáros 2000, 56 – 57; Mészáros 2003, 72 – 73.

³ On the development of Eperjes / Prešov at that time in more detail, see Hörk 1896 – 1897 (I), 62 – 72, (II), 2 – 32; Kónyai 2014, 85 – 88. "Sperling's *Physics*" was quoted from Hörk; I do not know whether it is the *Institutiones physicae* or *Synopsis physica* (I suppose it might have been the latter one).

metaphysics including the *Disputatio metaphysica I – XII* (1668 – 1669, collection of various metaphysical disputes) and the *Disputatio metaphysica de existentia rei intelligibilis* (1670).

This golden age ended with the increasing persecution of the Protestants: Zabanius left the College in 1670 shortly before the trial of the galley-slaves in which Bayer was also condemned. Zabanius resided in Poland, Tübingen and Wittenberg until he was elected professor of theology and philosophy in Szeben / Sibiu. Zabanius served as pastor in many places in the Saxon part of Transylvania, and, finally, became the dean of the Lutheran *gymnasium* in Szeben / Sibiu. He survived his son John (Sachs von Harteneck) who had been the government official in charge of Szeben / Sibiu and executed because of high treason in 1707. Zabanius died in Szeben / Sibiu in the same year.

2. Zabanius in the Hungarian History of Philosophy: A Historiographical

Overview

Having the purpose to summarize the modern Hungarian scholarship of Zabanius and the *Existentia atomorum*, we should begin with János Erdélyi who can be regarded as the founder of history of Hungarian philosophy. Erdélyi considered the College of Eperjes / Prešov between 1660 and 1670 as an independent period in the history of Hungarian philosophy that gives, despite its shortness, a clear evidence of Hungarian philosophical tradition. In *A hazai bölcsészet múltja* (The Past of the National Philosophy, 1857 – 1861) he called Johannes Bayer, Elias Ladiver and Isaacus Zabanius “the triad of the golden-age”.⁴ In Erdélyi’s view, these philosophers represent the ideas of three entirely different philosophical schools: Bayer Mosaism (!), Zabanius atomism and Ladiver Aristotelianism. In this work Erdélyi intended to write three studies on the three philosophers, but the trilogy remained unfinished: he did not manage to write the study on Zabanius. Later, in the last chapter of his major book, *A bölcsészet Magyarországon* (Philosophy in Hungary, published as a series between 1865 and 1867, and in a single volume in 1885) Erdélyi concentrated again on the College of Eperjes / Prešov, which was the culmination in his narrative of the birth of national philosophy. The contents of the above-mentioned works are much the same, but in *A bölcsészet Magyarországon* already a separate chapter was dedicated to Zabanius.⁵ Although Erdélyi emphasized that Zabanius’ most important work is the *Existentia atomorum* and atomism was essential part of his philosophy, interestingly, he did not explicate it at

⁴ Erdélyi 1981, 166.

⁵ Erdélyi 1981, 286 – 288.

all.⁶ Instead, Erdélyi focused on the collection of disputes written between 1668 and 1670 and particularly on the *De existentia rei intelligibilis*, which he regarded to be Zabanius' polemic answer to Ladiver's metaphysical views. According to Erdélyi, Zabanius attacked the idea of Ladiver that mental entities have real existence, as the title of the dispute already suggests.⁷ (I will later return to the questions of the subject of the controversy.) It seems to me that Erdélyi's brief descriptions are more significant than they appear at first glance, since the main points of his approach became later dominant in Hungarian research; these are as follows: (1) the College of Eperjes / Prešov is possibly the first Hungarian philosophical school (2) there was a philosophical debate between Zabanius and Ladiver (3) the atomism plays central role in Zabanius' philosophy.

After the promising start of Erdélyi's books, the research was interrupted for almost one hundred years. This situation changed in the late 50s and early 60s, when the *Existentia atomorum*, similarly to other early modern natural philosophical works written in Upper Hungary and Transylvania, excited an intense but swiftly flagging interest. The research of this short period is hallmarked by the name of László Mátrai⁸ and, even more, by Jolán Zemplén. In her *A magyarországi fizika története 1711-ig* (The History of Physics in Hungary until 1711) published in 1961 Zemplén broke new ground in the Hungarian research of philosophy of nature in Upper Hungary and Transylvania. Moreover, given that Zemplén provided the most detailed description and examination of the *Existentia atomorum* in Hungary, her book served as starting point for the later scholarship. Precisely because of its importance I would like to focus on her book more and to point out some mistakes of Zemplén's analysis.

What seemingly motivated Zemplén in writing her book was to place the early modern natural philosophical works in Hungary into the history of the development towards the "real" science, primarily, by contextualizing them in the views of the contemporary foreign philosophers and scientists. However, the narrative according to which the 17th century led to the "real" science is hardly sustainable. In this regard, I would like to refer to the general statement made by Antonio Clericuzio in his *Elements, Principles and Corpuscles. A Study of Atomism and Chemistry in the Seventeenth Century* which examines atomic theory from its medieval antecedents until

⁶ Considering how thoroughly Erdélyi summarized his sources in the case of Bayer and Ladiver in *A hazai bölcsészet múltja*, the lack of detailed description of the *Existentia atomorum* is quite surprising.

⁷ Erdélyi 1981, 287 – 288.

⁸ In his article Mátrai discusses the topic with the most orthodox Marxism and with little result, see Mátrai 1957. Nevertheless, Mátrai also edited a more valuable anthology of philosophers of early modern era in Hungary and Transylvania, see Mátrai 1961.

Boyle.⁹ Summarizing briefly Clericuzio's main points at the beginning of his book, the majority of scholars maintains that atomism and chemistry in the 17th century operated with two different (and independent) conceptions of matter, a vitalistic and a mechanical one. The revived atomism in the early modern era was the starting point of the process which gave rise to the dominance of the mechanistic philosophy. Chemistry in the first half of the century was rather a conglomerate of various philosophical and alchemical views that was replaced continually in the second half of the century by the mechanistic model which, freeing itself from metaphysical obscurities, was able to serve as a basis for the new and scientific chemistry. The key figure of this process was Robert Boyle (1627 – 1691) who intended to argue for the mechanistic model experimentally. The greatest problem with this approach, as Clericuzio continues, is that it oversimplifies the history of the atomism of the century and neglects the complex relationship among corpuscular philosophy, Aristotelianism and chemistry.

Clericuzio's criticism, *mutatis mutandis*, is applicable to Zemplén's approach as well. What really matters for Zemplén is where the natural philosophers in Hungary are placed in the line defined by scholastic Aristotelianism and the present-day physics. Accordingly, these natural philosophical works, the *Existentia atomorum* included, stand in the clash of the old Aristotelianism and the new scientific worldview. This viewpoint extremely narrows the intellectual horizon of Zabanius' book, since it is not only unable to examine the *Existentia atomorum* in its entirety, but also to make any differentiation within the Aristotelian groups in the early modern era.

Besides, this approach has led Zemplén to factual misunderstandings as well. To illustrate this, let us see some examples from her book. According to Zemplén, Aristotle and his scholastic adherents, Cabeo and Pereira are the members of "the opposite camp" whose counterarguments Zabanius refutes mostly by syllogisms and references to other authorities such as Sperling, Epicurus, Gassendi, "sometimes" Sennert. It can also happen, as Zemplén goes on, that Zabanius bases his argumentation "trickily" on Aristotle or the scholastic Zabarella.¹⁰ This description, nevertheless, is absolutely misleading for several reasons. Zemplén supposes that the counterarguments found in the *Existentia atomorum* originate from two Jesuit scholars, Benedict Pereira (1535 – 1650) and Niccolò Cabeo (1586 – 1650), but Zabanius tells us only in four counterarguments that he has taken it from Pereira.¹¹ Cabeo's case is even more complicated: while Zabanius mentions him just twice as the source of the counterargument, Cabeo's ideas are used

⁹ Clericuzio 2000, 1 – 3.

¹⁰ Zemplén 1961, 262.

¹¹ These are the 13th, the 20th, the 21th and the 23th (Zabanius 1667, 95, 117, 119, 126).

several times to support his atomistic view.¹² Thus, unlike what Zemplén suggests, the question of the origin of the counterarguments is far from being answered. Zabanius, likewise, often uses Aristotle or Zabarella to argue for his position, because there is absolutely no hostility from his side against them. On the contrary, as I will discuss it, he has a definitely positive opinion about Aristotle. Similarly, the list of Zabanius' progressive allies requires some modifications. Zabanius never refers to Epicurus, except on one occasion in the *Praefatio*, where his philosophy, besides those of Aristotle and Plato, is cited as the example of the sterile and authoritarian schoolphilosophy in its full purity. Although Pierre Gassendi (1592 – 1655) is indeed named several times, Zabanius only once and very roughly refers to any writing by him (*in suo Epicuro*). This seems quite odd considering that we can mostly read accurate references in the cases of other authors. Zemplén is right that Sperling is a crucial author for Zabanius, but even more important is Sennert, who appears more than “sometimes” in the book. Finally, Julius Scaliger (1484 – 1558), who is also an often-cited atomist author in the *Existentia atomorum*, is not even named by Zemplén.¹³

We can make a more interesting discovery, if we look at Zabanius' note on vacuum that Zemplén finds the most significant statement of the work.¹⁴ Peripatetics hold that vacuum does not exist and, hence, a body constituted by atoms would be unable to expand. Zabanius accepts the Peripatetics' denial of vacuum, yet he insists on that vacuum can be produced artificially, where there are bodies. This happens, as Zemplén goes on with her summary, in the process of expansion: the gaps between atoms become bigger. After this summary, Zemplén supposes that Zabanius might have heard something about Guericke's experiment. Nevertheless, the passage on vacuum does not support her presumption:

“[...] there is no vacuum without body in natural way. However, the question whether it can come into being in some artificial way is discussed keenly by many people. A few years ago Valerianus Magnus asserted that he had discovered vacuum. Many people do the same in the Low Countries [?].”¹⁵

¹² The two loci are the 1st and the 16th counterarguments (Zabanius 1667, 7, 104). In the 23rd one Zabanius names again Cabeo as its source whose answer he also provides (Zabanius 1667, 126 – 127). Occasionally, Zabanius also relies on Pereira in his argumentation.

¹³ There is no room for presenting Scaliger's corpuscular theory of matter; Clericuzio gives a good summary on it, see Clericuzio 2000, 11 – 13.

¹⁴ Zemplén 1961, 262.

¹⁵ “[...] vacuum sine corpore non dari naturaliter. An vero arte aliqua fieri illud possit, disputatur a multis acerrime. Aliquot iam abhinc annis Valerianus Magnus vacuum se invenisse asserbat. Idem nunc quoque in Belgio faciunt multi” (Zabanius 1667, 97 – 98).

Here Zabanius names Valeriano Magni (1586 – 1661), Capuchin prior and diplomat, and, in all likelihood, has heard the discovery of (the artificial) vacuum from Magni's *De vitro mirabiliter fracto* (1648). This, nevertheless, does not fit into Zemplén's narrative, namely that Zabanius refers to a reactionary Papist in the most important passage of his book. Instead, without any textual evidence, she rather assumes that Zabanius might have known something about Guericke's experiment in Magdeburg.

After Zemplén's book, the Hungarian research on the *Existentia atomorum* stopped again for decades, until András Mészáros wrote again about Zabanius in his long-needed book, *A filozófia Magyarországon. A kezdetektől a 19. század végéig* (Philosophy in Hungary. From the Beginnings until the End of the 19th Century) in 2000, and later in *A felső-magyarországi iskolai filozófia lexikona* (Lexicon of the Schoolphilosophy in Upper Hungary) in 2003.¹⁶ We must keep in mind that Mészáros' main focus is rather the philosophy of 19th century and he deals with Zabanius not on the same level of importance. Nevertheless, one of the merits of his books is that they are familiar with the Slovak literature. Mészáros concentrates on three works by Zabanius: the *Existentia atomorum*, the *Dissertatio philosophica* (1670) and the *Disputatio metaphysica de rei intelligibilis*. According to Mészáros, in the latter two Zabanius "extended his atomist views": the *Dissertatio* argues that "only the beings made of atoms become real", and the *Disputatio* claims that "real existence is possessed only by the world constituted of atoms of infinite number". So, Mészáros's wording suggests that atomic theory connects these writings in a sense. However, this supposition is to be rejected, since even though in its long discourse on the non-real existence of concepts the *Disputatio* notes that the metaphysical real existence cannot be opposite to the physical one, it nowhere shows any clear sign of referring to atomism.¹⁷

To summarize, there was no continuous research in Hungary on Zabanius and the *Existentia atomorum*. Decades stand between the pieces of literature which, except Erdélyi's writings to some extent, do not have any critical reflection on the earlier results. As we have seen, Zabanius and the *Existentia atomorum* is always subordinated to a given narrative: this was the romantic national conception of philosophy in Erdélyi, the oversimplified development of sciences (with some Marxist flavour) in Zemplén and the imagined coherence among Zabanius' works in Mészáros. Furthermore, Zemplén's book, which has been the most influential until today, determined the historical-philosophical context of the *Existentia atomorum* that does not really

¹⁶ The content of the two books on Zabanius are almost identical, see Mészáros 2000, 56 – 57; Mészáros 2003, 72 – 73. The former book has a Slovak version, see Mészáros 2013.

¹⁷ I have not had access to the *Diputatio* yet. Nevertheless, I suppose that its case is the same because of the principle of demarcation between disciplines (on this, see below).

correspond to what one can find in the work itself. I think, therefore, it is more advantageous to examine the *Existentia atomorum* from the angle of the Wittenbergian atomism (i.e. Sperling and, first of all, Sennert) than that of the “centre” of history of philosophy (i.e. Gassendi) as Zemplén does.¹⁸ Placing Zabanius’ treatise into the Wittenbergian context helps us grasping better its more original features, too. In the next chapter I would like to outline such a new context.

3. The Outline of a New Context of the *Existentia atomorum*

Before starting the examination of the philosophical-historical context of the *Existentia atomorum*, let us have a short look at its structure. The preface is followed by the part entitled *An dentur atomi?* that determines the six main points of the thesis. The end of this part formulates the question to be defended about the existence of such atoms which (1) as the smallest parts of nature (*minima naturae*) are indivisible and (2) cannot be perceived (*insensibiles*), but (3) are real quantities, i.e. are not mathematical points and (4) unified by the *actus specificus* form the unity of the given body. The major part of the treatise is divided into chapters by quite complex anti-atomistic arguments that are based on the problematical points of the original hypothesis. The chief aim of the *Existentia atomorum* is to elaborate satisfying answers for these difficulties.

First, we should investigate the relationship between the *Existentia atomorum* and Zabanius’ other philosophical writings, in other words, whether we can find atomist ideas in other works as well. It has emerged already in the critical evaluation of Mészáros’s approach: the core of my criticism was that he apparently made such connection between some works of Zabanius which actually does not exist. To my best knowledge, this claim can be generalized: the problem of the existence of atoms does not occur in Zabanius’ other philosophical treatises, moreover, the reader is unable to find even a hint at the atomic theory. This situation seems quite odd, provided that one takes atomic theory as the central philosophical idea of Zabanius. It might, however, become more understandable looking at his other philosophical writings, since their topic are exclusively metaphysical.¹⁹ The *Existentia atomorum*, therefore, has

¹⁸ As far as I could see (Tschizewsky 1954, 283), Mikleš’s monograph paid much more attention to Zabanius’ Wittenbergian background than Zemplén.

¹⁹ In the second metaphysical dispute written in Eperjes / Prešov (*De subalternatione disciplinarum et nominalibus entis distinctionibus*) he writes that “the inferior disciplines (e.g. physics, psychology, etc.), accurately speaking, are not subordinated to metaphysics in their limits and neither in their principles” (*disciplinae inferiores, utpote physica, pneumatica, etc. accurate loquendo non sunt subalternatae metaphysicae, ac ne ratione finium quidem et principiorum*); Zabanius 1668a, 1. For this distinction, see also Zabanius 1668a, 2 – 3. This scholastic approach clearly separates metaphysics from physics, the part of which is atomic theory. This strengthens what I have supposed

a unique place in Zabanius' oeuvre, and due to this, it can be regarded as *the* natural philosophical work. In addition, the *Existentia atomorum* was published in Wittenberg, although Zabanius spent his most productive years in Eperjes / Prešov and he had already published numerous writings in Upper Hungary.

As I mentioned, by this time an atomist school has developed in Wittenberg thanks to Daniel Sennert.²⁰ When Zabanius studied there, this atomism, even though not as originally as by Sennert, but still on a high level, was represented by Johann Sperling.²¹ Not long after Sperling's death in 1658 we know of two disputes that dealt with atomic theory: the first one was presented in 1659 under the supervision of Georg Gaspar Kirchmaier, and the second one in 1664 under that of Elias Konrad. They are presumably nothing else than a summary of the atomism in Wittenberg, since the main points of content and the order of exposition in the two disputes, which are more or less the same, follow entirely Sennert's (and Sperling's) exposition of atomic theory. In the historical part they attribute the origin of atomic theory to the mythical Mochus of Phoenicia, who was the contemporary of Moses and the knower of Egyptian wisdom, and add that before Aristotle this theory was defended by the most eminent members of Greek philosophy. In this historical summary the short digression in the dispute of 1659 is noteworthy: besides sharing atomistic views, Leucippus and Epicurus maintained that the world came into being by chance, this absurd idea, nevertheless, is not a necessary concomitant of the atomistic view. After this section the disputes shortly define in what sense one can mean atoms and sharply distinguish the points which have extension but are no more divisible from the mathematical points. In addition to referring to authorities, Kirchmaier and Konrad use arguments, mostly based on the impossibility of infinite division, as well as observations. Among the observations, the most frequently applied one, originally deriving from Sennert, shows the existence of the atoms of fire: smoke must contain the atoms of fire due to the fact that the meat on the spit gets roasted without direct contact with fire. (This latter clearly indicates that, unlike what is found in ancient atomism, these atoms also possess secondary qualities.) Finally, they claim that all of the four elements as well

about the *Dissertatio philosophica* earlier. Due to its topic, the *Dissertatio* is probably also independent from atomic theory regarded as a physical topic.

²⁰ In what follows, I rely mostly on Sennert's *Hypomnemata physica* (Sennert 1636, 86 – 117). Since the detailed presentation of Sennert's atomic theory would exceed the limit of this paper, I will concentrate on its points that are the most relevant to the *Existentia atomorum*. For good overview of Sennert's theory, see Clericuzio 2000, 23 – 30. On the question how Sennert attained to an atomistic position, see Emily 2001.

²¹ Sperling borrows the most important propositions and descriptions of the relevant experiments from Sennert. Sperling's major work about atomic theory is the *Institutiones physicae* (Sperling 1639, and several other editions). I relied on another shorter writing of him, the *Exercitationes physicae* (Sperling 1663, 498 – 522). On Sperling, see Clericuzio 2000, 32.

as organic bodies consist of atoms. Atoms are the causes of mixtures (*mistiones*), which are conglomerated from them, and genesis and destruction are nothing else than joining and separation of atoms.

The dispute of 1664, which stands chronologically closer to the *Existentia atomorum*, contains an interesting passage about the hostility against atomism.²² What this remark refers to, is not entirely clear. On the one hand, this remark can somehow be related to a former polemic or its continuation: an orthodox Aristotelian doctor in Groeningen, Johann Freitag (1581 – 1641) earlier criticized the Wittenbergian atomic theory in a number of works, but principally in his extensive *Detectio et solida refutatio novae sectae Sennerto-Paracelsiae* (1637). Because of Sennert's death the task might have fallen to Sperling to answer the problems raised by Freitag.²³ On the other hand, it is also possible that the dispute's remark alludes to a controversy within the University of Wittenberg. It should be remembered that the dispute was written shortly after Sperling's death and we do not know a similarly influential scholar following him who would have supported an atomic position: the new school, therefore, might have faced more challenges from, for instance, the orthodox Aristotelianism. The wording of this remark in the preface also can point to an internal dissent. In any case, we can presume with good reason what is mentioned in the dispute of 1664 explains the obviously apologetic character of the *Existentia atomorum* that is Zabanius' aim to defend his master with summarizing and answering the anti-atomistic arguments.²⁴

We do not know how influential Zabanius' book was on the intellectual life in Wittenberg, but we can assume its impact on the College of Eperjes / Prešov: Zabanius' fellow professor, Elias Ladiver published a book entitled *De atomis contra*

²² "We entered not once into controversy about the doctrine of atoms with our friends and the same men of not a poor erudition. And, as we honestly confess, we realized that the issue is suspicious for most of them, because [this doctrine] shows a kind of novelty, which, however, does not exist. So, no wonder that Sperling [...] himself [...], even though after Scaliger and the celebrated Sennert he abundantly defended the following atomism in his books and carefully imprinted it on the mind of his disciples in public and, at the same time, personally, could be accused of some kind of novelty especially by those into whose hands this late man's writings never had passed." (*Non semel [...] in controversiam cum amicis iisdemque non infimae eruditionis viris incidimus de doctrina atomorum. Et quidem, ut ingenue fateamur, apud complures rem suspectam esse intelleximus, cum novitatem quandam, quae tamen nulla est, prae se ferre videatur. Quare etiam non mirum, quod ipse [...] Sperlingius [...] cum post Scaligerum et celeberrimum Sennertum atomologiam hanc in suis libris prolixè defenderit, et publice simulac privatim sedulo auditoribus suis inculcarit, novitatis alicuius insimulari possit, praesertim ab iis, quibus beati huius viri scripta ad manus nondum venire.*; Konrad 1664, A2).

²³ On Freitag, see Clericuzio 2000, 31 – 32; Emily 2001, 349 – 350.

²⁴ One can object that Zabanius taught "Sperling's *Physics*" (Hörk) which explains the motivation for writing a treatise about the atomistic passage of Sperling's book. This, however, does not account for the publication in Wittenberg and the apologetic character.

Zabanium (1667). This book, presumably a dispute, is not available now; we can infer its existence only from 19th-century entries. Despite the lack of the extant sources, this controversy plays an important role in the Hungarian history of philosophy; this discussion became so acrimonious that it must have been banned by the synod of Medgyes / Mediaş in 1677 (Mészáros 2000, 56). I do not intend to refuse this interpretation; nevertheless, I am not fully convinced that their controversy was exclusively about atomic theory, if at all. As we have seen, Erdélyi knew of a conflict between Zabanius and Ladiver (even though not from primary sources), but he connected it with a different, metaphysical question and not with atomism. Furthermore, the only relevant document is the above-mentioned synodical decree that does not report the subject of their controversy.²⁵

If one wants to grasp the feature that distinguishes the *Existentia atomorum* from the other Wittenbergian writings, (s)he will find it in its minimalism which is manifested at various levels. First, we see historical minimalism in the book, as historical interest, in contrast with the Wittenbergian examples, is totally missing. Highlighting the anti-authoritarian character of his book in the *Praefatio* Zabanius does not dwell on the historical antecedents of atomic theory, just briefly summarizes that Sennert traced atomic theory back to Mochus, and it could be found in every philosopher before Aristotle. Perhaps this viewpoint explains the striking feature of the book that it does not even name any ancient atomist. Zabanius, in turn, writes with appreciation of Aristotle in the *Praefatio* and relies on him many times in the argumentation. The most important Aristotelian idea is that there must be a material *minimum* to preserve form that are, as Zabanius thinks, atoms.²⁶

In the same way, minimalism also characterizes Zabanius' philosophical approach to atoms, since the purpose of the *Existentia atomorum* is only to prove the original thesis made up of four points, more precisely, to defend it from the counterarguments. Despite the fact that it was not explicitly the part of the initial thesis, we should add that atoms, even though all of them are insensible, have different size, as it is also written in the fourth section in the part of *An dentur atomi?*²⁷ Zabanius here, interestingly, does not recapitulate Sennert's theory, nor offers its modified version.

²⁵ According to this document, *silentium* is decreed because of "the controversies having arisen between professors" (*propter controversias ortas inter professores*). It is quoted by Teutsch who means that this note refers to the concerning atomic theory, see Teutsch 1921, 382. (I find the plural form interesting in giving reason for *silentium*: does it indicate the same controversy at different times or controversies of various topics?)

²⁶ Zabanius 1667, 11. Similarly to many medieval predecessors in atomism, Zabanius offers an alternative interpretation of the passage of the *Physics* in which Aristotle criticizes Anaxagoras (*Phys.* 187b 13 – 18 a5). On medieval and renaissance interpretation of the Aristotelian *minimum*, see Clericuzio 2000, 10 – 11 and Murdoch 2001.

²⁷ Zabanius 1667, 5.

He, for example, does not argue that elements would have different types of atoms; moreover, does not even mention that. However, the minimalism of the original thesis cannot be sustained always in the course of answering the counterarguments, because certain questions require the fuller exposition of the theory. Among these a crucial one is the gradual constitution of natural objects. Atoms already possess the duality of form and matter, yet these are not sufficient in themselves to create an individual thing, because none of the forms of atoms which fall under the same category can be dominant. Their forms, therefore, must be subordinated to the form that belongs to the given mixture produced by atoms: this latter dominating form unifies the individual as its own form (*rector, specifica forma, sometimes actus specificus*).²⁸ As opposed to the conservative Aristotelian-Thomist position, according to which strictly just one form is ascribed to an individual as substance, this idea allows the presence of many forms in an individual and, as Zabanius emphasizes, the only one excluded is the simultaneous presence of many dominating forms. This duality of the dominating and subordinated forms enables the harmonization of the atomistic concept of matter with the hylomorphic scheme.²⁹

It is remarkable that Zabanius presents numerous observations and experiments in order to argue for the presence of atoms in different processes and to show their basic features. In accordance with his minimalist approach, Zabanius infers atoms from given phenomena, but never explains the phenomena operating with atomic theory. Apparently, these descriptions do not simply repeat the results of the Wittenbergian atomism: it is shown by the fact that the most important observations and experiments (e. g. the roasted meat on the spit) are mostly missing. We might explain this interesting feature of the book by saying that the intention of these observations, unlike that of Zabanius, is not to prove atoms in general, but the atoms of certain elements. At the same time, we can read such experiments which, as far as I know at present, are not found in the Wittenbergian writings, for instance, the experiment in the 6th counterargument.³⁰ This intends to demonstrate that all atoms are indivisible but their size is different: let us put sodium chloride into a certain amount of water until it cannot dissolve more and the remnant gathers at the bottom of glass; thereafter, putting ammonium chloride into it, we will see that it is still able to dissolve in water.

²⁸ Zabanius refers many times to this view, first in connection with a citation of Zabarella, see Zabanius 1667, 22 – 23.

²⁹ Earlier Zabarella and Sennert argued for this position. On this topic, especially in Sennert, see Emily 2001, 343 – 348.

³⁰ Zabanius 1667, 38 – 39.

Concluding remarks

Giving an exhaustive account for all issues concerning the sources and the originalities of the *Existentia atomorum* would have been beyond of the scope of this paper; neither the earlier results of Hungarian research admitted it, since often fundamental statements demanded revision. Rather, I wanted to emphasize that the predominance of a given narrative (e. g. a nationalist or a developmental one) can easily impede the research even on the basic level. Although I tried to give at least a sketchy answer to a couple of questions, I am aware that many remained open. We can, however, assert one thing without doubt: the better understanding of Zabanius' writing is helped by a philosophical-historical perspective which is based rather on the philosophical authors of less importance than on the most canonical ones.

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