

Hrotsvit of Gandersheim and Philosophy: Music and Arithmetic

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<https://doi.org/10.31192/np.22.1.2>

UDK / UDC:

821.112.2Hrotsvitha Gandeshemensis
1: 821.112.2Hrotsvitha Gandeshemensis

Izvorni znanstveni rad /

Original scientific paper

Primljeno / Received:

18. srpnja 2023. / Jul 18, 2023

Prihvaćeno / Accepted:

31. siječnja 2024. / Jan 31, 2024

Hrotsvit of Gandersheim sees music and arithmetic as parts of philosophy. Presenting the motives for engaging in literary creativity and describing her writing process, she says that by glorifying God with her work, she incorporated threads and pieces of the ancient mantle of philosophy into it. The paper aims to provide insight into Hrotsvit's knowledge of philosophy and the specificities and significance of her approach to the contents of the disciplines of arithmetic and music (in particular to musica humana and the harmony of a world) in her plays Paphnutius and Sapientia, to analyze different elements of her authorial self-perception and to emphasize the similarities between her and Augustine's understanding of music, and the role of certain types of writing. The paper concludes that Hrotsvit incorporated her knowledge and understanding of ancient and medieval theories of music and numbers into her plays uniquely, showing originality in their interpretation and merging them with everyday moral life and education. In this way, the rarely treated philosophical elements of her oeuvre are presented and evaluated.

Key words: arithmetic, harmony, Hrotsvit of Gandersheim, music, musica humana, philosophy.

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Introduction**

Hrotsvit of Gandersheim (ca. 935 – ca. 975), also known as Roswitha, Rosvita, Hrotsvitha, Hrotswitha, and Hrosvit¹, was a Benedictine nun, regarded as the first German woman poet, named the Sappho of Christianity² and the Tenth Muse. She lived and wrote in Gandersheim Abbey which had an »old and distinguished position in Ottonian culture«³, and »Hrotsvit is rightly considered a representative of the ‘Ottonic Renaissance’«.⁴

As a member of the nobility, Hrotsvit probably spent a part of her youth at the court of Otto I and became familiar with the Roman classics, Greek, and Latin. Her writings demonstrate a knowledge of mathematics, history of religion, political history, and history of philosophy. She knew Liutprand, an ambassador and chronicler of Otto’s court, which was significant for her dealing with the history of the dynasty with which Gandersheim was connected.⁵

She is the first dramatic writer in the entire Christian world, and the first woman historiographer, as Zeydel points out.⁶ Although Hrotsvit is known pri-

**Proofreading by Gaj Tomaš.

¹ She translates her name in Latin as *clamor validus*, meaning Strong Voice or Strong Testimony. Cf. HROTSWITHA, *The Plays of Hrotswitha of Gandersheim*, Bilingual Edition, Mundelein, Bolchazy-Carducci Publishers, 2013, 2.

² Charles Magnin (1793-1862) called her »Christian Sappho«, but even earlier, the German humanist scholar and poet Conrad Celtis (1459-1508), who in 1493 rediscovered Hrotsvit’s writings and printed them, presented her as a literary and national icon that can serve to dispute Italy’s cultural supremacy, and compared her with Sappho. Honoring Hrotsvit within the circle of German humanists is connected with the humanistic attitude toward earlier German history and literature periods. They also considered women’s education as a criterion of the level of culture and praised Hrotsvit’s education and her knowledge of Greek [cf. Katrinette BODARWE, Hrotsvit and Her Avatars, in: Stephen L. WAILES, Phyllis R. BROWN (ed.), *A Companion to Hrotsvit of Gandersheim*, Leiden – Boston, Brill, 2013, 331-336].

³ Wailes, Brown (ed.), *A Companion to Hrotsvit of Gandersheim...*, 20.

⁴ Bert NAGEL, *Hrotsvit von Gandersheim*, Stuttgart, Sammlung J.B. Metzler, 1965, 49. On her education, reading and self-education see *Ibid.*, 42-44. The Ottonian Renaissance spread vigorous artistic and intellectual activity throughout the kingdom of the Ottonian dynasty, connected with the stimulus of classic, Carolingian, and Byzantine traditions. Under the direct patronage of the imperial family, the Imperial court and monasteries, which preferred monastic life, became the nexus of religious and spiritual life. Being one of the central points of Ottonian cultural policy, Gandersheim was a place where art and learning flourished, as well as a place of autonomy for women.

⁵ The community of Gandersheim consisted entirely of noble women, and the monastery was founded by great-grandparents of Otto I, who gave it a royal privilege. The largest number of ninth- and tenth-century female convents in Germany established members of the Saxon nobility, and the first abbesses were the daughters and nieces of the founders [cf. Suzanne FONAY WEMPLE, *Monastic Life Of Women From The Merovingians To The Ottonians*, in: Katharina M. WILSON (ed.), *Hrotsvit of Gandersheim Rara Avis in Saxonia?*, Michigan, Marc Publishing].

⁶ Cf. Edwin ZEYDEL, *Hrotsvit von Gandersheim and the Eternal Womanly*, in: Donald H. CROSBY, George C. SCHOOLFIELD (ed.), *Studies in the German Drama*, Chapel Hill, The University of North Carolina Press, 1974, 1.

marily as a playwright⁷, she also wrote eight sacred legends (probably her earliest works), poems (*Maria*, *Gongolf*, *Ascensio*, *Theophilus*, and others), prayers, an epic about the deeds of the king Otto the Great (*Gesta Ottonis*) written during his life, and *Primordia* or the history of the monastery in Gandersheim. She also incorporated philosophical theories, ideas, and argumentation into her literary works. Two of her plays are of particular philosophical interest and deserve a closer analysis: *Sapientia* and *Paphnutius* (or *Conversio Thaidis Meretricis*). They allow us to gain insight into her metaphysical and ethical views.

Among the works dealing with her oeuvre from different perspectives, mostly in literary, theatre, philology, and history studies, there are only a few presentations of the philosophical aspects of her work. This paper aims to provide insight into her knowledge of philosophy and the specificity and significance of her approach to philosophy relating to theories of music and arithmetic. To that end, it clarifies the relationship between the text of these two plays and the tradition of ancient Western and medieval musical theory and arithmetic (the mediated Pythagorean and Platonic traditions, and especially Augustine's, Boethius' and Cassiodorus' theories) and distinguishes some qualities of Hrotsvit's writing, authorship, and thinking.

1. Music in *Paphnutius*

»(...) music is said to be a fitting disposition (harmony) not only of voices/sounds, but also of other dissimilar things.«⁸ Hrotsvit puts these words into the mouth of the hermit Paphnutius. They are part of the first scene of the play of the same name, in which she tells the story of Thais, whom Paphnutius brought to the religious life out of a life spent in pleasure that brings with it the dangers of damnation⁹. Exposing her conceptual design of the drama, Hrotsvit builds a dialogue between Paphnutius and his *discipuli* on the meaning, kinds, and role of music. Music is »one of the branches of the quadrivium of philosophy«¹⁰, and these subjects (branches) flow like roads from one principle of philosophy. This learned dialogue in which she explains music is part of her more significant idea, the one of harmony of man, who is said to be microcosm.¹¹

⁷ Her six plays are *Gallicanus*, *Dulcinius*, *Callimachus*, *Abraham*, *Paphnutius*, *Sapientia*.

⁸ Translated into English by the author of the article. Another translation: »(...) music is in fact an agreeable combination not only of voices, but of other unlike elements as well«, in: Hrotswitha, *The Plays of Hrotswitha...*, 267, translated into English by Larissa Bonfante. Latin text: »(...) musica dicitur convenientia non solum vocum, sed etiam aliarum dissimilum rerum«, in: *idem*, 266.

⁹ Cf. *idem*, 287.

¹⁰ »Disciplina una de philosophiae quadrivio«, *idem*, 256.

¹¹ *Minor mundus*, *idem*, 252-253.

Through the character Paphnutius, Hrotsvit explains that the greater world is composed of four elements which are contraries, yet by the will of the Creator, these contraries are adjusted in harmonious arrangement. Man is also composed of even more contrary parts, of the body and the soul. The soul is not mortal like the body, nor is the body as spiritual as is the soul.¹²

The *mise-en-scène* of the play is set by the thought »how miraculous is divine law God placed in all things, when He gave them number and measure and weight«. ¹³ Emphasizing the perfection of God's work according to Wisdom 11,20: »But you have arranged all things by measure and number and weight«, Hrotsvit is part of a broader tradition that considers that music expresses God's wisdom.¹⁴

The theory of music applied in *Paphnutius* reveals Hrotsvit's knowledge of ancient and Christian traditions of the matter dealt with in the field of music as a liberal art of the quadrivium. As we find out from her text, it is not only that »the spheres and planets give forth sounds«¹⁵ (*musica mundana* or *celestis*) — in this aspect, the discussion between Paphnutius and the disciples covers the consideration of concord, the relations between harmony, music, mathematics, and the rotation of the planets — and that we can hear music produced by instruments, but there is a human music (*musica humana*) manifested in combination, or joining together, that is, in harmony of body and soul¹⁶, and, as Paphnutius says, whether a fool or a wise man does wrong, he will be confounded. The entire plot of Hrotsvit's play revolves around the lost harmony of a discordant sinner Thais, and the events that take place after the opening scene bring concord into her life. Cassiodorus similarly warns us that morally bad men do not have music. Likewise, in his *De musica*, we read about the music of the heavens, in everything on the earth as well as in our acts and bodies.

»The discipline of music, then, extends through all acts of our life in the following way. First, if we obey the commands of the Creator, and we keep with pure minds the rules set out by him, whatever we say, or however we are moved by the inward pulses of our veins, is shown to be linked by musical rhythms to the virtues of harmony. Music indeed is the discipline of proper harmony;

¹² Cf. *idem*, 255.

¹³ *Idem*, 269. See also the quotation from the play *Sapientia* on page 39: »And He so distributed all things with number and measure and weight«.

¹⁴ For example, Morrison explains a notable music theory of Aurelian of Reome (800-850), who thought that »God had made all creation as music, according to numerical proportions«, and in his reference to Ardo's (†843) *Vita Benedicti* we find the same idea that »God created all things according to number, weight, and measure« [Karl Frederick MORRISON, Know thyself: Music in the Carolingian Renaissance, in: Guglielmo CAVALLO (ed.), *Committenti e produzione artistico-letteraria nell'alto medioevo occidentale*, Spoleto, Presso la sede del Centro italiano di studi sull'alto Medioevo, 1992, 429; 431-432].

¹⁵ Hrotswitha, *The Plays of Hrotswitha...*, 263. It is about the music of the spheres, the concept according to which the universe is arranged in accordance with the principles of musical harmony.

¹⁶ »In compagine corporis et animae«, *idem*, 264.

if we live properly, we are always associated with such a discipline. But when we are wicked, we do not have music. Furthermore, the heaven, the earth, and everything that takes place in them according to divine economy, do not lack the discipline of music. For [And] Pythagoras bears witness that this world was founded through music and can be given order by it.¹⁷

For Hrotsvit, music is an agreeable combination or a fitting of dissimilar things¹⁸ and body and soul are opposite sides, or parts (*contrariae partes*) out of which man is composed. This relationship of soul and body is a central motive and the driving force of the play's plot and of the acts of the characters. The soul and the body of Thais should be brought into appropriate disposition because her body is still peccable, but her soul met the Lord through Paphnutius. To sin against God who is love is to be in discord. On the anthropological plane of music, we can say that in Hrotsvit's Thais, after her conversion and devotion performed to show repentance for her sins, we find the realization of what Jaeger describes as »the ancient idea that the disciplined physical presence with all its grace, charm, and harmonies, represents unheard music«¹⁹. This exemplar which Hrotsvit presents to her audience is also a chance for gaining self-knowledge by seeing ourselves in others, and of formation of the self through music.²⁰ According to Chamberlain, Boethian *musica humana*, which is contained in the relationship between soul and body, is embodied in Thais, but as far as scholars know, her definition of music cannot be traced to any one source.²¹

We observe that in the play, which is based on and built around the polarity of concord and discord, music is associated with morality (the moral aspect of *musica humana*). Hrotsvit sends the message to her public that sin as a state of disorder can be overcome by knowledge — knowledge of morality and of the ways of restoring concord in the soul and between soul and body — and by music (psalmody) and the ascetic practice to which Thais is dedicated entering into the community of holy women. The central theme in Hrotsvit's play is the purifying love which wants to recover the state of purity, virtuous living, or harmony. Not only can the soul and body act harmoniously, but the very body, which is composed of the same four elements as the world, can be in a harmonic state, or it can lose the balance among these elements (to lose health). This line of analogic thinking that compares the relations of the elements of the

¹⁷ CASSIODORUS, *Institutions of Divine and Secular Learning*, Liverpool, Liverpool University Press, 2004, 217.

¹⁸ »Convenientia (...) dissimilium rerum«, Hrotswitha, *The Plays of Hrotswitha...*, 266.

¹⁹ Stephen C. JAEGER, Alcuin and the Music of Friendship, *MLN Comparative Literature Issue. De Theoria: Early Modern Essays in Memory of Eugene Vance*, 127 (2012) 5, 105-125, 124; <https://www.jstor.org/stable/41810224>.

²⁰ On how the music was used as a tool for self-knowledge and moral formation in the Carolingian age see Morrison, *Know thyself...*, 369-479.

²¹ Cf. David CHAMBERLAIN, Musical Learning and Dramatic Action in Hrotsvit's *Pafnutius*, *Studies in Philology*, 77 (1980) 4, 319-343; <https://www.jstor.org/stable/20004657>.

body, which can produce either health or disease, and the quality of relationship that holds between the parts of the soul, which can be just or unjust, i.e., harmonious or discordant, is part of the platonic tradition in which she takes part.²²

According to Drake, in the introductory dialogue between Paphnutius and his disciples, Hrotsvit instructs »her audience in certain points of her metaphysical learning, and from this scene, one may gain a fair impression of the character and scope of the knowledge possessed by the best type of nun during the tenth century«²³, but he does not give a detailed explanation of her learning. Can we elucidate some of her thoughts? If music is »convenientia (...) dissimilium rerum«, then Hrotsvit understands it in a much broader sense than the musicality created by the rhyme of the text (the play's text is almost entirely rhymed – Hrotsvit as a poet). It has a metaphysical meaning of concord and agreement of dissimilar things in the universe (Hrotsvit as a philosopher). Her Paphnutius also claims:

»I meant to say that just as tones, deep and high,
Make up a certain piece of music
If they are harmoniously combined,
So too dissonant elements, in proper
combination,
Make up a single world.«²⁴

We find a thought with a similar meaning that compares the beauty of ornaments of speech (antitheses or oppositions) with the beauty of the works of God in Augustine's *De Civitate Dei* XI, 18: »As, then, these oppositions of contraries lend beauty to the language, so the beauty of the course of this world is achieved by the opposition of contraries, arranged, as it were, by an eloquence not of words, but of things.«²⁵

The applied musicality or music present in Hrotsvit's concept of organization and movement in the macro- and microcosm are also found in Pythagorean and Platonic traditions, where music is also connected with education for virtue and philosophy. This tradition was mediated by the works of Christian authors like Augustine, Boethius, or Cassiodorus.

²² Cf. PLATO, *Republic*, Indianapolis/Cambridge, Hackett Publishing Company, 2004, 444d, 133-134. »SOCRATES: But to produce health is to put the elements that are in the body in their natural relations of mastering and being mastered by one another; while to produce disease is to establish a relation of ruling and being ruled by one another that is contrary to nature. GLAUCON: That's right. SOCRATES: Doesn't it follow, then, that to produce justice is to establish the elements in the soul in a natural relation of mastering and being mastered by one another, while to produce injustice is to establish a relation of ruling and being ruled by one another that is contrary to nature?«

²³ William A. DRAKE, Roswitha of Gandersheim, *Texas Review*, 8 (1923) 3, 257-272, 270; <https://www.jstor.org/stable/43465829>.

²⁴ Hrotswitha, *The Plays of Hrotswitha...*, 257.

²⁵ AUGUSTINE, *The City of God*, Hayes St, Moscow, Idaho, 2015, 253.

Boethius, as the main medieval authority on music, conveys to medieval readers many of the classical theses about the structure, possibilities, and tasks of music, among others, the claim that soul and body are united by means of musical union.²⁶ Morrison claims that in the *Consolation of Philosophy* he codified a doctrine according to which, in the cosmos, concord is derived from diverse elements arranged proportionately, and »the concept of the entire cosmos as an order in which discordant elements were brought into concord by an overarching power, or love«²⁷, that »brought harmony out of discord«²⁸. We find the same idea in the words of Paphnutius.

For Augustine, as well as for Hrotsvit, music and philosophy are not separate. As a free art, music prepares the spirit for philosophical contemplation, i.e., understanding of a higher order which reveals the importance of rhythm and numbers in the movement of all things.²⁹ Music (as well as other mathematical arts) is extracted from the rules by which God formed the world. In his treatise *On the Nature of Good* measure, form and order are goods in all things made by God.³⁰ He writes: »where they are absent, there is no good«³¹. But according to Augustine, sinning nature may be rightly ordered again, as Hrotsvit's Thais also did.

In the Carolingian epoch, which precedes the renaissance of the 10th century (the Ottonian renaissance), »the polarity of concord and discord was normative and pervasive (...). Concord was order, reflecting God's archetypal reason. Discord was confusion...«³². For the purposes of proper understanding and valorizing of Hrotsvit's ideas, it is important to recognize these traditions and teachings in her creation of the play based on the development and application of the concept of music, in particular of *musica humana*.

²⁶ Cf. James V. JIRTLE, Using Music Well: Reassessing Perception in Augustine's *De Musica, Augustiniana*, 60 (2010) 3-4, 263-281; <https://www.jstor.org/stable/44993046>.

Jaeger elaborates the effect of music on the human mind and body, or on the *moralitas* of music according to Boethius. He also provides important information about Alcuin's view on the role of music in tempering the mind and on composing men's minds into like-mindedness (music of friendship) that could be known to a learned woman like Hrotsvit (Jaeger, *Alcuin...*).

²⁷ Morrison, *Know thyself...*, 381.

²⁸ *Ibid.*

²⁹ Cf. Brian BRENNAN, Augustine's *De musica, Vigiliae Christianae*, 42 (1988) 3, 267-281; <https://www.jstor.org/stable/1584121>.

³⁰ Augustine, *On the Nature of Good*, chapter 3, <https://www.newadvent.org/fathers/1407.htm> (26.05.2023).

³¹ *Ibid.*

³² Morrison, *Know thyself...*, 380.

2. *Hrotsvit's authorial self-perception*

Hrotsvit says she wants to glorify God through her work, using threads and pieces of cloth separated from the mantle of Philosophy. She picks up some threads and scraps torn from the old cloak of philosophy, to weave them into her own book.³³ With those words, Hrotsvit places herself among philosophers and brings to mind the memory of the garment of Boethius' Lady Philosophy.³⁴ The imagery of collecting and forming cloth by interlacing threads evokes and communicates one more message – the textile metaphor contained in the very word *text*. According to its meaning, her writing is a fabric that incorporates and blends fibers as the elements of the tradition of written works and spiritual inheritance. It does not denote imitation but primarily Hrotsvit's relationship to predecessors, and the creative process of weaving that includes adoption and adaptation of inheritance. This adaptation implies a modification of non-Christian teaching (for example, of music), perceived to be capable of forming a homogeneous whole with the Christian doctrine. In addition, she deliberately adopts the genre of Terence's dramatic style with the intention of replacing pagan themes and moral with Christian ones.³⁵ Finally, the axial layer of the same image comes to a reader's mind. If Hrotsvit intends to glorify God, then her writing is also to be interpreted as creating harmony or concord. Her concept of writing parallels her and God's activity in so far as she as a human is a rational and willing co-creator.

In Preface to her plays and Epistle to the patrons of her book, she veils her self-consciousness as an author with the topos of humility. But even though she writes of »the limits of her poor talent«³⁶, the inferiority of her »poor work«³⁷, »ignorant effort«³⁸, and of »humble work of an obscure woman«³⁹, she is self-confident and in maybe the most striking aspect of her Preface, she claims herself to be »the strong voice of Gandersheim«⁴⁰.

Behind Hrotsvit's application of the modesty formula, we can detect three sources of her determination to contribute her opinion (and work) to the solving of important problems of her days – which are the attractiveness of the beauty of the language of pagan authors⁴¹ and risk (of) being corrupted by the wickedness of the subject of Terence's works⁴² – and not to seek the biographical facts

³³ Cf. ROSWITHA, *The Plays of Roswitha*, London, Chatto & Windus, 1923, XXIX-XXX.

³⁴ Cf. BOETHIUS, *De consolatione philosophiae*, Cambridge, Massachusetts, Harvard University Press; London, William Heinemann, 1968, 1, M1, 130-131.

³⁵ Cf. Hrotswitha, *The Plays of Hrotswitha...*, 3.

³⁶ *Ibid.*

³⁷ *Idem*, 5.

³⁸ Roswitha, *The Plays of Roswitha...*, XXX.

³⁹ *Idem*, XXVIII.

⁴⁰ Cf. Hrotswitha, *The Plays of Hrotswitha...*, 3.

⁴¹ *Ibid.*

⁴² *Ibid.*

of her lacking knowledge and education. Firstly, Hrotsvit models herself as a »teachable creature«⁴³ with »a perspicacious mind«⁴⁴ given to her by the Creator. Secondly, the patrons of her work approve it by sending her their paternal »congratulations«⁴⁵. In the epistle to them, she presents herself as reassured by their verdict and records »(now) I feel that I have enough confidence to apply myself to writing«⁴⁶. Thirdly, she finds herself responsible for her natural gifts. She writes: »I know that it is as wrong to deny a divine gift as to pretend falsely that we have received it«, and

»That my natural gifts might not be made void by negligence I have been at pains, whenever I have been able to pick up some threads and scraps torn from the old mantle of philosophy, to weave them into the stuff of my own book...«⁴⁷

To know and use God-given talents and gifts in spiritual life is a part of her aspiration to achieve self-knowledge. Humans must discover and practice them; neglecting them is also an impurity of the soul. This dedication or commitment to developing one's natural abilities makes an important similarity between her and Augustine's approach to writing, which signalizes that it is more likely that he may be the primary exemplar and inspiration of Hrotsvit's conception of writing, its goals, and of the importance of dealing with music, ahead of Boethius who was highlighted by Chamberlain⁴⁸. My understanding of the relation between the dialogue on music in Scene One and the play's dramatic action aligns with his interpretation for the most part, but not with regard to the possible inspiration. I think we can understand Hrotsvit even better by comparing *Paphnutius* and her *Preface to the plays* with Augustine's *De musica*. Two components of Hrotsvit's idea of embodying musical theory in dramatic text should be distinguished. The first refers to the dramatic (conversational) form that her thematization of music shares with Augustine's dialogue and Terence's comedies, and the second is content, i.e., permeating the entire dramatic plot with musical learning whereby Hrotsvit literally embodies her definition of music and probably borrows some conceptions and opinions from Boethius, Augustine, and Cassiodorus to create a new whole. Boethius' theory of *musica humana* is still a theory⁴⁹ and not Hrotsvit's dramatic recreation of

⁴³ Roswitha, *The Plays of Roswitha...*, XXIX.

⁴⁴ *Ibid.*

⁴⁵ *Idem*, XXVIII.

⁴⁶ *Idem*, XXIX.

⁴⁷ *Ibid.*

⁴⁸ Chamberlain, *Musical Learning...*

⁴⁹ Cf. BOETHIUS, *Fundamentals of Music*, I, 34, 1989, 51: »(...) a musician is one who has gained knowledge of making music by weighing with the reason, not through the servitude of work, but through the sovereignty of speculation«. The same applies to the medieval context, music is primarily theory, not fine art or playing skill, and musician is the one who masters and applies the speculative principles of the discipline.

life effort to achieve harmony written from the perspective of an author who reflects on her creative process.

Augustine's dialogue on music between master and disciple (the same participants are involved in the conversation in *Paphnutius*) is written for those »who, given up to secular letters, are involved in great errors and waste their natural good qualities in vanities«⁵⁰ The cited opinion reveals yet another link between Hrotsvit's and Augustine's appreciation of secular literary works and shameful theatres⁵¹, or, as Hrotsvit writes, the shameless acts of licentious women in Terence's plays⁵². They both are aware of the elegance and style of pagan writers, their attractiveness, impact, and preferences of many Catholics who like these works more than holy scriptures. Hrotsvit and Augustine are interested in writing works that can help to escape those impediments. Augustine assumes that his »dutiful labor«⁵³ of giving the account of music can help every person whom »God has endowed with a good natural capacity«⁵⁴ to turn away from »the fleshly senses and letters«⁵⁵, and Hrotsvit believes that she can successfully apply her mind and her pen to imitate the form of Terence's plays⁵⁶ for the higher reason of making 'musical' play (and 'musical' women out of discordant sinner Thais), and to counter Terence. The process Hrotsvit's Thais is going through (the restoration of her *musica humana*) is very close to Augustine's statement that »the soul is made better«⁵⁷ »when it turns away from the carnal senses and is reformed by divine numbers of wisdom«⁵⁸. All these elements display Hrotsvit's familiarity with Augustine's intention of writing on music and with his concept of music. They bear witness to the connection between Augustine's discussion on music in the form of philosophical dialogue and Hrotsvit's dramatic elaboration of the theme of *musica humana*.⁵⁹ In her own words in Preface, she gathered her research and set it down as plays⁶⁰.

Although by reason of her »unpolished style«⁶¹ she does not want to liken herself »to those whose genius and knowledge so far surpass«⁶² her abilities, she made clear the identification of herself as an author, and of the intention

⁵⁰ Augustine, *On Music*, VI, I, 1, in: Hermiglid DRESSLER et al. (ed.), *The Fathers of the Church*, vol. 4, Washington D.C., The Catholic University of America Press, 2002, 324.

⁵¹ Cf. *idem*, 333.

⁵² Cf. Hrotswitha, *The Plays of Hrotswitha...*, 3.

⁵³ Augustine, *On Music...*, 324.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*

⁵⁶ Cf. Hrotswitha, *The Plays of Hrotswitha...*, 3.

⁵⁷ Augustine, *On Music...*, 333.

⁵⁸ *Ibid.*

⁵⁹ On spreading of manuscript copies of Augustine's *De musica* in numerous library catalogues of important monasteries in France and Germany see Introduction in Augustinus, *De musica*, Universität Salzburg, De Gruyter, 2017.

⁶⁰ Cf. Hrotswitha, *The Plays of Hrotswitha...*, 5.

⁶¹ *Ibid.*

⁶² *Ibid.*

of her writings. How she understood and wished to communicate her role in playwriting, especially since medieval authors did not always choose to name themselves in prologues of their works, manifests her responsibility for talents and power of her creative thought.

3. *Arithmetic in Sapientia*

The theory of numbers is one of the essential motives of Hrotsvit's *Sapientia*. It is a play on the martyrdom of the holy virgins Faith, Hope, and Charity, who are put to torture by the emperor Hadrian and murdered before the eyes of their mother, Sapientia. Hrotsvit's Sapientia is presented as an alien woman, the offspring of princes of Greece, depicted as a figure of amazing beauty and dignified manner, so that Hadrian himself exclaims: »The splendor of your noble birth shines in your countenance, and wisdom's name, Sapientia, resplends in the words of your mouth!«⁶³ She came to Rome »to learn the truth, in order to know more about (...) faith«⁶⁴ and to »betroth daughters to Christ«⁶⁵. Asked about their names and ages, Sapientia puzzles Hadrian with some problems in arithmetic and her answer reveals his ignorance.

She is familiar with the arithmetical knowledge. She divides numbers into odd and even, explains why the number is said to be augmented or diminished, perfect, evenly even and evenly uneven, and what indivisible unity and order of numbers are. In addition to the description of Sapientia, who is of noble Greek origin and who, in search of the truth, found Christ, this numerical discourse Hrotsvit introduced needs to yield beneficial and prosperous results. In the words of Sapientia:

»For the wonder of such calculations praise
must be given
To our supreme Creator's wisdom,
And the marvelous knowledge
Of the Maker of the world.
For in the beginning He created all things
out of nothing.
And He so distributed all things with
number and measure and weight,
That, in the fullness of time that followed,
The age of man was allowed to discover
The marvel of scientific thought.«⁶⁶

⁶³ Hrotswitha, *The Plays of Hrotswitha...*, 353.

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ *Idem*, 361.

In Hrotsvit's view, the universe is harmonious and governed by numbers, and arithmetic is the basis of other mathematical disciplines⁶⁷, because it existed in the mind of God the Creator. In line with the platonic and Pythagorean tradition, she regards arithmetic as applicable to nature and considers that through arithmetic, we can achieve knowledge of the physical world and of God, who set everything in the right order by number. On the other side, she assigns numbers (age of Sapientia's children) to the personified virtues, Faith, Hope, and Charity, that are directed towards God. It is possible to indicate her familiarity with the idea of the ethical dimension of arithmetic (in the Christian line of interpretation), and possibly even divine or theological arithmetic, and this would mean that she understands arithmetic as a part of philosophy and wisdom.

The virtue of *sapientia* includes knowing and accepting God, who creates out of nothing and arranges all things by measure, number, and weight, which directs us, as rational beings who use numbers, to science and knowledge of Him as the only God. Contrary to Hadrian's non-philosophical mind («a lack of wisdom»⁶⁸ are the words Faith addresses him) and his attempt to persuade them to worship gods, Sapientia and her daughters remain faithful to Christ until their martyrdom. That torment and death were not instructive in the way Hadrian expected. Facing death in those who possess virtues does not change their attitude toward faith nor cause fear. The origin of Sapientia and her daughters, the calmness of their mind, and their freedom from the anxiety of their death create a reference to non-Christian intellectual culture, to the injustice of Socrates's death and his fearlessness, known to the educated Christians. Apart from that, in both cases there appear false accusations of adherence to a new religion opposite to that of the state, and with their behavior and words, Sapientia and her daughters, like Socrates, open the perspective for understanding the truth of human existence.

We do not know for certain to what extent Hrotsvit knew the works that belong to so-called mathematical disciplines, nor which authors and titles she read, but it is possible to admit that Platonic and Pythagorean traditions were available to her in some forms and that she used them actively.⁶⁹ We know that *De institutione musica* of Boethius was intended to be read along with the *De institutione arithmetica* as one of the works foundational for Platonic scientific education. When liberal learning was revived in the Carolingian

⁶⁷ Other parts of quadrivium: geometry, music and astronomy.

⁶⁸ The wisdom of the soul arises from its relation to God. Writing on Hadrian's ignorance of God and the eternal, immortal life of the soul, Hrotsvit, like Augustine, Bible or Plato, uses the words *insipientia*, *stultus*, *insipiens* (cf. Hrotswitha, *The Plays of Hrotswitha...*, 370).

⁶⁹ Suzanne Fonay Wemple points out that she produced her works »in a century hardly known for its writers«, and that »in all of her works, she displayed qualities coming from a broad influence, wider than Gandersheim was able to provide« (cf. Fonay Wemple, *Monastic Life...*, 45-46).

era, his treatises on arithmetic and music reappeared as authoritative works. One of his primary sources for producing those treatises was Neopythagorean Nicomachus of Gerasa.⁷⁰ The Pythagorean doctrines of arithmetic for the most part occurred in a philosophical or musical context. They were embedded in the literature, which was the basis of education in the Hellenistic period⁷¹, and from there, they also entered the works on the arithmetic of Martianus Capella, Cassiodorus, Isidorus of Seville, Rabanus Maurus. But the mediators of the greatest influence through which the Roman world and the Middle Ages learned Greek arithmetic were Boethius's works.⁷² His mathematical works played an essential role in the development of Western thought, and teaching and mathematical disciplines served as exhortations to the study of philosophy.

Conclusion

We find philosophical interests, problems, and arguments in Hrotsvit's plays *Paphnutius* and *Sapientia*. From the analysis, it follows that according to Hrotsvit, order and harmony in the created world, and the use of philosophical knowledge of music and numbers, can lead the human mind to contemplate God. Hrotsvit suggests her audience act in that particular way, and from the perspective of this idea, we can read them as two complementary plays. What she wrote fits tendencies, motives, and preoccupations in the theory of music and arithmetic connected with philosophy in her era. But Hrotsvit does one more thing. She deals with these concepts independently, developing their implications and clearly identifying herself as an author. She presents her doctrines on music and arithmetic in a concrete and direct way (relating to human experience), and her plays serve as a mirror for knowing oneself. She gains insight into the human being and its condition and shows interest in the relationship between faith and reason.

Ethics and virtues, together with the knowledge of God's existence and his nature, are in focus of the two plays. She states her interest in philosophy and in philosophical writings and presents an understanding and knowledge of the Pythagorean and Platonic traditions, especially of Augustinian and Boethian theories of music and numbers.

⁷⁰ Cf. Calvin BOWER, Boethius and Nicomachus: An Essay Concerning the Sources of the *De Institutione Musica*, *Vivarium*, 16 (1978) 1, 1-45; <https://www.jstor.org/stable/42569706> and Egleston ROBBINS et al., *Studies in Greek Mathematics*, in: Nicomachus OF GERASA, *Introduction to Arithmetic*, 1926, 132-137. Nicomachus was interested in explaining the mathematical principles involved in difficult sections of Plato's account of the world-soul in the *Timaeus* and elucidating the passages from the *Republic* (cf. *ibid.*, 1926, 23).

⁷¹ Cf. Robbins et al., *Studies in Greek...*, 89.

⁷² *Ibid.*

Although she is influenced by other Christian and late Latin writers, Hrotsvit shows originality, primarily because of making her definition of music active and alive in her texts by shifting it into a series of dramatic scenes that connect the Christian ideal of morality and charity with the theory of music as universal harmony more closely. She does not only use philosophic vocabulary and theory, the form of the inquisitive dialogue, and the perplexity of disciples in *Paphnutius*; she pursues philosophy by developing and embodying philosophical definitions, terms, and theory for her audience by binding ancient intellectual tradition with Christianity. She uses her imagination to represent the concord in all levels of being.

According to tradition, she distinguishes and expounds three kinds of music. The text of *Paphnutius* is rhymed and monastic life includes singing psalms, but instrumental music is not the center of Hrotsvit's attention and interest. Celestial music gives her the opportunity to speculate on God who made all creation as music. He is also the Composer of harmony in microcosm – of the concord of the elements of the body and the unity or harmonious connection of body and soul (*musica humana*). This concord can be disturbed by human action, as when the corporality of Thais overwhelms her being, but it can also be renewed. Hrotsvit applies numerical laws to the external and internal world. She understands arithmetic as a reading of laws and harmony inherent in the created beings of the universe. In her opinion, humans are capable and responsible for building concord in their works and deeds.

Barbara Ćuk*

Hrotsvit iz Gandersheima i filozofija: Muzika i aritmetika

Sažetak

Hrotsvit iz Gandersheima muziku i aritmetiku shvaća kao dijelove filozofije. Iznoseći motive za bavljenje književnim stvaralaštvom te opisujući proces pisanja, o sebi kaže da je, slaveći Boga svojim djelom, u njega ugradila niti i komadiće drevnog plašta filozofije. Cilj rada je pružanje uvida u Hrotsvitino znanje o filozofiji te u posebnosti i značenje njezina pristupa sadržajima disciplina aritmetike i muzike (posebice sadržajima tzv. *musica humana* i sklada svijeta) u njezinim dramama *Pafnutije* i *Mudrost* te analizirati različite elemente njezine autorske svijesti o sebi i istaknuti sličnosti njezina i Augustinova razumijevanja muzike i nekih vrsta pisanja. Zaključuje se da je Hrotsvit poznavanje antičkih i srednjovjekovnih teorija muzike i brojeva na jedinstven način ugradila u svoja dramska djela pokazujući originalnost u njihovu tumačenju i povezivanju sa svakodnevnim moralnim životom i podučavanjem. Na taj se način izlažu i vrednuju rijetko obrađivani filozofski elementi njezina opusa.

Ključne riječi: aritmetika, filozofija, Hrotsvit iz Gandersheima, musica humana, muzika, sklad.

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