

The first surviving ‘schoolbook’ of Hungarian music education: The Szalkai Codex

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RESEARCH ARTICLE

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ABSTRACT

One of the most outstanding cultural events of the year 2019 is the facsimile edition of the Hungarian Szalkai Codex, thanks for which are due to cooperation between the Library of the Primate of Esztergom and the Collection of the Roman Catholic Church at Sárospatak. This outstanding cultural asset, written at Sárospatak (called Patak at that time) and guarded at Esztergom, serves as a curiosity not only for researchers interested in palaeography but also for specialists working in different fields of the history of education. This codex is not only the oldest, but at the same time the only surviving Hungarian schoolbook from the Middle Ages. With its help we may reconstruct some of the ways in which town (parish) schools operated under the reign of King Matthias. The present study focuses on medieval music education.

KEYWORDS

Hungarian, music education, town (parish) schools, middle ages

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THE ORIGINS OF THE SZALKAI CODEX

The Szalkai Codex is actually a composite volume in the sense that hand-written booklets in Latin, related to astronomy, philosophy, poetry, rhetoric, law and music, made in the same size were later bound together into one volume. The booklets, structured according to the content of the curriculum, were produced by László Szalkai, a student at the Parish School of Patak.

Who was the author of these notes, and what exactly do we know about the circumstances in which the notes were written?

There is hardly any information available about László Szalkai's childhood. Based on the places and dates of his biography, he is supposed to have been born sometime in the mid-1470s as the son of a cobbler at Mátészalka. (As is customary in the age, young people were given a distinctive adjective based on their place of origin.) Based on the fact that his school notebooks contain non-elementary knowledge, he probably went to school at Patak during the school year of 1489/90. Having a solid foundation of knowledge in the Latin language (and, as we will see later, that in several other disciplines), he began his studies at Patak, and presumably spent the period up to the age of 18 at this school. The data below, which may be regarded as official in Szalkai's biography, can be put at around 1494/95. [András Kubinyi \(1994, 103\)](#) points out that although Szalkai is identified (in his opinion, wrongly) as 'scrivener László' in the royal account book of the designated period, he is more likely to suggest that Szalkai is the scrivener László known as the tax collector of Nyitra County in the same year. Whatever the correct data is, it confirms the assumption that young Szalkai was a student of 14 or 15 years at the time when the school notes were produced. Although this information would be sufficient as regards our subject matter, we find it important to mention with regard to László Szalkai's career, a life-course so full of contradictions, that almost immediately after finishing his studies he joined the court and went on to build a distinguished career in both secular and ecclesiastical terms. As an influential figure in political life, he held the position of Archbishop and Chancellor of Esztergom when he eventually lost his life in the Battle of Mohács. He must have received the foundations for his high-level humanist education which served him throughout his life career and was recognized by his contemporaries, as well as the impulse for continuous self-education, at the Patak School.

As regards the identification of Szalkai's Patak School, [Dénes Bartha \(1934, 2\)](#) unreservedly takes over the first, erroneous data of the biography written in 1866 without naming the sources, stating that Szalkai attended the school of the Augustinians. However, with regard to the Gregorian melodies and the explanations of music theory in the codex he makes it clear ([1934, 14](#)), that there are no indications of a monastic school or an Augustinian liturgy in the notebook. [István Mészáros \(1972, 26–29\)](#) calls our attention to the fact that the feasts of the eponymous saints (Franciscans, Dominicans and Augustinians) of Patak at that time are not mentioned in the Chapter on Astronomy, whereas both feasts of the titular saint of the town parish church, St. John the Baptist are highlighted in red. Reasoning further, supported by data from educational history and contemporary documents, he proves ([1972, 45–52](#)) that the versatile and free curriculum, reflecting a renaissance spirit in the Codex, provided knowledge essential for a secular career, and was taught in town (parish) schools, while it was only members of the order who were trained in the religious houses of the time. At approximately the same time when Mészáros' book was written (1968), archaeological excavations began in Sárospatak – for a completely different reason – in the immediate vicinity of the Roman Catholic Church (formerly St. John the Baptist). Archaeologists



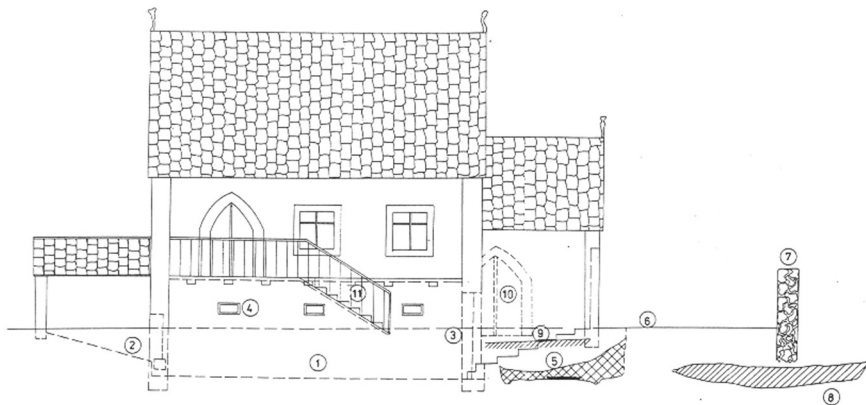
uncovered the remains of a former parish school (Gömöri, 1996), supporting István Mészáros's hypothesis presented earlier. Figure 1.

The town of Patak was given to Péter Perényi in 1526, who ordered large-scale defence works: the construction of outer castle walls. With the historical facts in his possession, but before the publication of the archaeological results, Mészáros formulated his hypothesis whereby the school must have been in the way of building the planned castle walls, so Peter Perényi looked for another place for it. Figure 2.

While collecting material in Sárospatak, Mészáros had the opportunity to follow the current results of the archaeological excavations, and also shared them with the public (1971). At the same time, we believe that the above mentioned fact does not diminish his merits, as he deals with the subject in several chapters both in his study (1971) and his book (1972), and justifies his claim with a large number of relevant documents which are convincing and correct in themselves without any archaeological excavations. János Gömöri puts this as follows (1996, 71):

However, the fact that the demolition of the (Catholic parish) school building and the construction of the other (future Calvinist) school building coincide proves, in our opinion, that the two schools are the organic continuations of each other. Thus, it was necessary to set up a school in the abandoned house of the Beguines sometime between 1531 and 1539 because the parish school might have been structurally restructured and, what is more, the school building used until then was itself demolished between 1528 and 1537.

The parish school continued to operate under Péter Perényi, as well (Mészáros, 1972, 291–295), but Protestantism began to spread in Patak even during his time. After Péter Perényi's death (1548),



5. KÉP Az iskola elméleti rekonstrukciós metszete

- 1/ A kőpince
- 2/ A korábbi "a" pincegödör
- 3/ A későbbi "b" pinceajtó
- 4/ Pince szellőzőnyílás keretézése
- 5/ A 14. századi fakonstrukciós pince omladéka

6/ 15. századi külső szint

- 7/ A cinterem fala
- 8/ Őskori gödör a cinteremfal alatt
- 9/ Az iskolamester szobája
- 10/ Bejárat az iskolamester szobájába
- 11/ Feltételezhető falépcső a "tanterembe"

Fig. 1. The theoretical reconstruction of the school. Gömöri, J. (1996) 'A sárospataki középkori plébániai iskola', G. Szende Katalin. and Szabó, P. (ed.) *A magyar iskola első évszázadai = Die Ersten Jahrhunderte des Schulwesens in Ungarn: 996–1526*. Győr. 74. Available at: https://library.hungaricana.hu/en/view/MEGY_GYMS_Sk_1996_a_magyar_iskola/?pg=70&layout=s (Accessed: 02 August 2019)



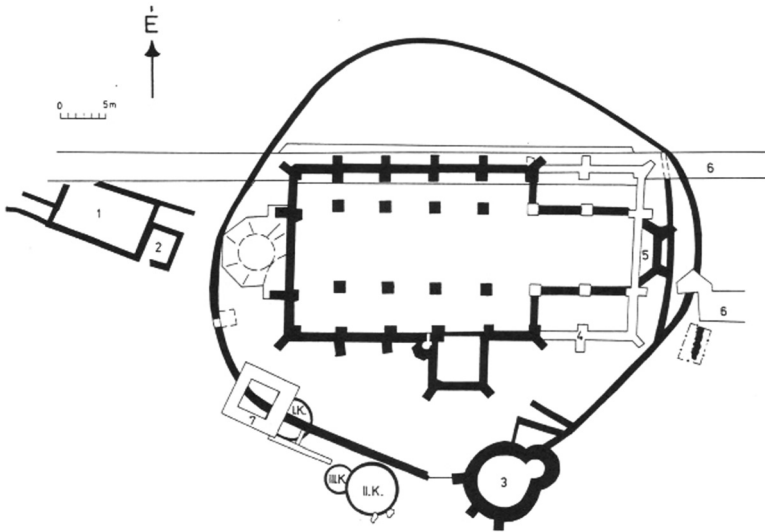


Fig. 2. The parish school (1.), the schoolmaster's room (2.), the northern castle wall built by Péter Perényi (6.). Gömöri, J. (1996,71.) Available at: https://library.hungaricana.hu/en/view/MEGY_GYMS_Sk_1996_a_magyar_iskola/?pg=70&layout=s (Accessed: 02 August 2019)

his son Gábor became the new landowner, and Patak became a firmly Protestant town during his life. The school continued to flourish in a Calvinist spirit and later, as a well-known institution, it gave the country many distinguished scholars, politicians and artists.

Let us go back to the events of the 15th century! Patak was in its prime during this period. In 1429 King Sigismund donated the market town to the wealthy noblemen György Pálóczi, Archbishop of Esztergom; Mátyás, Lord Chief Justice; and their brother Imre. The Pálóczis gave generous support to the parish church including the status of *exemptus* which placed it directly under the jurisdiction of the Archbishop of Esztergom. At the same time they had a significant influence on the religious life of the town (Gömöri, 1996, 69). As a result, from 1429 onwards the position of the parson was filled by renowned and highly esteemed persons. The following are just a few examples from the later part and the turn of the century: 1475–1483 Bálint Bakócz, brother of Tamás Bakócz, Archbishop of Esztergom; and from 1503 György, Bishop of Bodon (Détsy, 1972, 90). Unfortunately, our source does not include any data from the period when the school notes were made.

The leaders of the parish school (rector) were certainly chosen with great care. János Kisvárdai, who had studied at the University of Krakow, is supposed to have come to Patak in 1486 to provide his students, interested and receptive and not much younger than himself, with secondary education. János Kisvárdai was born as a child of a furrier in Kisvárdai. He had probably acquired his elementary education in his hometown; there are no data as to where he did his secondary school studies, but it is certain that the talented young man began his tertiary studies at the University of Krakow in 1481 as a student of the *facultis artium*, where he eventually obtained his bachelor's (baccalaureate) degree in 1484 (Sarbak, 2019). Kisvárdai cannot have been a clerical man, because in such a case besides his father's name and occupation his diocese would have been mentioned in the university certificate referred to in our source.



However, this was not unusual: town (parish) schools were operating under the joint control of the town council and the church organization, so they had the same expectations in terms of basic tasks and goals, and they were increasingly appointing laymen to lead the school (Mészáros, 1972, 32).

In Sárospatak at the end of the 15th century, education continued at the usual ‘levels of learning’ in the parish schools of that time. The main task for the first, most populous group of pupils was to acquire the reading skills necessary for general knowledge, numeracy, and the basics of Latin and the melodic treasure of Gregorian chant. Fewer students studied in the second group where they first immersed themselves in the mysteries of the Latin language, and only a few particularly interested and receptive students had the chance to acquaint themselves with works written in Latin on different topics and to achieve success in an intellectual occupation at a higher level after finishing their studies and in the possession of this classical education. Students in the third group helped with discipline and were given a variety of smaller tasks to teach in the lower years (Mészáros, 1972, 45–52).

As was common practice at Patak, students in secondary education learned by the method of copying-and-explaining: they received a basic text for home-based copying for each subject, and while learning the teaching material at school, they had the opportunity to listen to additional explanations, teachers’ responses to their questions, and to take notes (on the margin or between the lines) if necessary. They wrote the exercises they were required to do on their own (e.g. looking for synonyms) in their notebooks. This type of teaching with the explanatory method, the so-called ‘scholastic-verbal’ procedure was commonly used all over Europe (Dobszay, 1988, 151). The Szalkai Codex is a specific product of this educational system: the central basic text serves as a textbook, and the notes made by the students and the exercises done by them on their own serve as a booklet.

Six of László Szalkai’s school notebooks have survived: produced in 1489 and 1490, they were placed side by side (not according to the order of origin) and bound into a single volume. While preparing the school notebooks, the students fitted together four or more sheets of double paper (fasciculus), and when they had written all over the paper, they started a new fasciculus. The related fasciculuses stitched together constituted a whole school curriculum. The young Szalkai prepared his booklets very carefully: the size of the mirror image is uniform on each sheet, but the density of the writing form, the number and length of the lines are different. Gábor Sarbak (2019) sees an explanation for this in the writing technique of the time: when a new fasciculus was started, inevitably, there was a difference from the previous one.

Szalkai usually marked the end of copying the individual study materials (booklets) by stating the exact date. In places where only the year is given (the chapter on music) or the date is missing (the chapter on astronomy, but the year can be inferred from the text), the pupil was planning to continue the note. This may be concluded from the partial incompleteness of the given section of the curriculum and the pages that were intentionally left blank. At the end of the chapter on music, the following note may be read:

*Et sic est finis per Ladislaum de Zalka quia exemplar non habuit ultra. In Pathak sub Iohannis baccalaurei practica 1490.*¹ [I have finished writing, I, László Szalkai, because I do not have a sample

¹Dines Bartha: In the second part of his work titled Archbishop Szalkai’s notes on music ... (1934) he publishes the corrected version of the entire musical material according to classical spelling. In our study, all the Latin quotes associated with the musical section are given according to this text.



copy of the others. At Patak, under the guidance of János Baccalaureus, in 1490.; (Mészáros, 1971, 294.))

As regards the texts concluding the chapters, Mészáros (1972, 26) calls our attention to the fact that if the notes had been made in a monastic school, the clauses would have indicated which monastic school it was. However, no such remark can be found at the end of any of the booklets.

There is no information available as to the reasons for having the booklets bound together or arranging them in this particular order. Presumably the codex reached its final form by Szalkai's own decision and on the basis of his own instructions. However, we cannot preclude the possibility that other school notebooks were also used which later perished, so posterity cannot know of their existence.

The order in which the booklets were created and bound – based on Mészáros (1972) and Sarbak (2019).

in a booklet	in a volume	year of origin	contents	remarks	size
I.	I.	1489	astronomy, calendar calculations, sanitary knowledge	without a title, the beginning is missing	1r – 27v
II.	V.	14 Sept, 1489.	<i>Carmen paraeneticum</i>	didactic poem	130r –167r
III.	IV.	7 Jan, 1490	<i>Ecloga Theoduli</i>	allegorical poem allegorises	80r – 129v
IV.	III.	7 May, 1490	<i>Tractatus Iohannis Andreae</i>	family law	65r – 79r
V.	VI.	12 May, 1490	<i>Rhetorica de dictis Thybni</i>	on writing a letter	168r –258r
VI.	II.	1490	<i>Traditio Iohannis Hollandrini</i>	music theory	30r – 63v

Based on the titles of the booklets, the question that arises in the mind of the contemporary reader is: what logic prevailed in the content of the educational curriculum? In the lower grades of medieval schools, students learnt the first unit of the seven liberal arts (*septem artes liberales*), the *trivium* (*grammatica, rhetorica, dialectica*), and acquired the other knowledge at a higher level during secondary education (*quadrivium: arithmetica, geometria, astronomia, musica*). At the same time, classical education cannot always be defined as an *ars* of the seven free arts. According to Mészáros (1972, 47)

{...} the complex domains of knowledge (*grammatica, dictamen, computus*) crystallized in European schools are better suited to map the domains of classical education {...}. However, classical education itself – in a way that can be clearly traced back to the content of these complex domains of knowledge – underwent a major change at the turn of the 15th-16th centuries: it became more complete, richer and more colourful with the new elements of humanistic literacy.



In other words, we can see that it contains elements of an interrelated, indispensable set of basic disciplines which, as a general intellectual acumen, equips the scribes to be able to fulfil successful secular positions requiring literary knowledge. As Mészáros put it (2010, 66),

it is not an elementary foundation material, nor is it the curriculum of general secondary education, but it is in contact with the *ars* faculties of the universities *belonging to the upper section of European secondary level schools*.

By the end of the Middle Ages, the word “clerical” was no longer used in the sense of a priest or a seminarist, but was generally understood to refer to a learned man. Those preparing for secular careers also sat at the school desk among the students studying the clerical curriculum. The notes of the Szalkai Codex show that students had the chance to succeed in the curriculum and to complete their studies successfully if they had very strong reading and writing skills and a high level of knowledge of Latin and grammar. In the case of Szalkai, we don’t know if he pursued any further studies at a university, but it is known that he achieved an outstanding career, whether by secular or ecclesiastical standards. We believe that the Patak school and the intellectual environment there (praising, above all, one Kisvárdai for his personality and his performance as a teacher) provided him with a proper motivation.

Kisvárdai is believed to have taught the students of the parish school from his self-copied notes in Krakow, thus conveying to them the most up-to-date knowledge, as well as the spirit of the University of Krakow. Mészáros (1972, 95–100) points out a number of specific correspondences between the philosophical endeavours, the written works of the eminent scholars of the time and the notes of the Szalkai Codex. Getting students to copy, as was mentioned earlier, was a general technique for transferring knowledge: the teacher often made his students copy his own school notes, that way frequently mediating to them theoretical discussions that may have been several centuries old and often out-of-date. It also happened that besides the original body of text additional notes (glossaries written by a former pupil on the margin) were copied by a later student, and his notes were squeezed in between the lines in small letters. We can see this in Szalkai’s booklets, as well. To justify all this, let us mention a funny contribution. Codex analysts “catch” the young Szalkai making errors, miswriting, or find fault with his writing several times. But was there always fatigue, inattention or inaccuracy in the background? Szalkai himself points out a much more prosaic reason when he says the following on September 14, 1489 (Mészáros 1972, 329):

Whoever you are who reads this, you will obviously not praise me, but you are not to scold me, either, for finding so many errors. In fact, they are not due to speed of my pens, but due to the wrong entries in the specimen.

Teacher explanations and all the other additional illustrations and remarks served to ensure that outdated views were filtered and modern knowledge was transferred – so tradition and innovation appeared together in Kisvárdai’s pedagogical practice, as teacher explanations might sometimes have gone well beyond the original text which served as a starting point. Mészáros (1972, 327) also calls our attention to the signs of concentration of the subjects in the codex: e.g., one of the sentences in the didactic poem is included in the booklet on letter writing, or besides the chapter on astronomy the representation of the Earth appears while the didactic poem is being discussed, and also in the section of letter writing. Another interesting feature is the frequent appearance of the dialect of Hungarian spoken along the Upper Tisza river marked



with the letters ‘iz’ written in the glossaries in small letters in Hungarian (e.g. játék, idesszavú, nevensig, rítek, etc.), which not only shows the linguistic peculiarity of Szalkai’s place of origin, but also the strong presence of the mother tongue in school education. Szalkai preserved this characteristic until the end of his life, which is evidenced by the Hungarian postscript of the letter he wrote in Latin in 1525 as archbishop of Esztergom (Kubinyi, 1994, 113).

There is a unanimous opinion about the form in which the notes were written, namely that they are the work of a very skilled writer who was used to writing regularly. This is particularly interesting in the case of sheet music examples, but this will be discussed later. Szalkai also decorated his notes to his liking as he copied the core material: he drew initials in certain chapters and frequently used highlighting with rubrum in texts written in brown ink. If necessary, he drew explanatory figures (serving as illustrations do in contemporary schools) – if he had a high quality sample in front of him, he was usually successful in reproducing it. Figures 3 and 4.

THE CHAPTER ON MUSIC THEORY

The parish schools of the time were usually adjacent to the parish churches, and one of the pupils’ important tasks was to participate in singing at masses, various church ceremonies and

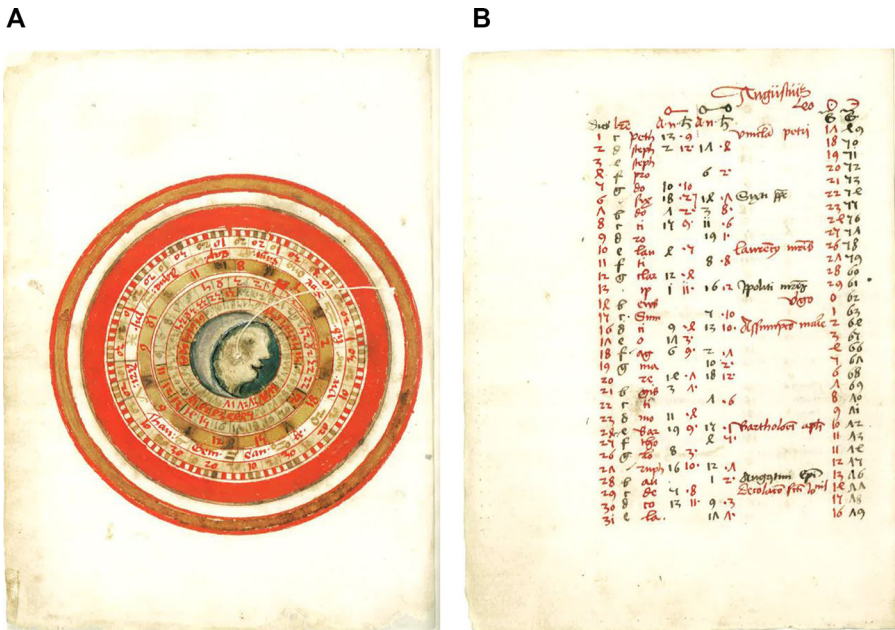


Fig. 3. (a). Moon man – a rotatable sheet with a pointing cord; (b). A calendar for the month August, with the feast of St John, the Baptist highlighted with rubrum. *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve* Sarbak, G. (arr. and preface) Facsimile edition. Esztergom: Esztergomi Főszékesegyházi Könyvtár–Sárospataki Római Katolikus Egyházi Gyűjtemény, fol. 11v and 15v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)



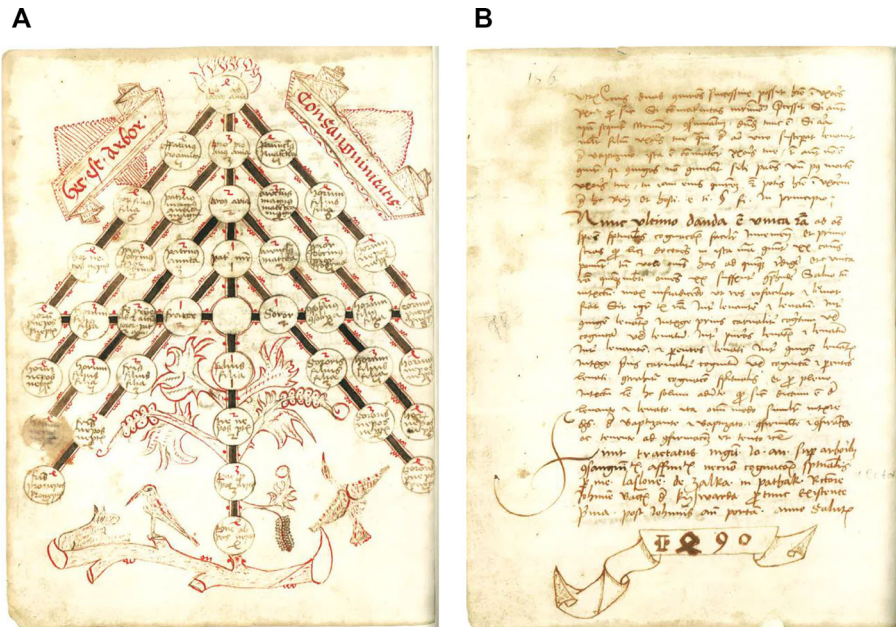


Fig. 4. (a). One of the diagrams of the booklet on family law with a bunch of grapes (Tokaj Wine Region); (b). The ornate clause of the chapter. *Szalkai-kódex; Szalkai László esztergomi érsek iskola-láskönyve*, fol. 70r and 78v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

funerals. (In relation to Patak this fact was also confirmed by the archaeological excavations at Sáropatak described above.) Accordingly, pupils received music education even at the elementary level: their curriculum included liturgical songs. The daily practice of attending church ceremonies required the school to provide musical preparation to help students to cope with the task of singing in a choir together with adults at an appropriate level. Although they became involved in singing the musical repertoire gradually at the pace at which their vocal skills progressed, this could not function by merely learning songs by ear. It was common practice for children to have to note down the upcoming songs, especially before Sundays and holidays, and sometimes at other times, as well. In other words, the ‘science’ of music writing and reading was an integral part of school education, and its application became a daily practice (Dobszay, 1984, 45).

A special feature of the music chapter of the Szalkai Codex is that the core text contains numerous examples of sheet music and, besides, the sheets are interspersed with numerous notes which were added to the margins, given as an explanation or dictated as a result of discussion in the lesson. Like Szalkai’s handwriting, Szalkai’s musical notation is also a cursive notation suitable for taking school notes, which indicates quick, skilful movements, as opposed to childish drawing. Again, we should refer to the method of teaching in the parish schools. Obviously, this level of musical reading and writing can be achieved only through daily practice, and this requires not only singing, but ear-training, as well.



In town schools there were lectures on the subjects of the *trivium* almost every day, except for the days of singing and music education besides the holidays. The statute of Várad, for example, ensured extra time for musical notation (Dobszay, 1984, 95), but at the same time it gave special permission to teach philosophical or other skills for the days of singing (Békefi, 1901). We can rightly assume that besides the singing exercises, the development of musical skills was also given great emphasis at the Patak School in the case of students who were sufficiently gifted and interested. Young Szalkai was definitely one of them. In Janka Szendrei is of the opinion that with regard to its form of writing the Szalkai Codex is a Hungarian phenomenon (Szendrei, 1993, 162).

By the end of the Middle Ages, the Hungarian note signal became more and more usage writing: running musical notation suitable for making quick, private notes. There is no European example for a similar development in liturgical material (merely the sheet music of certain German, paraliturgical songs in songbooks show a cursive technique). The Hungarian cursive notation as a part of learning reading and writing was acquired by Hungarian pupils as early as elementary school age, as shown by the school notes made by László Szalkai, later Archbishop of Esztergom as a pupil in Patak from about 1490.

Figure 5.

Although by this time it was already common to use the four-line staff system in Hungarian cursive notation, in the northern parts of the country the use of five lines was typical of metzigot

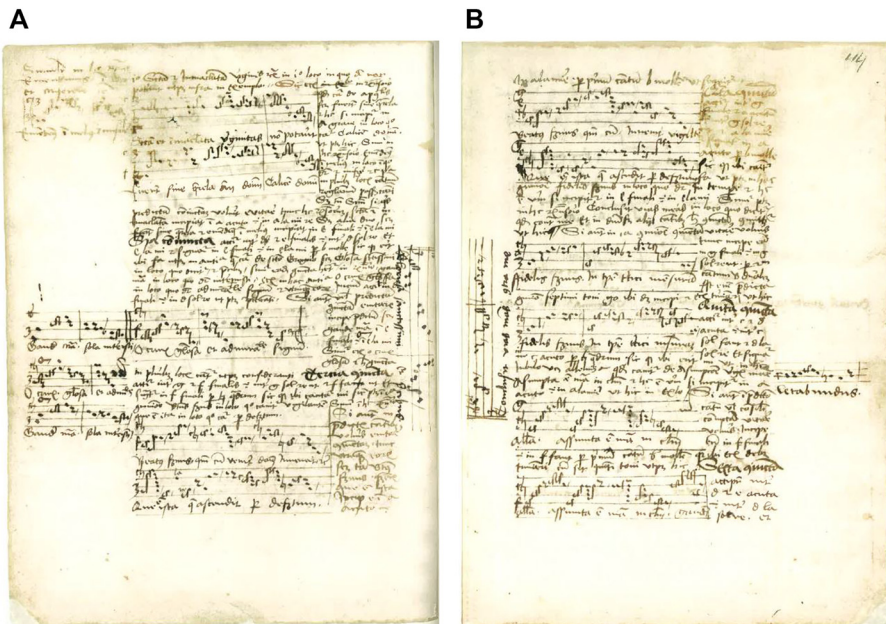


Fig. 5. Sheet music notes on the margin. Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve, fol.43v, 44r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)



book writing (Dobszay, 1982, 100). Szalkai's sheet music system in the exemplar uses the five-line staff system in its entirety, but in his own additions he uses the four-line staff system. This seems to indicate that he was taught to use the four-line staff system at school and did so spontaneously while handwriting Kisvárdai's explanations on the margin during the lessons. We presume that this modern type of notation had come from Poland as a teaching material thanks to Kisvárdai.

However, interestingly enough, in the following sample tune we see fragments of several different line systems: Szalkai copies the core text into two-, three-, four- and five-line staves. Figure 6.

He mainly works with placing a double clef (C- and F-clef, or C- and G-clef), but he is not consistent in this respect, either. However, we know that he had to follow the marking of the body text while copying. He uses *custos* only in long-winded "educational songs" (e.g., fol. 42v and 43r), as his examples of sheet music are mostly fragments of well-known Gregorian chants, melody onsets. Janka Szendrei (1984, 186) draws our attention to the vertical notation of a descending group of neumes and ligatures, which results in a peculiar, concise way of notation typical of writing form.

On the other hand, the skill of reading and writing music acquired during elementary education but at an advanced level makes sense only if it goes together with theoretical knowledge. However, music theory did not belong to elementary literacy, so it became available only for interested students studying at a higher level. Even at this time, a distinction was made between a *musicus* (a person who is knowledgeable about music) and a *cantor* (singer). Several little verses, phrases of that age survived which emphasize the need for a singer to receive music theory education and have craftsmanship. Szalkai also formed strong opinions about it, e.g.,

Bestia non cantor, qui non canit arte, sed usu. Non vox cantorem facit, artis sed documentum. (fol. 31v) {It is an animal, not a singer, who, without knowing the *ars*, sings by *usus*. It is not the voice that makes the singer, but the knowledge of the *ars*.}

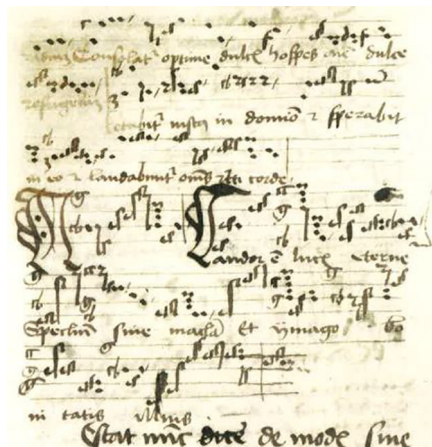


Fig. 6. The use of line system-fragments. *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve*, fol. 39v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

In addition to arithmetic, geometry and astronomy, music theory was also among the subjects of the quadrivium, as the ancient sages were already aware of the mathematical relationships and mathematical proportions of certain musical phenomena. Greco-Roman literacy ranked music among the *artes liberales*, and a considerable part of this knowledge had been passed down to the Middle Ages, as well. The practical application of knowledge also played an important role in continuing studies at a higher level. Accordingly, the unity of theory and related practice illustrated by concrete melody examples manifests itself in the structure of the music chapter of the Szalkai Codex. The curriculum deals exclusively with excerpts from *musica plana* (monophonic Gregorian), although at the time the new polyphonic style was already represented by significant masters in the Netherlands (e.g. Dunstable, Dufay, Ockeghem). The theory of *musica mensuralis* (polyphonic music that expresses the duration of notes) does not appear in the Codex, therefore Kisvárdai's educational concept also received some criticism ("general content limitation", Bartha, 1934, 14). We believe that it is a little hasty to formulate such a strong opinion based on a single note on music preserved accidentally, because in order to form a judgement we would need to be more accurately familiar with the full syllabus of the Patak School, or at least the curriculum for the upper years. What kind of continuation was planned may be suggested by the closure of the chapter quoted earlier ("since I have no specimen of the others"). However, classifying the curriculum of the Szalkai Codex as knowledge of traditional classical education, Mészáros states (1972, 52) that "certain elements of the new humanistic classical education are present on his pages in a germinal form". There are several references to mensural music in the note (see below), therefore we can assume that Kisvárdai had related knowledge on this type of music, but at this level of knowledge transfer the teaching of *musica plana* forms a whole and entire unit, the reception and practice of which meant a regular and time-consuming task for students.

Dobszay further argues (1984, 95) that "[...] a fragment of a dissertation that came to light recently demonstrates that the theory of polyphonic, mensural music has also come within our horizons." We believe that polyphony can only be taught through sounding music examples. We have no data on the personnel composition of the Patak School, staff numbers, the choir's repertoire, the capabilities of the singers, the instrumental conditions of the church, or anything that could shed light on the suitability of the conditions at the school for teaching of this kind.

As regards the text of the chapter on music theory, Dénes Bartha states (1934, 9) that it is "more accurately [one] textbook on music theory which survived in Szalkai's handwriting." As for its sources, he lists various medieval, handwritten musical treatises that had probably served as basic texts one or two decades before Szalkai's time. He assumes a compilation, in line with the common practice of the period with regard to writings of this type. He elaborates on the works of music theorists who may have taken over the text, but he cannot fully attribute it to any particular author (1934, 11):

[...] a textbook on music theory compiled with a certain independence in terms of the material and layout, and no consistent insistence on a single author.[...] However, the more or less literal correspondences revealed in the details determine the place of the Szalkai compendium quite precisely among the sources of music theory of the Middle Ages: they shed light on his wide reading, judgment, and musical orientation.

While examining text correspondence with a careful, philological method, Bartha finds most correspondence in relation to the music writer Johannes Hollandrinus, but all of them coming



from secondary sources, with Hollandrinus being cited in the works of others. He writes as follows about the identity and works of this theoretician (1934, 11):

The personality of Johannes Hollandrinus is even more problematic {...}. Only one (manuscript) piece of work of this Hollandrinus is mentioned in the bibliography of music history, {...} the text of the manuscript is unpublished and unavailable for research.

However, research by one of the major international projects in recent years has explicitly linked the music material of the Szalkai textbook to the tradition surrounding Hollandrinus and identified the volume bearing the title “*Tractatus ex traditione Hollandrini*”. [A treatise on the tradition of Hollandrinus] [Czagány and Papp, 2016, 31].

What do we know about Johannes Hollandrinus today? The Flemish philosopher and music theorist is believed to have been born in Monickedam, near Amsterdam; to have studied at the University of Prague and graduated in 1355 with a baccalaureate degree. He is also believed to have studied at Oxford. In 1368 he received his doctorate in Prague, and was appointed dean there in the following year. Although his musical treatises have not survived, he is considered to have been the author of the text titled *Musica* which we often see quoted – mainly due to the further development of the Gregorian chant and the Guidonian hand, as well as the novel ideas it contains with regard to intervals and the peregrine tone (*tonus peregrinus*) (Balensuela, 2001). The time of Hollandrinus’ death is unknown, but in Ward’s view (1985, 579), we may accept a statement in a study published in 1977 according to which the last data to mention Hollandrinus’ name comes from Prague from 1371, and so this date is the probable year of his death. Hollandrinus’ 12 educational verses are also included in Szalkai’s notebook as a commonly used mnemonic device of the era.

In the introduction to the chapter on music, the core text clearly explains the purpose of writing the study. Among other things,

{...} The main argument is in Aristotle’s words: to educate children not only in useful and directly necessary sciences, but also in arts they can take delight in, such as music. Music can make people feel happy. (Mészáros, 1972, p. 177.)

Next, the author elaborates ‘Aristotle’s Four Causes’ with regard to music theory: *causa efficiens* (about initiators, ‘pioneers’), *causa materialis* (about matter), *causa finalis* (about its purpose, utility, significance) and *causa formalis* (about the organizing principle and methods). As regards the origin of music theory, for instance, we may read about Pythagoras’s famous visit to the blacksmith’s workshop, as a result of which he discovered by chance the arithmetic basis of music. Furthermore, the text also mentions all those who ‘created’ music theory: besides Boethius, Guido of Arezzo and Johannes Muris, Pope Gregory and Bishop Ambrus are also among them.

While explaining *causa finalis*, the text mentions the worship of God as the most important aspect, followed by the teaching of St. Augustine, who lists music among the four kinds of knowledge necessary for clerics. In addition, it also refers to its potential to delight and the significance of ‘ornamenting and embellishing the world’ (*potest dici ornatus mundi*; fol. 31r), “because being in harmony with the circular motion of the celestial bodies delights the student in a natural way” (Bartha, 1934, 17). In addition to its overall impact on people, enrichment of emotions and character, it also emphasizes its encouraging power in battles, a feature that was also taken over from the statements of the ancient sages by contemporary treatises. This is followed by some thoughts that summarize why it is important for a student, teacher or priest to



know the *ars* of music. In this paragraph we can read the little verse by Hollandrinus quoted earlier, which makes a distinction between instinctive and conscious singing in a rather harsh manner (*Bestia non cantor...*; fol. 31v), nor is the following thought with the same content particularly gently put: *Ex quibus sic positis sequitur, quod qui vult esse et non solum dici cantor, non debet solum boare, sed etiam scire musicam [...]* (fol. 31v). It compares singing without musical interpretation to yelling or screaming.

About the division of the part of the material on music theory (*causa materialis, musica cromatica, musica dyatonica and musica naturalis*), together with the related quotes from Plato, Bartha states (1934, 184) that this was already considered outdated in Szalkai's time.

This remnant of the speculative approach to ancient Greek music theory stands out in the content of the treatise: it seems to take a peculiarly archaic approach in its summary of an otherwise practical purpose.

At the same time, it is worth pointing out the idea of the concluding paragraph of *causa formalis*, in which musical ignorance is likened to illiteracy in the core text (*huius artis ita turpe erat musicam ignorare, sicut nunc literas alphabeti*; fol. 32r) in the same way as Kodály will do in 1941 (Kodály, 1941/1982, 117): “Today's literacy is inconceivable without writing. [...] Anyone who cannot read music is a musical illiterate.”

The structure of the chapter on music theory, directly following the introduction detailed above, is built along the following logic (fol. 32r):

1. the basics of music: pitch symbols, notes, solmization hand and mutation;
2. the types of chants (regular – irregular; enharmonic – diatonic – chromatic), and the division of notes, intervals, altered notes;
3. the eight church modes and the related liturgical songs.

Thus, within the curriculum on music theory, the main section (*principale executivum*) begins with a summary of the basics regarding music. Mészáros (1972, 85) calls our attention to the related principle: “[...] People who do not know the basic concepts cannot get to the knowledge of music theory. We must discuss what should come first.” However, he (1972, 186) immediately clarifies the content of the quote:

When we read this axiom, the principle of graduality, the idea of going from the easier part to the more difficult one comes to our mind. However, this is not what it is about: the need for rational elaboration in scientific discussion is mentioned here, not graduality due to the age of the students.

First, the letters of the tones, *littera* (they are absolute names in terms of our music education today, although the actual pitches were not yet determined according to the practice of the time) are included in the curriculum, starting from the Greek gamma: Γ a b c d e f g (*quod musica a graecis primordialiter est inventa*; fol. 32v) [since music was originally ‘invented’ by the Greeks], but later emphasizing the use of Latin letters (*quod ipsa musica a latinis est translata et ab eisdem regulariter consummata*; fol. 32v). [because it was translated and developed into a system by the Latins.] He considers the knowledge of musical letters to be the key to understanding the musical *ars*. Bartha (1934, 20) draws our attention to an almost literal correspondence with the analogous part of one of the contemporary treatises examined, “in which he compares the use of musical keys (*claves*) to the role of a key inserted into a door lock.” This is followed by the presentation of solmization syllables in the hexachord tonal system (*ut re mi fa sol la*) according



to contemporary music theory by matching them with the *littera*, the application of which to the whole tone scale results in three types of hexachords: *cantus naturalis* based on C, *cantus mollis* based on F with the use of *b-rotundum* and *cantus duralis* based on G with the use of *be quadratum*. To do this, it is necessary to clarify the equal roles of *b-rotundum* (b) and *b-quadratum* (b̄), which results in the “two-faced” nature of this tone, distinguished as “b” and “h” in the Hungarian speaking territory, but with the same name here. This aims to help avoid the tritone forbidden in medieval music theory (*diabolus in musica*). It also introduces the technique of applying mutation to the monochord, a musical illustration commonly used in schools at that time.

Not only does the author explain the question of mutation, the transition from one hexachord to another, and thus the multiple function of the tones – he also illustrates this by the famous figure of the “manus Guidonis”, created to record the text of the notebook aimed at supporting the memorization of new knowledge. Benjamin Rajeczky (1981, 85) points out that “it is not included in Guido’s works, but the so-called Guidonian hand was used later throughout the Middle Ages as an illustration in schools.”

We are aware that Szalkai’s task was not to represent an anatomically authentic hand, but this illustration is noticeably clumsier than the previous ones. We do not know what was the quality of the drawing that served as a model for him in the core text, but similar figures from the time (e.g., the Italian drawing from the second half of the 15th century from the library of the University of Pennsylvania presented below) are much more accurate, and they also confirm that the “Guidonian hand” was one of the most widely used visual aids in music education.

Figure 7.

It is better to follow on a modern illustration for Guido hand (Figure 8). In Szalkai’s figure there are many explanations and additional notes (Figure 8). According to Bartha (1934, 19–20), the style in which the text is formulated in the palm of the hand, and the nature of the handwriting demonstrate that it is about recording an oral presentation. Guido uses the knuckles and fingertips of the hand to mark mutation, placing one tone on each; by reading this spirally we get a complete tone system suitable for singing and consisting of 22 tones due to the “two-faced” nature of “b”.

The principle of the Guidonian hand, i.e. the concept of the hexachord system and mutation developed by Guido, are not included in the curriculum at the lower levels of public education in Hungary today. They are taught only in certain secondary level educational programmes for professional musicians at secondary, as well as in teacher training in music, solfeggio and music theory as well as church musician and musicology at the tertiary level. The complete system of seven hexachords is illustrated for today’s students by the sheet music example below, which is much simpler, clearer and easier to understand than the figure of the “Manus Guidonis”. Figure 9.

Szalkai’s notebook goes on to expound at great length the possibility of various mutations and associated solmization tone changes (e.g., *c-utfasol*, that is, the tone “c” can be *ut*, *fa* and *sol* in solmization, depending on which member of the hexachord it is interpreted as etc.). After a variety of sample melodies, once we understand the principle of mutation, memorizing a simple little melody helps us apply our knowledge properly. The sample melody below is a kind of ‘little educational song’, which reads: “This is the way to change the *sol-re-ut* tones in relation to “g”, i.e., by varying them.” (Dobszay, 1988, 154.) We can observe the notation of *b-rotundum* and *b-quadratum* in the sheet music, as well. We must admit that little educational songs in the Szalkai Codex are not of the same type as that of Fröbel’s from the 19th century. Since here the



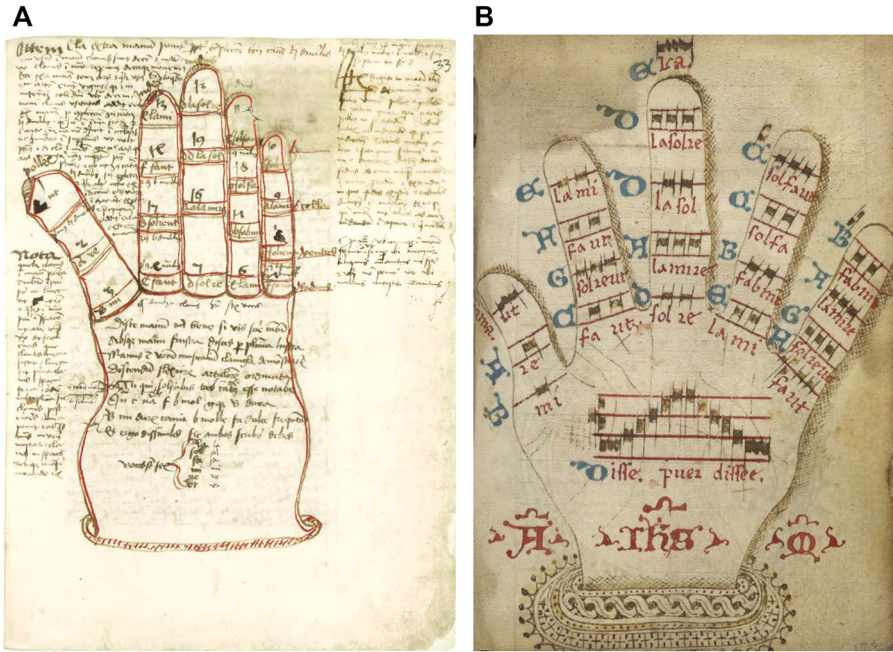


Fig. 7. (a). Manus Guidonis, fol. 33r; (b). Guidonian hand in a manuscript – Library of the University of Pennsylvania. Available at: <https://medievalfragments.files.wordpress.com/2014/03/guidonian-hand-ms-codex-1248-f-122r.jpg> (Accessed: 23 June 2019)

function of the songs is each time to illustrate one exact segment of knowledge in music theory, not only the text, but the melody itself also reflects the actual, new rule of music. The intonation of the melody below is definitely sensitive and difficult, because of the frequent changes between *b-quadratum* and *b-rotundum* that cause a strange, uncertain tonality. Figure 10.

The notebook carefully explains the use of clefs, which may be of three types, indicating the basic tones of the hexachords and their initials: C, F, and G-clefs. Knowing this is also important because, as we will soon see, there will be a separate aspect to this when grouping the tones of the tone system. While giving full details of the types of scales (*Postquam expeditum est de secundo principale*; fol. 36v), Bartha states (1934, 21–22) that

[Szalkai] tries to incorporate the outdated division taken over from Greek music theory [...] into the framework of modern theory in such a way that he compares and identifies this threefold segmentation with the three hexachord types [...]. This detail is predominantly an individual formulation of the author of the compendium: [...]

The notebook also discusses the theory of the tones and the division of the tone system (*Sequitur iam de clavibus et clavium proprietatibus...*; fol. 37v). According to this, one is today's octave grouping split by eight tones and the other is the grouping by four tones, split into tetrachords. A third kind of classification separates the tones used to indicate clefs (C, F, G) from the others. Figure 11.



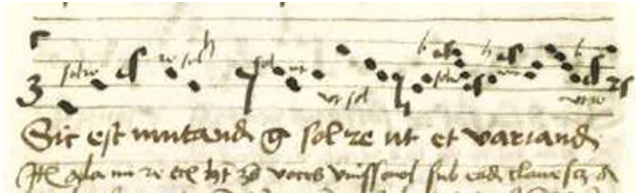


Fig. 10. An educational song practicing mutation. *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve*, fol. 35r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)



Fig. 11. The application of all three clefs within a detail of an antiphon. *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve*, fol. 38r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

In the section on registers, the notebook also deals with the subject of clef changes within the melody. Figure 11 has already shown the practical utility of this knowledge, but an explanation of the essence of the technique and a group of melody examples for practicing its application are included in this part of the notebook. Well-known melodies are used to illustrate and explain the phenomenon. In the professional musician education of our time, the Italian word *chiavette* is used for this clef-change exercise of transposing when the same notes have to be read differently as determined by different clefs.

In the example below, we can see the table summarizing the transpositions, clef changes, and under it the notations used to represent the *introitus* beginning with *Gaudeamus omnes* in one line. To make it easier to understand and get a better overview, we also give the modern transcription of the melody by László Dobszay (Dobszay, 1988, 155). Figures 13 and 14.

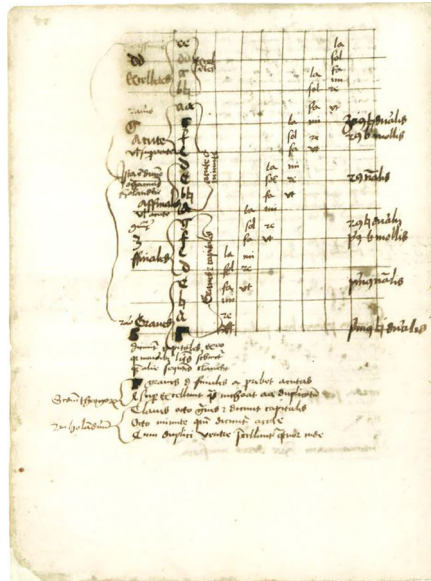


Fig. 12. The division of scales. Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve, fol. 38v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

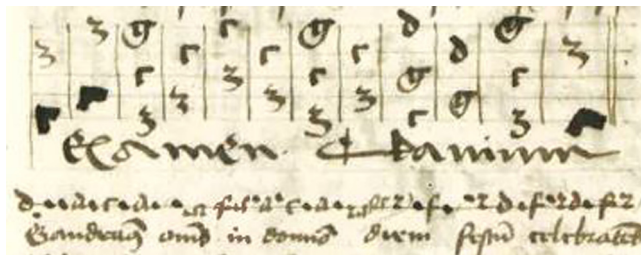


Fig. 13. The table of clef changes as well as the beginning of *Gaudemus omnes*. Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve, fol.39r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed:23 June 2019)

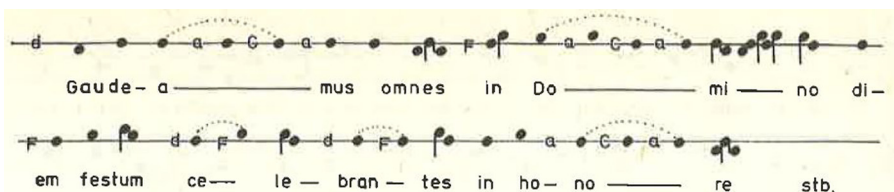


Fig. 14. Introitus beginning with *Gaudemus omnes* with modern notation. Dobszay, L. (1988) 'Zen-ektatás és zeneelmélet', Rajeczky, B. (ed.) *Magyarország zene-története I. Középkor*. Budapest: Akadémiai Kiadó, 155



The unit on intervals (*Restat nunc dicere de modis, sive formis musicae ...*, fol. 39v) teaches all intervals within an octave, even the missing tritone in the hexachords, and the two kinds of sevenths are also discussed. He calls the perfect prime used in today's Hungarian music education *unisonus*, and teaches the sixth interval connected to the fifth in its name plus a semitone or a whole tone (*semitonium cum dyapente, tonus cum dyapente*). Figure 15.

For each interval he determines the exact nature of the interval. In the case of perfect prime, it reads as follows: *uno sono plurium notarum in linea vel in spatio saepius repetitorum* (a single tone noted down several times in the staves or repeated several times over time). In addition to the definitions, he provides examples for all the possible occurrences of intervals. The use of *b-rotundum* and *b-quadratum* can be clearly seen in the sample melody for the minor second (*semitonium*), as well. Figure 16.

Explanations of intervals strange to the hexachord note system (the tritone and the seventh) are also included in the notebook. This is particularly important for us because in the introductory comments of the explanation the following remark is added to the three unused (*inusiati*) intervals: *qui magis serviunt musicae mensuratae, quam simplici* (fol. 41v) [they serve mensural music to a greater extent than simple music]. A few lines later, he uses the words *simul* (concurrent, consonant) and *successive* (following one another). However, we cannot talk about consonance in the case of monophonic simple Gregorian chants. He also notes that there is consonance in mensural music and not in the Gregorian chant. (*Si simul, tunc magis respicit musicam compositam, id est mensuralem, quam simplicem*, fol. 41v.) These seemingly minor comments, however, suggest that although the current curriculum does not deal with the consonance of intervals, it does make reference to polyphony. This unit is also closed by a

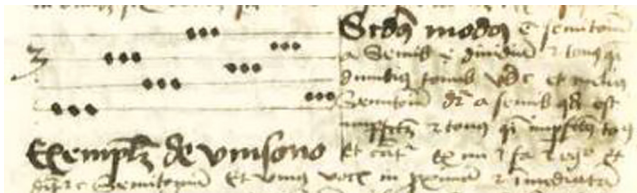


Fig. 15. The melody example of the *unisonus* (perfect prime). *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve*, fol. 40r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

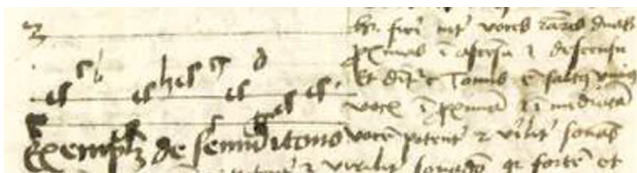


Fig. 16. The melody example of the *semitonium* (minor second). *Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve*, fol. 40r. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

memoriter educational song (*Ter trini sunt modi ...*), the text of which like this begins in Dobszay's translation (1988, 156):

Each song is made up of three kinds of intervals three times, i.e.: major second, minor third, major third, quint, minor sixth, major sixth. The octave is added to these. This educational example is good to know for those who take delight in these as well. {...}

Figure 17.

According to Bartha (1934, 25), the sheet music example originally consisted of two separate musical sections which he mentions sometimes separately, sometimes together in several similar treatises on medieval music theory. He begins the chapter on modified tones (*Sequitur nunc de naturis conDiunctarum*), the system of conjuncts, by clarifying the basic concept. Following the definition, he goes through all the possible modifications – separating the samples melodies that contain and illustrate the modified tones from the real Gregorian antiphons, since it also occurs that two adjacent half-tone steps have to be noted down. However, the Guido tradition does not make this possible except by using the *b-rotundum* and *b-quadratum*, so if modification is also needed elsewhere in the melody, the melody section must either be transposed by one quint-quart upwards, or the melody must be created by a leap of a third instead of a second based on melodies using the pentatonic scale. The paragraph closing the section contains references to mensuralists and organists who can avoid this by using other accidentals and tabulation. (*Unde ipsi mensuristae in locis quibus committuntur coniunctae, solent ponere talem signum. [...] Sed organistae ipsis vocibus solent adiungere quandam virgulam per modum crucis. fol. 45v*). The unit is closed by a table showing the previous scales, but this time in a form supplemented with the modified tones. Figure 18.



Fig. 17. A detail of the memoriter educational song helping to learn intervals. *Szalkai-kódex*; Szalkai László *esztergomi érsek iskoláskönyve*, fol. 42v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)





Fig. 18. Modified tones arranged in a table with landscape format. *Szalkai-kódex*; *Szalkai László esztergomi érsek iskoláskönyve*, fol. 45v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

The largest part of the music chapter of the Szalkai Codex deals with church modes: it is the segment of text between 46r and 63v and related sample melodies (*Expeditis tribus principalibus, videlicet claviium...*; fol. 46r). In addition to the knowledge of music theory, the immediate and practical application and necessity of the topic is most apparent in this chapter: it is explained by the obligation of the students of the parish schools to perform church duties. What exactly did that mean in terms of musical expectations?

Of the model melodies included in the curriculum, psalms were the most important, because most of the hymns are made up of psalmodizing, and anyone who knows this can already sing a great deal with the choir. Psalm learning could be followed by memorizing and following the scores of the hymns, simpler antiphons and the constant parts of the service, etc. and then by the increasingly complex movements. (Dobszay, 1984, 46.)

[The Hymn] is primarily made up of recited texts: psalms recited together and alternately, and the readings declaimed by the reader. But the psalms are always linked with a musically coordinated frame verse, an antiphon... (Dobszay, 1984, 51.)

The rule of division of model melodies, psalm tones valid even today, as well as the modal interpretation of the seven-tone scales based on various basic tones are mentioned first in the multi-authored treatise titled *Alia musica* from the 10th century (Rajeczky, 1981, 81). Szalkai's text begins, as usual, with the clarification of the concept (*tone*) (used in three senses: a whole interval, a melodic pattern and tonality). It also explains the difference between *cantus regularis* and *cantus vulgaris*, as well as the nature of authentic and plagal modes. In addition to the

starting and the final note, he highlights the role of the range in determining the mode as well as the cadence tones (*punctum*). In each case, the theoretical explanation of the system of eight psalm tones is illustrated by Gregorian sample melodies (besides the beginning of the psalms, melodies accompanied by details of antiphon). He uses an educational song again to help memorize the Psalms. Figure 19.

In a brief remark, he makes a comparison between the musical material associated with Pope Gregory's name and the Ambrosian melodies, and then he briefly introduces the *tone vulgaris* and the *tonus peregrinus*. However, the comparison between the antiphon and the psalm in proper mode is important musical knowledge in terms of practice. From the first paragraph of the chapter, he consistently uses the vowel abbreviation (Euouae) of the text *differentia*, that is, *saeculorum amen*, both in the text and the melody examples.

However, several cadences [...] belong to the psalm formula of each tone, which serve to coordinate it with the beginning of the subsequent antiphon melody. Because there is only one final for the antiphons of a tone, the psalms have only one opening formula (*initium*) in each tone. However, antiphons have many different opening formulae. (Dobszay, 1988, 158)

Dénes Bartha (1934, 29) has counted 155 liturgical hymns (not including *differentias* and similar closing formulas) in Szalkai's notebook, and mentions 47 pieces that are missing in today's liturgy. In contrast, Dobszay (1980, 216) mentions nearly 300 sample melodies, noting that there are often several item references belonging to Bartha's numbers. In examining the wealth of melodies, he also states that besides the other sample melodies (*introitus incipits*, *responsorium* details) the antiphonic melodies stand out greatly in terms of number among the citations of the notebook.

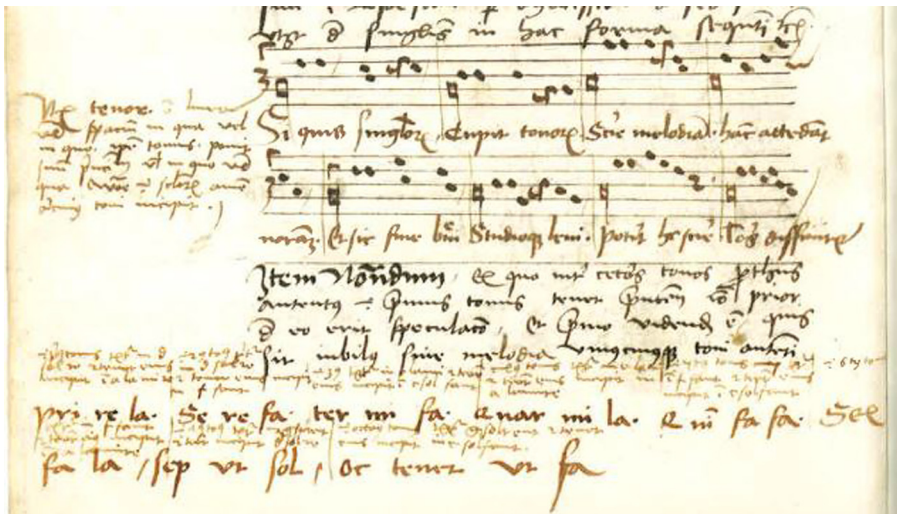


Fig. 19. An educational song for learning psalms tones. Szalkai-kódex; Szalkai László esztergomi érsek iskoláskönyve, fol. 48v. Available at: http://esztergom.bibliotheca.hu/scan/ms_ii_395/index.html (Accessed: 23 June 2019)

As for the origin of the melodies, correspondence may be detected typically with the northern sources, as well as similarities with the Polish and Czech traditions (Dobszay, 1980; Czagány and Papp, 2016), but Dobszay (1980, 218) also states:

{...} but while the Czech, Polish and Moravian sources (and the Anon. XI tractatus) describe this melody relative to “á” final, we can find “é” transposition in the Szalkay Codex (similar to Hungarian sources).

We can give two explanations for this.

- We have already mentioned the full-fledged cursive writing techniques used in all the sheet music scores; the high-quality, energetic note-taking and the use of the techniques of clef change in the curriculum. We believe that as long as the clef change is appropriately chosen, copying (and thus transposing) even a completely unknown musical material is an extremely easy task for such an experienced notator.
- What was described in the previous point was implemented by the author of the sample given to Szalkai, and thus Szalkai merely needed to copy it.

However, another question arises: why are these northern melodies included in the notebook with typical Hungarian notation? According to Janka Szendrei (1984, 186–187):

as regards the foreign sample of the treatise (maybe from Krakow?), on the basis of our comparative research we may declare that a different system was used, probably metzigoth or perhaps Czech notation. The Hungarian copier – Szalkai or Kisvárdai, if we suppose one more copies – rewrote the musical material by recording the melodies using a different notation. This was what he had learnt at his Hungarian school, and this is what he found practical for the purpose of hand-writing. We do not need to emphasize that “copying” the treatise in such a way required selecting sample melodies or recording music from hearing, or reading and understanding it according to another system and then describing it by his own means. Whatever happens, the result is the same. Nevertheless, the Szalkai Codex, if not in its material, represents a Hungarian tradition through its notation. It bears witness to the independent use of the medieval Hungarian notation system.

The Szalkai Codex plays a special part not only in the Hungarian history of education, but also in Hungarian music history. Sárospatak, the famous old school town with its long standing traditions is proud of having a music heritage going back to the times of King Matthias (1458–1490).

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