



Contemporary understanding of Gregorian chant – conceptualisation and practice

Volume one of three:
Dissertation

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Abstract

This dissertation seeks to address the question of how contemporary performers and experts understand the medieval repertoire known to us as Gregorian chant. This medieval repertoire (also known as Franco-Roman) is understood here to be abstract musical and non-musical information in medieval manuscripts. It differs from classical western music repertoires by a lack of adequate original performance instructions. It becomes audible through performer's realisation of his or her personal conceptualisation.

This study observes both conceptualisation and practice of the repertoire through the answers of 127 respondents to an online sociological questionnaire and 35 solo recordings of the Gradual *Haec dies*. The study also involves a heuristic experiment to find connections between conceptualisation and practice. This research is multidisciplinary, combining sociology and musical acoustics. The sociological approach includes quantitative statistical and qualitative methods. Ideas of musical acoustics are applied to measure digitally the temporal structure of solo recordings of Gregorian chant.

The analysis of the results of the questionnaire showed that there are certain patterns in evaluating what Gregorian chant is and what is important for a good performance of that repertoire. There was more similarity in understanding what the repertoire is than what the interpretational preferences are. Measuring the solo recordings showed that although there is a large variety in temporal understandings of the performed music, most performers tend to perceive performed music in one durational category. For those who have two basic durational categories it seems to be a result of agogical preferences rather than perception of two durational categories.

The comparison of conceptualisation and practice showed that the strongest link between these two is in agogical variety. It was not possible to find similarly significant connections between conceptualisation and other features of practice – tempo values and the number of basic note values.

This research project has demonstrated that a multidisciplinary approach to Gregorian chant can reveal new aspects in the study of the repertoire in terms of approach and understanding.

Keywords: Gregorian chant, medieval sacred Latin monody, performance practice, musical acoustics, sociology of music, musical reception, music and religion/spirituality.

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Author's declaration

During the study period (2004-2009), some aspects of this research were presented at the research seminars of the Music Department of the University of York: (1) 'Who Needs Gregorian Chant in the 21st Century?' (2005); (2) 'Exploring Naked Chant' (2006); (3) 'Exploring Disintegrated Chant' on (2009).

The material of a 'family tree' of Gregorian chant performance from this research project was used to write an article 'Põgus pilguheit gregooriuse laulu interpretatsiooni lähiminevikku Eestis'¹ in 'Teater. Muusika. Kino' 12/2006 (2006), 64-71.

¹ A Glimpse of the Recent History of Gregorian Chant Interpretation in Estonia.

1 Introduction

1.1 Brief overview of this research

This research is a ‘snapshot’ in time of how a medieval repertoire that is widely known by the name of Gregorian chant² is understood by a selection of contemporary performers and experts. The objective of this work is to draw a picture of conceptualisation and practice of Gregorian chant in the first decade of the twenty-first century. The dissertation has three tasks: (1) to describe opinions and evaluations of 127 performers and experts of Gregorian chant all over the world; (2) to characterize temporal aspects of 35 solo performances of the Gradual *Haec dies*’ (3) to try to establish connections between opinions and evaluations of 35 performers and their actual performances, in other words, between conceptualisation and practice. The main materials brought to bear upon these tasks are (1) answers to an online questionnaire for Gregorian chant performers and experts and (2) 35 solo recordings of the Gradual *Haec dies*. The questionnaire was devised especially for this research and the solo recordings, with one exception³ were also made exclusively for this project.

There is no classical hypothesis in this dissertation – the aim is to investigate and describe conceptualisation and practice of Gregorian chant and possible coherencies between the two.

This dissertation consists of five main sections: (1) ‘Introduction’; (2) Chapter 1 – ‘Periods in the history of Gregorian chant’; (3) Chapter 2 – ‘Observations on the results of the questionnaire’; (4) Chapter 3 – ‘A study of temporal structure and some other features of performance of MSLM⁴, using, as examples, 35 solo performances of the Gradual *Haec dies*; (5) ‘Final synopsis’.

In the Introduction of the dissertation, I discuss the question of defining and redefining of ‘Gregorian chant’. The Introduction also explains the role of reception theory in this research and describes different forms of reception of Gregorian chant. From this discussion emerges the explanation of why I am approaching Gregorian chant with these methodologies.

² One of the following subchapters of this Introduction is dedicated to a discussion about defining and redefining Gregorian chant. To summarise the further discussion about definition of ‘Gregorian chant’ it can be said that in this research ‘Gregorian chant’ or also ‘medieval sacred Latin monody’ (MSLM) is considered as an abstract amount of information that is ‘understood’ in very different forms. The central claim is that only through ‘understanding’ or ‘reception’ medieval sacred Latin monody becomes visible, audible, or imaginable.

³ Recording of Richard Crocker.

⁴ Medieval sacred Latin monody; for closer explanation please see the first footnote of this chapter.

In the first chapter, I describe historical developments from the beginning of the twentieth century and partly from the middle of the nineteenth century that have shaped understanding of the repertoire as it is known today.

In the second chapter, the results of an online questionnaire are observed. The questionnaire consisted of 151 questions and was devised to map as many aspects of Gregorian chant as possible. The analysis tries to establish tendencies in the opinions of the respondents and describe the selection of respondents.

The third chapter deals with the temporal aspects of 35 solo performances. This is done by measuring of acoustical durations of notes in the recordings. Every note in the recordings is segmented and measured and the results are analysed from the point of view of rhythm (number on basic note values), tempo, and agogical variety. The third chapter also tries to establish connections between conceptualisation and practice. The last section 'Final synopsis' serves as conclusion to this thesis.

Due to the huge amount of data used in this thesis, there are many appendices. Some of the appendices, for example correlation matrixes of the questionnaire, are in an 'A0' format (16 times A4). Because of this unusual format, the chronological order of appendices was not considered and 'A0' appendices are in a separate volume. The thesis consists of three volumes: Volume I – Dissertation; Volume II – Appendices I; Volume III – Appendices II.

It is important to follow the tables and figures simultaneously with reading. Most of these items occupy a whole page and the explanation comes on the following pages. Therefore some of the tables and figures in Volume I are duplicated in Volume II to make possible simultaneous following of these items during reading of the text. The items that are duplicated are equipped with a corresponding note at the end of the description of the item (see also an explanation on page 114). Tables that appear only in the appendix⁵ are equipped with the marking TOA (tables of appendix).

This research would have been unthinkable without use of computer and specialist software. Software solutions that were used during this research are: Praat 5.0.40 for measuring the recordings, SPSS 16.0⁶ for statistical analysis, and Graphviz for compiling different schemas. To accommodate the data from the online questionnaire the information server software MySQL⁷ was used. Referencing in this thesis was done with EndNote 9.0.0 and table calculations were made with Microsoft Excel 2000.

⁵ For example 'Table 204 (TOA) A table of the key figures of Gregorian chant through all times as assessed by the respondents of the questionnaire' (Appendix 33, Vol 2, page 514).

⁶ Statistical Package for The Social Sciences

⁷ Structure Query Language

1.2 Different approaches to study of Gregorian chant

Gregorian chant repertoire and its different forms of emergence⁸ have been influenced by many different and sometimes controversial phenomena such as religion, philosophy, art, and analytic scholarship, not to mention church politics, music and the publishing business. All these aspects have been in some period of time or continuously an influence on Gregorian chant and therefore it is possible to study Gregorian chant through all of them. Of course, it can be said that these influences have been present for almost every music repertory, but the difference in Gregorian chant is that it is a relatively fixed and documented repertory, which has accumulated influences of these disciplines continuously for over a period of many centuries.

From the middle of the nineteenth century up to the present day, it can be clearly seen how the above-described aspects have influenced reception of Gregorian chant. The influence of religion is of course obvious as Gregorian chant is of religious origin. The various disciplines of scholarship⁹ have been a substantial influence during the restoration of chant in the nineteenth and twentieth centuries. Philosophy comes into consideration when scientific and analytical-scholarly methods fail to analyse, for example, issues of time and space. Ethnomusicological methods are used when traditional empiric methods fail. The main field of chant restoration was the Catholic Church. The Church as a structure is highly political and there are almost never isolated issues in politics. In fact, it would not be possible to talk about the restoration process comprehensively without having Church politics involved. Finally, when you have something to sell and a substantial market, business and marketing immediately come into the picture. It must not be forgotten that there are books and recordings involved. One can only imagine the size of a market that opens for somebody who has a book for a sale that every lay Catholic in the world require to fulfil his/her needs for divine services.

Even if only one scholarly discipline – musicology – is under consideration, it can be seen how many different paths the subject is led down. Disciplines get integrated into a whole and then disintegrated again – musicology and performance, musicology and religion, and so on. The outcome of disintegration however is not into the same particles as before integration – it results in creating new particles, which are again a

⁸ Different form of emergence will be described in a subchapter 'Emergence of Gregorian chant in the twentieth and twenty-first centuries'.

⁹ Paleography, semiology, music history, different streams of theology, and so on.

subject to integration. In chant scholarship, there is a peculiar phenomenon that can be called ‘Christian/religious musicology’ or ‘monastic musicology’ and ‘non-religious’ or ‘secular musicology’. Musicology, which is influenced by religious understandings, is mixed with church policy and theology. Then this ‘mixture’ is taken out from one context and often laid into ‘secular’ context where it is mixed again with several influences. It most certainly sounds offensive to say that ‘Christian/religious musicology’ differs qualitatively from ‘secular musicology’ and/or is not neutral. This is not what I want to express. However, if for example a monk is also a musicologist it does not change his first priority, which is obedience. From this, a strong and very important spiritual relationship arises that conducts all other activities. There is nothing wrong with ‘Christian/religious musicology’ – one simply cannot underestimate the role of religious beliefs to the research.

At the same time that the restoration of Gregorian chant was taking place in the nineteenth and twentieth centuries, research concerning Gregorian chant in different disciplines flourished. In its early stage, the scholarship was mainly in the service of chant restoration but soon it became many independent streams of musicology and other scholarship. These are usually discussed in quite specific ways in several, often isolated contexts: paleography and semiology, music history, modal theory, liturgical theology and so on.

Starting from the beginning of the restoration of Gregorian chant, different aspects of the subject have been studied thoroughly. There are thousands of items in chant scholarship. One of the best examples is the monumental work of the Abbey of St Pierre at Solesmes in publishing facsimiles of manuscripts and comparative studies in palaeography and semiology. Of the works of Solesmes the study of René-Jean Hesbert (1899-1983) is one that sets an example of monumental range. He compiled the *Antiphonale missarum sextuplex*¹⁰ and *Corpus antiphonarium officii*¹¹. The first ‘presents the [texts] of the six earliest Gregorian examples’ and the latter ‘provides a reconstruction of its archetype: its general plan and the composition of each of its formularies, with a critical reconstruction of each of their parts, texts, and melodies’ (Spieth-Weissenbacher et al., 2001, accessed 9 October 2009). Through many years, a

¹⁰ Hesbert, René-Jean, ed. *Antiphonale missarum sextuplex. Edité par Dom René-Jean Hesbert ... d'après le Graduel de Monza et les Antiphonaires de Rheinau; du Mont-Blandin, de Compiègne, de Corbie et de Senlis*. Bruxelles, 1935.

¹¹ Hesbert, René-Jean and Renatus Prévost, eds. *Corpus antiphonarium officii*. 6 vols. Roma, 1963-1979.

lot of scholarly work was published in *Études Grégoriennes*.¹² Still, the above-mentioned works does not do any justice to the monumental body of works produced in Solesmes.

There are massive bibliographies available for literature in chant scholarship. For example Andrew Hughes' *Medieval music: the sixth liberal art*.¹³ This bibliography alone contains over 2000 items! David Hiley compiled an impressive bibliography 'Writings on Western Plainchant in the 1980s and 1990s'.¹⁴ Books and articles have been reviewed and discussed vividly on the pages of many specialist chant journals. Two outstanding and very comprehensive handbooks were published in the second half of the twentieth century: *Gregorian Chant*¹⁵ by Willy Apel and *Western Plainchant: a handbook*¹⁶ by David Hiley.

However, the outcome of this immense research has led chant scholarship to a situation which is accurately described by Andrew Hughes as 'extremely complex, controversial, and even unsettled' (Hughes, 2002: 161). Gregorian chant is a medieval repertoire and therefore it is fully understandable that most of the energy in the scholarship is of a historiographical nature. It can be said that the vast variety of scholarship deals with the questions of the repertoire and issues connected to it. There is much less discussion about how this repertoire emerges in our contemporary musical life.

One form of study about contemporary chant performance is describing the recordings of chant. These writings can come in the form of a record review or a historical study of recordings. Two most prominent writers on Gregorian chant recordings are Mary Berry and Jerome Weber. The latter is also an author of *A Gregorian chant discography*,¹⁷ which is a very thorough and full work covering all Gregorian chant recordings from 1904 to 1988. Mary Berry addressed different performance styles in her articles and record reviews. Most well known and well cited

¹² *Études Grégoriennes*. Editions Abbaye Saint Pierre de Solesmes, since 1954.

¹³ Hughes, Andrew. *Medieval music: the sixth liberal art*. Revised ed., Toronto medieval bibliographies 4. London: Benn, 1980.

¹⁴ Hiley, David. 'Writings on Western Plainchant in the 1980s and 1990s'. *Acta Musicologica* 69 /1 (1997), 53-93.

¹⁵ Apel, Willi. *Gregorian chant*. Bloomington: Indiana University Press, 1958.

¹⁶ Hiley, David. *Western plainchant: a handbook*. Oxford: Clarendon Press, 1993.

¹⁷ Weber, Jerome F. *A Gregorian chant discography*. Utica, New York: J.F. Weber, 1990.

of them is probably the 'Gregorian Chant: The Restoration of the Chant and Seventy-Five Years of Recording'.¹⁸

Another interesting analysis of more recent performance styles is that of Jerome Weber – 'The phonograph as witness to performance practice of chant'.¹⁹ This article was presented, together with examples of recordings, at the Cantus Planus conference in Budapest in 1990. In his article, Jerome Weber compares different 'recordings based on the teachings of Dom Eugène Cardine' (Weber, 1992: 608). He finds a wide variety of interpretations of Eugène Cardine's (1905-1988) teachings and finishes with the somewhat ironic conclusion: 'As the television game show host would say after a celebrity and two impostors have challenged the contestants to identify the person correctly, "Will the real Dom Cardine please stand up?"' (Weber, 1992: 612).

In the same article, Weber also refers to Jean Claire, claiming that Cardine 'disapproved of all attempts to conduct the chant according to his teachings'²⁰ and regrets that 'to my knowledge, he [Cardine] has left no recordings' (Weber, 1992: 608). It would be interesting to know how all the performers who have claimed to use Cardine's teachings would react to recently recovered recordings from Michiko Hirayama's personal archive (Hirayama, 2006, interview transcript: 1). It is even more intriguing as among the recordings there is present a recording of a lesson of Cardine with Hirayama where they study repercussion on the bases of the Offertory *Reges Tharsis*,²¹ which is also used as an example by Weber in his article.

Among other better-known authors dealing with performance of the Gregorian chant repertoire are also Egon Wellez, William Mahrt, Alec Robertson, Lance Brunner, and Bennet Zon.

The biggest deficit in all analyses of performance is that in most cases they are undertaken by using commercial recordings.²² An important question is, what does a commercial recording represent, and is it actually possible to do a comprehensive

¹⁸ Berry, Mary. 'Gregorian Chant: The Restoration of the Chant and Seventy-Five Years of Recording'. *Early Music* 7/2 (1979), 197+99+201-05+07-09+11+13-17.

¹⁹ Weber, Jerome. 'The Phonograph as Witness to Performance Practice of Chant'. *Cantus Planus 1990* Budapest conference proceedings (1992), 607-14.

²⁰ The same idea is also confirmed by Godehard Joppich who illustrates Cardine's reluctance with a recollection from 1978 when Cardine was present at a rehearsal of Joppich, Agustoni, Albarosa, Fisher, and Göschl in Münsterschwarzach Abbey. Please see Joppich, 2005, interview transcript: 8-9.

²¹ Tape number 2 in the 'Cardine section' of Michiko Hirayama's archive. I did the pre-cataloguing of the tapes in March 2006 and August 2006. The originals are now in the possession of Godehard Joppich.

²² There is a further discussion about fitness of commercial Gregorian chant recordings for analysis of performance in the chapter 'A study of temporal structure and some other features of performance of MSLM, using, as examples, 35 solo performances of the Gradual *Haec dies*', beginning on page 239.

research about performance practice with these premises? In fact, what is mostly under consideration in the study of commercial recordings is an analysis of schola singing, which is usually specifically prepared for a recording. This rules out the possibility of studying a personal relationship between singer and repertoire. This aspect is however extremely important, because a lot of Gregorian chant repertoire is believed to be for solo performance. An alternative way to approach this question is to study performance through specially made solo performance or live performances.

To study chant performance on more personal grounds requires a huge amount of collecting material and/or fieldwork and is therefore not undertaken by many researchers. However, some reception studies deal with contemporary performance aspects, for example the doctoral dissertation of Karin Strinnholm Lagergren 'The Word Became Song – Liturgical Song in Catholic Monasteries 2005 – 2007'.²³ Among other questions, this dissertation examines the emergence of Gregorian chant in the musical practice of Catholic monasteries from three aspects: recreation, reshaping, and renewal. The author has studied musical praxis in 20 Catholic monasteries in six European countries to examine the role of Gregorian chant after the Second Vatican Council (1962-1965) (Strinnholm Lagergren, 2009).²⁴ The writings of Katherine Bergeron *Decadent Enchantments – The Revival of Gregorian Chant at Solesmes*²⁵ and 'A Lifetime of Chants'²⁶ also go beyond the usual historical study of Gregorian chant. Katherine Bergeron's writings will be further discussed in the subchapter 'Brief excursus into "writing history" of Gregorian chant'.

Another form of study that links to contemporary performance practice is writing a chant performance manual or some other kind of tutorial for actual performance. There are many examples of this kind of guide to medieval music or more specifically for chant performance. One of the most recent ones in the past decade is *Performers' Guide to Medieval Music*.²⁷ The most famous book that is used as instructions for

²³ Strinnholm Lagergren, Karin. 'Ordet blev sång. Liturgisk sång i katolska kloster 2005–2007'. DPhil diss., University of Gothenburg, 2009.

²⁴ The dissertation is written in Swedish and is at the current moment awaiting examination. I hope that this important work will also be translated into English. The few remarks about this work are written based on the English abstract and a summary that was sent to me by the author.

²⁵ Bergeron, Katherine. *Decadent enchantments: the revival of Gregorian chant at Solesmes*. California studies in 19th century music 10. Berkeley, London: University of California Press, 1998.

²⁶ Bergeron, Katherine. 'A Lifetime of Chants', in *Disciplining music: musicology and its canons*, eds. Katherine Bergeron and Philip Vilas Bohlman. Chicago: University of Chicago Press, 1992.

²⁷ Duffin, Ross, ed. *A Performer's Guide to Medieval Music*. Bloomington and Indianapolis: Indiana University Press, 2000.

Gregorian chant performance is by no doubt *Gregorian Semiology*²⁸ by Eugène Cardine (1905-1988).²⁹ There are other purely Gregorian chant orientated performance manuals. Some of them were published as early as 1892 – *Magister choralis. A theoretical and practical manual of Gregorian chant*.³⁰ Performance issues have also been discussed in above-mentioned handbooks of Apel and Hiley. The latter author also wrote a comprehensive article about historical performance practice of chant in *Performance practice: music before 1600*³¹, which also includes a valuable section about contemporary issues.

1.2.1 Variety in Gregorian chant performance

The origin of what we know today as Gregorian chant is by many scholars stated to be the central problem of the issue and therefore much debated (Hughes, 1980: 89). The other issue that ‘is likely to generate plenty of heat in most circles’ (Mahrt, 2000: 17) is rhythm. A famous quote from Willi Apel’s *Gregorian Chant* says:

Some time ago, when I told a friend of mine about my work on the present book [*Gregorian Chant* by Willi Apel] he said: “How can you write a book on Gregorian chant; you don’t know anything about its rhythm. It is true that I don’t know anything about Gregorian rhythm, anything certain, that is – nor does anybody else (Apel, 1958: 126).

It has been argued, including by myself, that Apel’s statement was made before Cardine’s findings in semiology were widely known and therefore is not valid anymore. Today I think that nothing has actually changed since Apel’s statement. When Apel said that he knows nothing about Gregorian rhythm he probably meant that he knew nothing about the rhythm of medieval Gregorian chant repertory rather than the rhythm of the result of the nineteenth-and twentieth-century Gregorian chant restoration. The discussion in the following chapters shows that these are two

²⁸ Cardine, Eugène, Godehard Joppich, and Rupert Fisher. *Gregorian semiology*. Sable-sur-Sarthe: Solesmes, 1982.

²⁹ A story of compilation of this book is in the subchapter ‘A period of mutation’.

³⁰ Haberl, Fr X. *Magister choralis. A theoretical and practical manual of Gregorian chant*, trans. Nicholas Donnelly. Second English ed. Ratisbon: Frederick Pustet, 1892.

³¹ Hiley, David. ‘Chant’, in *Performance practice: music before 1600*, eds. Howard Mayer Brown and Stanley Sadie. Norton/Grove handbooks in music; New York: Norton, 1990.

separate things that are conveniently put together, and as a result, have been an issue of many unnecessary debates.

Another terminological problem is the term 'rhythm'. We may understand 'rhythm' quite differently. What we face here is the problem of unfitness of contemporary musicological terminology for defining issues in Gregorian chant. If we use the definition, that rhythm is 'movement marked by the regulated succession of strong or weak elements' (London, 2001: on-line, accessed 16 December 2008) we suggest that there are 'regulated successions', which is not true in most of Gregorian chant repertoire.³² Whatever discussion is going on about Gregorian chant, there is a basic consensus these days that Gregorian chant is not a metrical music. The definition of rhythm cited above fits metrical music better.

I would say that the rhythm of Gregorian chant – I mean the rhythm of the performance – is a description of a notation rather than the fulfilment of a prescription of a score. The rhythm of the performance does not represent a score as a 'plan' because there is no basic temporal arrangement in any chant notation. The result – the rhythm of the performance – is measurable on the axis of time and is an outcome of summing up intention, knowledge about the repertoire, breathing, vocal production, articulation, agogics, dynamics, and everything else that is needed to sing Gregorian chant. The sum of these characteristics is also called movement. 'Rhythm is movement, which right from its start, *strives toward a goal* and by means of this continuous tendency, assures a *synthesis* of concrete forms of which it is made' (Cardine et al., 1988: 34).³³

Rhythm in this research is not a question of planning short and long notes or where to put accents – it is a series of lengths of performed (or received) notes. A proper definition for rhythm in terms of this research is: 'rhythm is organisation of sound in time'. I do not think that Cardine's work added anything to understanding of 'rhythm' in terms of planning the length of the notes. It was about expression and relative length of the notes in hierarchical relationship to each other.

Nevertheless, the discussion about rhythm has been at the centre of interest starting from the beginning of the restoration. Already Joseph Pothier (1835-1923) and André Mocquereau (1849-1930) disagreed on the question of rhythm of Gregorian

³² In genres that are not using prose text, it is actually possible to talk about 'regulated successions of strong or weak elements'.

³³ Italics are from the original text.

chant. Several introductions to the volumes of 'Paléographie Musicale'³⁴ are filled with this discussion (Cardine et al., 2001: on-line, accessed 13.12.2008). Sometimes it feels that talking about rhythm is pushing Gregorian chant out of the picture. 'In fact, some introductions grew to almost unmanageable proportions. The introduction to volume vii, for instance, contains such a long discussion on the Latin tonic accent that the facsimile itself had to be relegated to the next volume' (Cardine et al., 2001: on-line, accessed 13.12.2008).

If there are different performance styles, there is a need for classification. Ironically, the only well known classification is based on the above-described controversial phenomenon in Gregorian chant performance – rhythm. Classification of performance styles is usually limited to narrow rhythmic characteristics: mensuralist and equalist, with variations in both styles. This classification however is not very practical anymore as not many follow the mensuralist theories. Record reviewers describe performances from other points of views but it had never led to the creation of a taxonomy. The reason behind a lack of comprehensive taxonomy is probably again the undefined status of the subject. What should one consider a Gregorian chant performance? Of course, there is the question of what benefit a taxonomy of performance practices creates? Does it help singers to perform better or does it help those who are interested in understanding the performance better? Probably none – it will help to understand the subject that is comfortably called 'performance of Gregorian chant' to obtain clear boundaries. These boundaries are not defined through the understandings of reviewers but from the viewpoint of performers.

New performance styles that appeared after Cardine's findings in semiology represented a large number of different possibilities in performing Gregorian chant. Of course, the newcomers faced fierce criticism from the conservative camp, which even claimed that the new performance styles were not true to Gregorian chant. The reason behind that is that they were too different from the mainstream that had unfairly obtained a status of canon law. Amongst the gallery of new styles, there was represented the so-called 'melismatic style', which demanded excellent vocal technique, as the ornamental notes were sung much faster than the structural notes. The main ideologist in creating that style was Marie Noel Colette (1939) and the most

³⁴ 'The series was begun in the late 1880s (the first volume was issued in 1889) by Mocquereau, basically in support of the theories of his teacher Pothier as expressed in the latter's *Liber gradualis* and *Méodies grégoriennes*' (Sherr, 2001: on-line, accessed 23 October 2009).

outstanding performer of this style today is Dominique Vellard. On the opposite side, there was Igor Reznikoff, with extremely slow singing in a relatively low diapason. Nowadays both these schools have tens, maybe even hundreds of followers. Another performer with a clearly different approach to medieval manuscripts is Marcel Pérès. Between these extravagant styles, more modest ways of performance have developed.

Many performance styles have in common the claim to have support from the semiological study of Eugène Cardine (Weber, 1992: 608). The situation became even more complicated because besides Gregorian chant, other families from Medieval Western liturgical music heritage were brought into the spotlight. Consumers of commercial recordings were able to buy Ambrosian, Old Roman, Gallican, and Mozarabic chant – even though from the latter family no diastematic manuscripts have survived.³⁵

In addition to this rivalry between different schools of Gregorian chant, another aspect was added when Richard Taruskin, Daniel Leech-Wilkinson, Robert Winter, Nicholas Temperley and other musicologists presented the idea of ‘modern invention of early music’ in 1980s. The criteria of ‘objectivity’ and historic ‘authenticity’ were abandoned in the discussion about historical performance of music during the 1980s. A positivistic imagination, as if detailed study of historical elements of style and performance practice would bring us gradually closer to the fuller understanding of the composer, was severely criticized (Siitan, 2004: 43).

³⁵ However, some scholars claim that it is possible to restore diastematic information from manuscripts of Mozarabic chant.

1.3 Towards inter- trans- and/or multi-disciplinary research

As it can be seen, there is a substantial amount of scholarship in the history of chant and some good efforts in performance questions. The main problem of Gregorian chant scholarship is not a lack of enthusiasm or good studies in different areas of the subject. Rather it is an inability to see the subject as an entity. Now when Gregorian chant has been transformed from a repertoire of liturgical music of the Roman Church into a larger cultural phenomenon and indeed is perceived as one, it is even more important to try to establish 'a common ground' for understanding the subject so that more people can share it. Several authors have pointed out a need for inter- trans- and/or multi-disciplinary research to go further in Gregorian chant scholarship. Peter Jeffery suggests in his book *Ethnomusicology in the Study of Gregorian Chant*³⁶ that the study of chant should

... grow well outside of its present boundaries as a subcategory of medieval musicology, into a much wider field that will interact increasingly with other disciplines: not only with ethnomusicology, but with modern liturgiology, with medieval and ecclesiastical history and with the study of musical cognition (Jeffery, 1992: 4).

Andrew McCredie states that

Interdisciplinary studies in musicology, especially in the disciplines of the aesthetics and sociology of music, have usually revealed a productive response to the appearance of new concepts, constructs and techniques in the philosophical behavioural and social scientism adding a new spheres of enrichment and complexity to the discipline (McCredie, 1994: 251).

These statements describe accurately the need of applying inter- trans- and multi-disciplinary methodologies to the study of Gregorian chant. It might be that complex answers to complex questions lay behind the interaction of different disciplines. Not too many researchers have taken up this challenge and my dissertation is written with the intention of contributing to multidisciplinary treatment of Gregorian chant in order to widen the understanding of this repertoire. I will abandon the usual practice of

³⁶ Jeffery, Peter. *Re-envisioning past musical cultures: ethnomusicology in the study of Gregorian chant*. University of Chicago Press, 1992.

studying one aspect of the repertoire with tools of history of music and music theory and apply instead an approach of treatment of the repertoire as an entity. Most of the chant scholarship is somehow based in the past – I would like to bring the focus to the present. Instead of study of the past, this research tries to concentrate on studying the present. Applying a multidisciplinary methodology and concentrating on the present is probably is the biggest difference of this project from a more usual piece of chant scholarship.

1.4 Methodological issues

As stated above, this dissertation is a multidisciplinary research project – it is a combination of sociology and musicology. In contemporary musicology, there are four basic streams: music history, music theory, ethnomusicology, and cognitive musicology (Maimets et al., 2004: 9). Musicology is understandably mostly associated with humanitarian scholarship. However, in contemporary musicology there are disciplines and sub-disciplines that transcend the borders of classical humanitarian scholarship. For example, musical acoustics is based on a doctrine of musical sounds. This sub-discipline of cognitive musicology uses methodologies of natural and exact sciences.

In terms of musicological disciplines, this research is undertaken in sub-disciplines of cognitive musicology and in music history. The latter applies to the historical overview in the chapter ‘Periods in the history of Gregorian chant’ (see page 74). In addition to written sources, oral history is used. To open up the background of one of the most outstanding twentieth-century Gregorian chant scholars and performers – Eugène Cardine – I use an interview with the Japanese singer Michiko Hirayama and two interviews with the German chant scholar, conductor, and performer Professor Godehard Joppich.³⁷ These interviews were made especially for my research project. In addition to the interviews, I use personal communications with chant specialists and colleagues. This work also uses tools of musical psychology, philosophy of music and reception theory. Some aspects of music theory in respect of paleography, semiology, and analyses of musical form are also engaged. Statistics has a big role in this research – to analyse the results of the questionnaire and the results of the measuring the recordings.

Because of its multidisciplinary nature and use of different methodologies, there is no ‘classical’ methodology chapter. All methods and methodologies are described together with a particular analysis. Most of the discussion and conclusions are also situated in the relevant chapters.

The application of many different methodologies is not the only problem of a multidisciplinary research. Bringing in more disciplines can also result in more material than is usually necessary for a doctoral dissertation. When I finished collecting material

³⁷ I also interviewed Mary Berry, Marie Noel Colette, Daniel Saulnier, Igor Reznikoff, and Antonino Albarosa. Most of this material did not make it into this research project and has to await future projects in this area. However, some quotes from the interviews of Marie Noel Colette and Mary Berry are used in the form of ‘personal communication’.

for this project, I realised that there was far more than I could possibly use just for this project. Even after losing more than a half, there were still two massive bodies of material: (1) the results of the questionnaire; (2) the solo recordings. Using just one of these bodies of material would have been enough to write a dissertation. However, this would have meant that I would lose much of the multidisciplinary nature of this work. I had to decide whether I wanted to go into deep detail with either of these bodies of material or be satisfied with some segments and try to keep both entities in the picture. As one of the purposes of this project is to draw a wider picture of Gregorian chant through multidisciplinary treatment I decided to keep both bodies of material and analyse them in as detailed manner as possible, while keeping in mind that there are many more possibilities to go into even more detailed analysis. I comfort myself with the knowledge that all this material is well organised and is ready for future research projects.

As a synopsis to the methodological issues it can be said that this research is multidisciplinary in three aspects: (1) combination of sociology and musicology; (2) combination of different sub disciplines of musicology; (3) combination of humanitarian scholarship and science.

1.5 Defining and redefining Gregorian chant

1.5.1 Reasons for redefinition

The reason behind redefining the term 'Gregorian chant' is the ambiguity of this term. It has been pointed out in several writings that this term is not accurate for many reasons. Andrew Hughes says that "'Gregorian" in no longer considered an accurate name for the plainsong we hear' (Hughes, 2002: 161) and McKinnon states that 'Though not entirely appropriate, it has for practical reasons continued in use' (McKinnon, 2001: on-line, accessed 5 October 2009). The term 'Gregorian chant' can easily be understood wrongly. If one says Gregorian chant, it can mean several things: (1) medieval Franco-Roman repertory of Western liturgical chant; (2) liturgical monodic Latin repertoire of Catholic Church either at the present or through all periods; (3) a particular performance practice of a (particular) repertory; (4) a non-definable heritage that consist of various elements, which vary in different cases.

All these different aspects come out in several definitions depending on which context the issue is treated. Here are some examples: (1) 'Gregorian chant is a term conventionally applied to the central branch of Western Plainchant. Though not entirely appropriate, it has for practical reasons continued in use' (McKinnon, 2001: on-line, accessed 5 October 2009); 'Gregorian chant, the best known of the many medieval dialects of Christian liturgical monophony, has often been depicted as a kind of crossroads, where ethnomusicology and the history of European art music may "meet"' (Jeffery, 1992: 1). (2) 'Gregorian chant, the liturgical music of the Latin rite of the Catholic Church, has its origin from the beginning of worship in the Latin rite' (Weber, 1990: ix). (3) Gregorian chant is defined as a particular performance practice of a particular repertoire in liner notes of recordings. It is written then that what one can hear on this recording is Gregorian chant.

(4) 'What is this thing called "Plainsong"? One often also hears it called "Plainchant", or "Gregorian Chant", or simply "The Chant". To put it in a nutshell, the chant is the unique music of Western Christianity and our closest living link with the Church of the first centuries. It has also been said, with truth, to lie "at the foundation of all our Western music"' (Berry, 1979b: 5).

As one can see the comprehensions of general terms for Gregorian chant that are used in international musicological and performance practice are not always unanimous. Reasons for the variety of understandings are (1) different scholarly and musical esthetical concepts; (2) linguistic aspects;³⁸ (3) a vast predominance of one family of medieval sacred Latin monody – the ‘Franco-Roman’ or ‘Gregorian’ repertoire – in scholarship and performance practice.³⁹

In English, the general terms for medieval sacred Latin monody are plainchant (*cantus planus*) or western plainchant, or Latin liturgical chant, or early medieval ecclesiastical chant.⁴⁰ David Hiley has named his well-received book *Western Plainchant: A Handbook* whereas a ‘precursor’ of this book by Willi Apel is called *Gregorian Chant*. Both books cover the wide range of different dialects and aspects of monodic liturgical music of the Western Church. In Apel’s book though, other authors wrote these chapters.

These terms – ‘Western plainchant’ and ‘Gregorian chant’ – are broad generalisations and far from accurate descriptions of the subject as they do not specify either the era and geographical provenance or the ontological condition of the considered subject. The word ‘chant’ can mean a written repertoire or a sounding music. The word ‘plain’ in the term also refers to the subject as being something simple, and was therefore justifiably criticized by Eugène Cardine. He claimed that plainchant is anything but plain! (Cardine et al., 1982: 8).

One is familiar with these kinds of generalisations as they are used quite frequently – western art, popular music, eastern culture, vocal repertory, and so on. It is not a problem because even if it is not known what exactly is behind these terms, usually everybody is conscious that they are generalisations. Unfortunately, this is not always valid in the case of Western plainchant. The usage of Western plainchant sometimes – especially outside the chant scholarship paradigm – sounds more like a rude simplification rather than a generalisation.

In the context of chant scholarship, it is probably very easy to get to an understanding within a particular work or conversation whether Gregorian chant

³⁸ For example in Estonian there is no word for ‘plainchant’ or ‘plainsong’. As a substitute the term ‘Gregooriuse laul’ – ‘Gregorian chant’ is used.

³⁹ The latter fact has resulted in some cases calling any sacred monodic *a capella* music in Latin a ‘Gregorian chant’.

⁴⁰ The last is used by Vollaerts in Vollaerts, Jan W. A. *Rhythmic Proportions in Early Medieval Ecclesiastical Chant*. E. J. Brill: Leiden, 1958.

means Franco-Roman chant or more widely liturgical music of the Catholic Church. Nevertheless, it still needs a clarification of its ontological condition: is it a written information or a performance practice or both; and – even more importantly – does one make a distinction between these two?

There is another term that is used sometimes – ‘Gregorian melodies’. What does one mean when talking about melodies? Is it just the diastematic information or does it have temporal information in itself that allows translating the written melody into a sounding melody? Is it something that in some form exists two in one, written and sounding? And again – are these ‘melodies’ the ones in the medieval manuscripts or in the liturgical books of the nineteenth and twentieth centuries?

As I understand it, the term ‘Western plainchant’ or ‘Western plainsong’ refers to the whole heritage of Western liturgical chant through all history up to contemporary time. This covers for example the contents of manuscripts of Ambrosian chant as well as compositions of Joseph Pothier in the nineteenth century. It even covers the most recent Latin monophonic liturgical compositions. However, in its comprehensiveness it applies to both written and performed form of chant and therefore is not entirely unambiguous. The question whether ‘chant’ means a repertory (i.e. a written musical and non musical information that needs interpretation to become performance) or whether ‘chant’ is the actual result of the interpretation, or both together – remains unanswered in all these terms.

If ‘Western plainchant’ leaves the era of the subject open then ‘Gregorian chant’ is in term of era quite unclear. It can mean: (1) medieval information in Franco-Roman manuscripts; (2) the restoration accomplished in Vatican editions; (3) a performance on the bases of one or both of these.

The evident conclusion that rises from this discussion is that a foundation of knowledge referred to as ‘Gregorian chant’ or ‘Western plainchant’ is far too big to fit these two terms. It is an immense, almost incomprehensible heritage – there is a consistent and thematically coherent Mass repertoire for each Sunday and holiday of the ecclesiastical year, not to mention the music for daily Offices and repertoire of sequences, tropes, prosulas etc. If this is complemented with the richness of the variations found in different manuscripts and families of western liturgical chant (Ambrosian, Mozarabian, Old Roman, Gallican), one could see this treasure before us in its full entity. This massive material is still only, what concerns the repertoire. But if

all treatments – both musical and scholarly – are added to this body of material it at least doubles in quantity.

The ambiguity in definitions is understandable, as there has never been a need for a comprehensive understanding of Latin chant. Most aspects of it have happily been treated in rather isolated contexts.

An important question about definitions is whether there is a ‘mainstream starting point’ that for some reason should dominate over others and should be a platform for a definition. If any, this mainstream position should belong to the Catholic Church and namely to the Abbey of St Pierre in Solesmes, where a huge amount of scholarship was done for the reinstatement of Gregorian chant. However, if one looks closer at the entity of the whole issue and the restoration process, it can be seen that it is just another emergence of medieval Gregorian chant repertoire. It is, no doubt, the biggest; but nevertheless, only one among the others.

1.5.2 A quest for new terminology

1.5.2.1 The role of philosophy in the definition

It seems that the most important aspect in definition of this repertoire is ontology and that inevitably leads into philosophy of music. In the subject entry ‘Philosophy of music’ in *The New Grove Dictionary* it is written that ‘referring to “the philosophy of music” often surprises academics and laypersons alike. Some declare they did not know there was such a subject’ (Goehr et al., 2001: on-line, accessed 9 October 2009). No doubt – philosophy of music is not the most unanimously understood paradigm in musicology. Therefore, it can be said with certain irony that this discipline is brought into this discussion only because it was not possible to avoid it – there is no other tool in scholarship to treat questions of ‘time and space’ outside chronometrically measurable aspects. The *Stanford Encyclopaedia of Philosophy* gives the following definition: ‘Philosophy of music is the study of fundamental questions about the nature of music and our experience of it’ (Kania: on-line, accessed 7 October 2009). Modern philosophy of music has a solid pedigree of discussion about ontologies of music.⁴¹ The common feature in all treatments is concentration on the ‘musical work’. There are several theories of what this pair of words means. Opinions vary from

⁴¹ A comprehensive and well-articulated treatment of philosophy of music can be found in the introduction of Goehr, Lydia. *The imaginary museum of musical works: an essay in the philosophy of music*. Rev. ed. Oxford, New York: Oxford University Press, 2007.

understanding of a musical work as a 'collection of concrete particulars, such as scores and performances' to musical works as 'mental entities' (Kania: on-line, accessed 7 October 2009). There is no clear consensus about how and when the concept of the 'musical work' emerged (Goehr, 2007: v), and to go even further, 'the idea that music is exemplified in works ... is far from self evident' (Carl Dalhaus cited in (Goehr, 2007: 13)).

The reason why philosophy of music is chained to the concept of 'musical work' lies in its orientation in western classical music in which it is possible to talk about musical works in a flourishing multiplicity of understandings and interpretations. The crucial question is whether it is possible to talk in terms of 'musical work' about 'segments' in the repertoire of Gregorian chant; and if so would there be any benefit of applying existing theories of philosophy of music?⁴²

My claim is that in the frame of knowledge that is available to us, the segments of the Gregorian chant repertoire do not constitute musical works in the same way, as we would understand musical works in the classical western repertoires. These latter have well developed performance instructions and traditions of performance that partially create their individual identities; through this identity, they achieve the status of 'works'. For this reason, I henceforth use the term 'segments' to create distance from the term 'musical work'. In other words, for example a communion antiphon (the text with neumes) in this meaning is a segment of the Gregorian chant repertoire. It is entirely possible of course that the segments of Gregorian chant repertoire did constitute 'musical works' in a very similar way to that understood in Western classical music; if medieval musicians and/or monks performed this music, there must have been some kind of performance instructions, and in the period of transmission from oral tradition to written tradition, these instructions were probably a combination of oral knowledge and written score. In this way, the situation is actually comparable to any musical work in western classical music, where there is a score and instructions for performance, two aspects that allow us to perceive the written information as a musical work. Now, let us imagine a score of Beethoven's piano sonata without

⁴² Recent discussion about this issue can be found in Bucciarelli, Melania, Berta Joncus, and Reinhard Strohm, eds. *Music as social and cultural practice: essays in honour of Reinhard Strohm*. Woodbridge: Boydell, 2007. The collection of essays deals with 'the intersection of musical work with social and cultural practice' and studies as one theme 'the link between treatises and musical practice, and analyses how historical writings can reveal period views on the 'work' in music before 1800' (Website Boydell & Brewer, accessed 21 October 2009).

slightest knowledge how to perform it – there are no instructions for performance at all. If there are no instructions, how can one claim that it is a musical work as it is – written musical information? Even if after long and thorough scrutinising we manage to perform it, there is no certainty that the musical work that we hear actually represents the musical work that is written down. In other words, it becomes a musical work through our performance, but not necessarily the same musical work that we have in the written form.

In contemporary performance practice of Gregorian chant or any other medieval repertoire, these segments of the repertoire are constituted only as diastematic⁴³, adiaستمatic, literary and other information because the original instructions for performance are probably lost forever. When contemporary performers perform these segments, the result of this activity is a musical work – but not the same musical work that is represented by a written segment in the manuscript.

A discussion about whether the earliest repertory of Franco-Roman chant was composed by a single person/group of people or emerged because of a complicated generative system⁴⁴ (Joppich, 2005, interview transcript: 4-5) will probably remain unsolved. It is possible, that one day an entirely new breakthrough in this field will be accomplished, for example a discovery of a manuscript that nobody expected to find. It is possible, if we think of very early manuscripts that were discovered during the twentieth century. Perhaps a revolutionary methodology that allows proving of the origin of Gregorian chant beyond a doubt will lead us to a clarification. It is plausible that some secrets of the earliest neumatic notations are still to be discovered because all the resources of contemporary scholarship are definitely not exhausted. As far as the status of the repertory remains on this level of discussion it will only add fogginess if we apply to analyses of Gregorian chant another controversial and disputed theory: that of philosophy of music and, particularly, understanding of the concept of the musical work.

Anyway, in opposition to the argument that we should concentrate on studying written 'musical works', John Butt has suggested that material that was meant to be performed should also be analysed through performance. Even more '... performance

⁴³ Diastematic notations indicate pitch whereas adiaستمatic or non-diaستمatic notations usually only specify the number of notes per syllable and the direction of the melody.

⁴⁴ The term 'generative system' is not used in the meaning used by Treitler: 'A generative system is apparently a set of conventions that (Treitler believes) a trained performer would have used to generate a particular chant afresh at each performance, or each time he wrote it down' (Jeffery, 1992: 15). Rather it is a system of accumulated knowledge and experience that made possible the formation of the repertory.

might be a useful parameter in understanding how a piece of music came to be created and notated' (Butt, 2002: xii). Therefore, studying the performance of Gregorian chant might even lead to closer understanding of the manuscripts.

I have no doubt that it would be possible to fit segments of Gregorian chant into a certain theory of contemporary philosophy of music and through it treat them as musical works. Take for example a theory that considers a musical work to be a 'mental entity'. Philosophy of music gives users a very wide possibility indeed to improvise. However, if one approaches the issue in a more pragmatic manner, it is quite evident that a segment of Gregorian chant repertoire cannot be treated equally with musical works of classical western music simply because of lack of original interpretational instructions.

1.5.2.2 Philosophy of sound

This discussion has led to a situation where it seems that contemporary philosophy of music might not be applicable to approach Gregorian chant. From the other side it is not possible to deal with the subject without philosophical tools. Because of the apparent ambiguity, it is necessary to simplify the context of this research on a level that at least strives towards common understanding. Therefore, the criteria for the framework should be simplicity and clarity. If the conception of musical work – at least for this research – is excluded, there is a need for a substitute for the object of the philosophy. Philosophy of what are we talking about? The following, therefore is not a development of philosophy of music; rather, it is a rendition on the philosophy of sound.

Music can appear as written musical information, but it can also appear as a musical sound(s) or a musical imagination. In terms of medieval repertoires, there is written musical and non-musical information. There are also descriptions of performances in treatises and other historical documents. These however, are not considered sufficient for understanding how a particular repertoire was performed at the time of its creation. To transfer musical information into musical sound there is a need for instructions. Primarily, there is a need for some guidelines about how to mark the length of the notes on the axis of time. Without this, it is not possible to transfer the written information into the musical sound or imagination according to the written score. Some types of written musical information are more precise on that matter than

others. If there is no instruction at all, then it will be added by a person who is performing the music by producing musical sounds or imagining the music. On both occasions, the music's ontology has changed from written information into a musical sound or imagination of a musical sound – the musical information is placed on axis of time.

As is widely known, the earliest notations of Latin monody are so precise in aspects of showing subtle rhythmical (agogical) nuances that no modern notation can compete with it (Siitan, 1998: 44) but they completely lack information about the time axis – there is no information about the length of musical sounds. There is information that one musical sound should be shorter or longer than the other but a basic organization in time is missing.

Therefore, if the length on the axis of time is not determinable from the notation and is always added by a person who performs or imagines the music, it can never be 'the music' or 'accurate performance of a medieval musical work'. The repertory and the performance form in this instance entirely separated entities. The information is medieval; the sounding music is as contemporary as it can be. The repertory is medieval; performed chant is contemporary and studying the repertory even more precisely and thoroughly will not change that.

Philosophy of sound has brought this discussion to the conclusion that if one intends to study Gregorian chant as a medieval repertoire, the only common denominators are the musical and non-musical information in the medieval manuscripts. Everything that comes beyond that is a personal understanding of that information.

1.5.2.3 A summary on the issue of segments of Gregorian chant as musical works

It must be admitted that the discussion about musical works produced so many unanswered questions that it is necessary to sum up this issue. According to my understanding, it is possible to distinguish three different levels on which segments of Gregorian chant could be considered as musical works.

(1) In a highly theoretical manner, one can consider segments of Gregorian chant as musical works as they are written in the earliest manuscripts. However, it is highly suspicious, because there is no strong evidence of original performance instructions and therefore it is not possible to define what a certain segment actually represents.

(2) On the matter of segments of Gregorian chant as they are written in the nineteenth and twentieth century liturgical books, it is possible in this instance to consider them as musical works because it is possible to say what they represent. There are fairly clear performance instructions that were created together with the restoration of Gregorian chant in the nineteenth and twentieth centuries.

(3) A performance of a segment of chant from either of these sources can be considered a musical work; but it is not possible to say whether it represents a musical work in either of the above-described sources.

From the point of view of this research, the most important aspect is that musical and non-musical information in the medieval manuscripts on its own does not constitute as a musical work.

1.5.2.4 A new definition

Definiteness in terminology is not only important for this research but also for further popularisation and development of the subject. It is fine to use the current terminology within chant communities when isolated issues are treated, but in terms of the broader picture, the defining should be more precise, especially for those musicians who have a nodding acquaintance with the discipline in the course of studies of music history. If the discipline were properly defined, it would be much easier for them to reach the entire richness of the heritage of Western music and learn to know the wellspring of the notation that they use in everyday practising.⁴⁵

In the quest for proper terminology for the subject, I have taken into consideration that it should: (1) specify the era of the subject; (2) distinguish the liturgical nature of the subject; (3) specify the language and therefore the church rite in which the subject was; (4) specify the monodic character of the subject and clarify that the defined object is a repertory i.e. written information not sounding music. The era from which this repertory is from is MEDIEVAL; as there are also secular Latin texts the SACRED nature of the repertory should be specified; not to confuse with

⁴⁵ The benefit would be purely practical – neumatic notation teaches movement rather than a group of notes. As this movement is often written with a single stroke, it gives to phrasing a different approach that is not easy to achieve with contemporary notation. In some respect, the neumatic notation has elements, which are like legato beams that conceive not only information about articulation, but also the actual notes that are performed under this legato beam. In this perspective, it would not be another boring piece of music history rather than a practical thing that a musician can use to develop his/her professional skills.

vernacular translations of Latin chant that are also referred as Gregorian chant it should be clear that it is in LATIN and is integral to Western church; and for specifying its monodic character and a status of written information it should be called MONODY rather than chant. Medieval sacred Latin monody (henceforth also MSLM) is definitely a wider term than Gregorian chant repertory. The latter is a part of MSLM. In terms of this research, when I refer to MSLM, I mean Franco-Roman or Gregorian segments of medieval sacred Latin monody, because it is the Franco-Roman repertoire that stands in the centre of this research. Although in this subchapter the term 'Gregorian chant' was redefined as 'medieval sacred Latin monody', I will use both terms thorough this work, because – for reasons of common understanding – I used that term in the questionnaire. Therefore, in this dissertation, these two terms are synonyms, and the preference is decided according to the context.

The attempt to redefine the subject from 'Gregorian chant', 'Western plainchant' and other known terms is not to disqualify any of the ways in which the repertoire is treated. Rather, it is an attempt to draw clear borders for the paradigms through which this research is being undertaken. Of course, if this redefinition is going to have a further application it will be highly appreciated. It is most important to stress that the centre point of that paradigm is a repertoire: Medieval sacred Latin monody – a body of medieval knowledge that consists of different elements of musical and non-musical information. The study itself is not about this foundation of knowledge; it is about different understandings of this knowledge.

The well-used term 'Gregorian chant', that is so dear and quotable to many, including myself, should by no means be banished. The great work done by monks of Solesmes and other is highly valuable and most appreciated. It is understandable that to honour the great reformer Pope Gregory the Great, the traditional liturgical music of the Catholic Church should forever be called Gregorian chant. However, in terms of this study, the term 'medieval sacred Latin monody' gives a more comprehensive picture of the monodic liturgical repertory of Western Church based on the Roman Rite which is a part of the universal Church tradition comprising musical and non-musical manuscripts of the Franco-Roman family until the musical reform started during the Council of Trent (1545-1563) and finished in 1614 with publishing 'Editio Medicea' – renewed collection of melodic information.

1.6 The role of reception theory in this research

In the process of conducting this research project, different approaches and titles were considered. At one point, I called this thesis a reception study. The title at that time was 'Contemporary reception of Gregorian chant'. It was planned then to study all possible forms of reception of medieval sacred Latin monody. Eventually, that task was too large for this project and was therefore abandoned. However, the conception of reception remained as a suitable tool to explain different understandings of MSLM. In this dissertation the terms 'reception', 'understanding', and 'emergence' are used more or less synonymously.

Reception theory is not a discipline that originates from musicology.⁴⁶ A study of musical reception has its roots in the reception of literature. It was quite recently in musicology that a new sort of history – a history of reception – challenged the history of musical structure and musical style. The basic principle of theories of reception or reception history is to 'move historical enquiry away from questions of production and composition and towards issues related to response, audience, and what Carl Dalhaus, following Walter Benjamin, called the 'after-life' of musical works' (Everist, 1999: 379).

'The study of music has always been and probably always will be strongly connected with the study of history ...' (Everist, 1999: 378). A basic controversy nowadays in musical reception and discussion emerging from it is, whether we know what music history is? Is there a distinction between history of music and history of music reception? Is 'history of music' independently relevant or does it actually equal 'the history of music reception'? This discussion is even more fascinating as according to pre reception theory, the conception of music history was the history of musical works and composers, leaving little room for study about recipients of musical works. Now the tide has turned; the solitary role of musical works and composers are questioned and recipients of music are taken into consideration as well. Diminishing the role of musical work and composer in the history of music is a serious challenge to the musicological canon that has for a long time been the very base of musicology.

This question becomes even more complicated if one realises that in the context of MSLM there is no composer. Even more, the material – a reception of which is studied – might not constitute as a musical work without additions from the recipient.

⁴⁶ A comprehensive introduction for reception theory can be found in Holub, Robert C. *Reception theory: a critical introduction*. London: Methuen, 1984.

On the schema, there is a selection of different possibilities of reception of MSLM.⁴⁷ For example, somebody studies medieval manuscripts and turns the information into a scholarly work (MSLM – scholarship). Then another person applies the conclusions to performance (MSLM – scholarship – performance). A third person hears the performance and applies this into his/her performance (MSLM – scholarship – performance – performance). Therefore, it is not possible say, which is active and which is passive reception of MSLM. I would say that study of a medieval manuscript is always active reception, notwithstanding what the ‘product’ of this reception might be. Normally a reception of MSLM through contemporary Western notation would be a passive reception. Everybody who uses contemporary Western notation is at least passively connected to MSLM. However, if for example, a violinist is studying medieval manuscripts to understand better contemporary Western notation, the reception becomes active. On the other side, if somebody performs MSLM and all that he/she uses is a twentieth century liturgical books and recordings, it seems to be rather a passive reception of MSLM. Thus, the nature of activeness or passiveness of the reception cannot be decided upon superficial characteristics.

Two very good examples of this are the cases of Japanese singer Michiko Hirayama and Estonian composer Arvo Pärt. Michiko Hirayama studied with Eugène Cardine in Rome and applied the performance principles of Gregorian chant to the performance of other repertoires. Michiko Hirayama says that Gregorian chant means to her ‘songs that are born from out of human nature’ and that she got ‘basic singing principles from learning Gregorian chant’ (Hirayama, 2006, interview transcript: 5). If one hears Hirayama performing for example Giacinto Scelsi’s *Canti del Capricorno*, it is not likely to associate this performance with performance aspects of Gregorian chant. However, Hirayama herself says about using the knowledge of performance of Gregorian chant for other repertoires that ‘it is the same’ (Hirayama, 2006, interview transcript: 5).

This principle also applies to the compositions of Arvo Pärt. Superficial listening would not reveal his strong connections to MSLM. Nevertheless, it is known that exactly this repertoire was behind establishing the well known ‘tintinnabuli style’. Arvo

⁴⁷ Additional explanation of the schema is in the subchapter ‘Emergence of Gregorian chant in the twentieth and twenty-first centuries’, beginning on page 58.

Pärt describes his closer encounter with Gregorian chant in the process of his overall interest into early music as follows:

I decided to immerse myself fully in monophony. I do not even know why, but I felt that the key lay in there – the key to music. I laboured immensely on this. First, I simply played those melodies on the piano for days and days.⁴⁸ It took a long time to understand, because it all passed me by when I played it on the piano. I was probably searching for something else in that music. The pitches always remained just that – pitches; I was brushing over them. I did not get this feeling for music that would have enabled me to understand the connection between two notes. However, it was to be expected, because I had been working on serial music for many years. I did not realise that music can have a ‘breath’, or that two or three notes could constitute a prayer. Gradually, it all somehow started to come together. A single note at first, then a couple of notes from here and a couple from there. It happened through religion, through the words of prayer,⁴⁹ through a sense of prayer. The soul began to sing – the word was not dead, but found a connection with heart and ear. This all poured into music (Pärt, 2005, interview transcript: 2).⁵⁰ (Original text in Estonian, translated by Alar Helstein.)

Nora Pärt says about the lack of superficial connection between music of Pärt and Gregorian chant that: ‘if you could hear this connection it would have been a museum artefact. This was not Arvo’s purpose – he was looking for a starting point, a principle: a way of thinking. He grew himself a new “ear”’ (Pärt, 2005, interview transcript: 6). (Original text in Estonian, translated by Eerik Jöks.)

⁴⁸ The book that Arvo Pärt used was *Liber Usualis*. The first edition of this book was published in 1896. There have been hundreds of editions, which have been through many changes since the first publication. There are also editions with English and French commentaries. It is not known to me which edition Arvo Pärt used.

⁴⁹ Arvo Pärt means the text of Gregorian chant.

⁵⁰ The interview was in Estonian and the transcript is attached to this dissertation as Appendix 4, vol 2, pp 406-414. The initial plan of this dissertation was to become a study of different receptions of MSLM. This interview was made to describe reception through adaptation. When the idea of overall reception study was abandoned, I decided not to use my resource to translate the whole interview into English. However, I use some examples to illustrate a brief description of different forms of reception of MSLM.

On the schema (Figure 1), there is also a reception route of this research pictured. Answers to the questionnaire represent a reception of MSLM of the respondents through evaluation. My research therefore represents a passive reception of MSLM by studying these evaluations through scholarship. The same applies to performances. 35 solo performances represent a reception of MSLM through performance or musical interpretation. My study of their performance again, represents a passive reception of MSLM. It must be noted that some evaluations as well as performances can actually already be a passive reception of MSLM.

The schema definitely does not represent all possible connections – there are additional possibilities. What it demonstrates is a vast possibility of different combinations of forms and levels of reception that can be considered.

To conclude on the issue of the role of reception theory in this research, it must be acknowledged that the idea of reception is not, and indeed cannot be, unanimously defined. In this research, reception or understanding or emergence means primarily a reception prism of one particular person. We have information (MSLM) and we have reception prism that changes the information into something else. Whether it is an active reception or a passive reception is not always possible to detect. Some receptions stand closer to the original information and some stand further away. What they all have in common is that they would not exist in their particular form if there were no MSLM. Thus, the receiver is connected to the MSLM and whatever his/her reception prism is reflecting it always has at least a glimpse of MSLM in it. By summing up personal receptions, we can make assumptions about reception of a larger body, a group of people, a community. In this way, we can study mainstream trends as well as smaller groups with their own understanding of the studied repertoire.

1.6.1 Why do reception theory and performance of medieval sacred Latin monody form ‘a match made in heaven’?

Performance of medieval sacred Latin monody is especially suitable for a reception study because it needs a vast personal imagination of the performer to be added to original musical information to change the ontological condition of ‘mute’ written information into a ‘speaking’ medium. It is obvious that a performer is never isolated from the repertoire that he/she performs and the context in which he/she is performing MSLM is not an exception; but in this case, we have the possibility of

isolating other performers and deal only with a solo *a capella* singing. In effect, we have *a capella* solo performance of the same piece in a context of a huge repertory and considerable number of performers. It is also important that part of medieval sacred Latin monody is considered a solo repertory. As it is monodic music, it is possible to measure the temporal structure with fairly high accuracy.

MSLM is a very dynamic entity and it is actually not possible to define 'right' or 'wrong' approaches. Therefore, every approach is in some way useable and benefits the reception study. On the other side, reception theory is perfect to analyse medieval sacred Latin monody as it offers the possibility of explaining diversities. Two interpretations cannot be alike because two interpreters are not alike.

1.7 Emergence of Gregorian chant in the twentieth and twenty-first centuries

1.7.1 Introduction

In this subchapter, I will give a brief overview of different forms of reception of MSLM. This will act as a commentary to Figure 1 on the page 53 and as Appendix 3, vol 2, p 405.

In 1903, Pope Pius X wrote proudly that Gregorian chant had been restored to its original perfection and purity (Pope Pius X, Instruction on Sacred Music, 1903 in (Suñol, 1930: 139)).⁵¹ After centuries of negligence, this medieval repertory was back where it belonged – in the Catholic liturgy. Not many people know that this new coming of Gregorian chant came with a price of big compromises and in a fierce rivalry between different people’s understandings of the restoration of Gregorian chant. Nevertheless, Gregorian chant was again instituted; but unfortunately only for half a century, until the vernacular treatment of the Catholic liturgy legislated by the Second Vatican Council took over and new music pushed Gregorian chant back to the periphery of liturgical practice. Nowadays the liturgical usage of this music is limited mostly to the monastic tradition. It is also used in Catholic and other Christian worships outside of monastic communities, but very rarely in its fullness.⁵² Jerome Weber writes:

Where is this age-old music of liturgical worship today? As a result of the liturgical reforms of the Second Vatican Council, which permitted the Mass and Office to be celebrated in the language of the people, Gregorian chant is now sung in only a small number of churches, and in most of them only occasionally rather than daily. The enormously successful effort from about

⁵¹ (1) ‘These qualities are found most perfectly in Gregorian chant, which is therefore the proper chant of the Roman Church, the only chant which she has inherited from the ancient Fathers, which she has jealously kept for so many centuries in her liturgical books, which she offers to the faithful as her own music, which she insists on being used exclusively in some parts of her liturgy, and which, lastly, has been so happily, restored to its original perfection and purity by recent study’ (Pope Pius X, Instruction on Sacred Music, 1903 in Suñol 1930: 167).

(2) It was not the first time the Roman Pontiff declared that the true version of Gregorian chant has finally been found. ‘On 4 August 1871 Pius IX officially sanctioned the Pustet editions as the authentic form of Gregorian chant, a decree that was reaffirmed in papal letters (30 May 1873, 15 November 1878) and by decrees of the Sacred Congregation of Rites (26 April 1883, 7 July 1894)’ (Emerson et al., 2001, accessed 8 October 2009).

⁵² It is probably not possible to detect the quantity of Gregorian chant repertoire that is used in liturgy in the world nowadays. The general attitude towards Gregorian chant allows an assumption that only a tiny amount of this huge repertoire is used. Usually one hears a chant from the *ordinarium* of Mass rather than *proprium*. Hymns are also quite frequently used either in Latin or vernacular. Some genres, for example big responsories of Matins (Night Office) are very rarely heard in liturgical setting.

1920 to 1960 to teach the ancient chant in parishes and schools has died out almost without a trace. Yet, chant scholarship is flourishing in the universities more than ever. Academe cherishes what the church has abandoned, and scholars now produce more chant recordings than monks or clerics (Weber, 2002: on-line, accessed 03.11.2008).

It is true that the use of Gregorian chant in liturgy has diminished dramatically; but if a closer look is taken at the subject, it is quite surprising how many different forms of emergence of Gregorian chant we can still find in our contemporary musical life apart from the usual performance and scholarly paradigms. A phenomenon, which is usually considered a narrow stream of liturgical music, has effects – at first glance – in quite unexpected areas.

1.7.2 Reception through musical performance or reception through interpretation and reception through composition

In addition to its relatively scant use in liturgical practice, Gregorian chant is successfully performed in concert situations. There is a substantial community of Gregorian chant performers fully dedicated to this repertoire. Many Gregorian chant recordings have been published since 1904⁵³ and there are recordings that have made it to the top-selling records list.⁵⁴ Ever since the period when chant restoration began – the middle of the nineteenth century – new music is being written in the fashion of Gregorian chant⁵⁵ and it is not always easy to differentiate these ‘modern’

⁵³ ‘Father Weber lists over 800 recordings of western chant, chiefly Gregorian but including the other dialects, in this massive new discography’ (Falconer, 1991: 287). ‘A *Gregorian Chant Discography* facilitates access to a vast repertoire of recorded sound (two thousand titles) never before inventoried’ (Dyer, 1991: 1174).

⁵⁴ Fernandez de la Cuesta, Ismael, conductor, Francisco Lara, conductor, and St Domingo De Silos Monastery Choir. *Gregorian Chant From Santo Domingo De Silos*. CD Stereo, EMI CMS 5652172, EMI 724356521728, 1993. Reissue of Fernandez de la Cuesta 1973; Lara 1980, 1981 and 1985. Katharine LeMée describes this record, which has been sold 4 000 000 copies (LeMée, 1994: 2) all over the world: ‘There is a smile spread across the world. Born of love and the spirit of gentleness, it has made its way into the hearts of millions of people of all ages and all walks of life. The smile is carried on glorious song, the sound of Gregorian Chant ...’ (LeMée, 1994: 1).

⁵⁵ There are compositions that try to follow the style of Gregorian chant and are written before the restoration started. For example, some of this music is included in French version of the *Liber Usualis* – the *Paroissien Romain*. The music is printed on four-line staff but it is clearly using melodic elements that are not customary to the early repertoire of Gregorian chant. For example see Henry Du Mont (1610-1684) *Messe Royale, Messe du 2^e ton and Messe du 6^{me} ton* in the appendix of *Paroissien Romain* 1955, *Dans les solennités, ad libitum*, pp 1-16 (Appendix of *Paroissien Romain*, 1955: 1-16). These compositions were first published as *Cinq Messes en plain-chant musical* in 1660 and reprinted 1701 as *Messes Royales en plain chant*.

compositions from their medieval counterparts. ‘During the nineteenth century, Dom Joseph Pothier and others at Solesmes attempted to continue the composition of chants in the old style’ (Weber, 1990: ix). Most of these pieces were excluded from the edition of *Graduale Romanum* of 1974 (Weber, 1990: xi). An example of Pothier’s composition⁵⁶ that remained in the later editions is the Introit of the Mass for the feast of the Immaculate Conception.⁵⁷

Figure 2. The Introit *Gaudens gaudebo* by Joseph Pothier (*Graduale triplex*, 1979: 628); the image is enlarged.⁵⁸

G AUDENS gaudé- bo * in Dó- mi-
no et exsultá- bit á- nima
me- a in De- o me- o : qui- a índu- it me
vestimén- tis sa- lú- tis, et indumén- to iustí-
ti- ae cir- cúm- de- dit me, qua- si spon- sam orná- tam
mo- ní- li- bus su- is. Ps. Exaltábo te, Dómi- ne, quó- ni- am

⁵⁶ It is not entirely clear how many pieces did Joseph Pothier did compose. There is no full list of his compositions. As he also used cento technique, his authorship might not be so easily deduced. Another piece that can be certainly considered Pothier’s composition is the Alleluia *Vox turturis* (*Graduale*, 1908: 420-21) for the Apparition at Lourdes. I owe my thanks for this information to Jerome Weber.

⁵⁷ In conceptione immaculata B. Mariae Virginis – *Graduale Triplex* pp 628-631. The feast is celebrated on 8 December.

⁵⁸ Used by kind permission of SAS La Froidfontaine, Abbaye de Solesmes. Copyright © Abbaye Saint-Pierre de Solesmes & Desclée, Paris-Tournai 1979.

Gregorian chant has been translated into the vernacular, and its compositional technique and modal thinking is being applied to the composition of new vernacular liturgical music. Examples of translations and new compositions can be found in many languages. The translations include chants from both Proper and Ordinary of Mass and from Divine Office. As an example of Ordinary, please see a fragment on English setting of *Credo I* from *English Kyriale*⁵⁹ and Swedish setting of a variant⁶⁰ of *Kyrie Orbis factor* from *Svenska psalmbok*.⁶¹

Figure 3. A fragment of an English language setting of *Credo I* (Allan et al., 1991: 42).⁶²

The image shows a musical score for an English setting of the Credo I. It consists of four staves of music, each with a treble clef and a common time signature (C). The lyrics are written in a Gothic script below the notes. The first staff begins with a large 'W' and the text 'e BE-LIEVE IN ONE GOD,* THE FA-THER,'. The second staff continues with 'THE AL-MIGHT-Y, MAK-ER OF HEA-VEN AND'. The third staff continues with 'EARTH, OF ALL THAT IS, SEEN AND UN-SEEN.' The fourth staff begins with 'WE BE-LIEVE IN ONE LORD, JE-SUS CHRIST,'. The music is composed of square notes on a four-line staff, with some notes beamed together. There are bar lines and repeat signs throughout the score.

⁵⁹ Allan, Peter, Mary Berry, David Hiley, Pamela CSJB, and Ernest Warrell. *An English Kyriale*. Mirfield, London: Community of the Resurrection and Harper Collins, 1991.

⁶⁰ The melodic information is not exactly the same as in Vatican and Solesmes Editions, but one can unmistakably recognize that it is *Kyrie Orbis factor*.

⁶¹ *Svenska psalmbok för den evangelisk-lutherska kyrkan i Finland*. Vasa: Församlingsförbundets Förlags Ab, 1986.

⁶² Used by kind permission of Father Peter Allan. Copyright © the Editors, 1991.

Figure 4. A Swedish language setting of *Kyrie Orbis factor* (*Svenska psalmbok*, 1986: 806); the image is enlarged.⁶³

F: Her - re, för - bar - ma dig ö - ver oss.

Kris - tus, för - bar - ma dig ö - ver oss.

Her - re, för - bar - ma dig ö - ver oss.

Chants for the Proper of the Mass are much more complicated to translate, though there are plenty of examples from these as well.

Figure 5. An English language setting of the Gradual *Haec dies*; translation into English: Columba Kelly.⁶⁴

Gradual

T HIS day is the day that the Lord has made. Let us all sing and re-joice in this day.

⁶³ Used by kind permission of Central Fund of the Evangelical Lutheran Church of Finland. Copyright © Kyrkans centralfond 1987.

⁶⁴ Used by kind permission of Columba Kelly. Music and text by Columba Kelly, Copyright © Saint Meinrad Archabbey, 2003, All Rights Reserved.

Figure 6. An Estonian language setting of the Introit *Spiritus Domini*; translation into Estonian: Eerik Jõks.

Is - san - - da Va - - - (a) - im täi - dab ko - gu il - ma - maa.

Hal - le - luu - ja! Ja Te - ma, kel - le hoid - mi - - - sest

sei - sab kõik - sus koos, te - ab, mi - da rää - gi - tak - se.

Hal - le - luu - ja! Hal - le - luu - ja! Hal - le - luu - ja!

Sometimes it is thought that translation of Latin chant into vernacular is purely a development that took place after the Second Vatican Council. In fact, there are settings of the Mass Ordinary and a selection of Propers in English from the end of the nineteenth century.⁶⁵ The melodic material is not the same as it appears in the later Solesmes and Vatican Editions and is probably a result of earlier restoration attempts. However, one can recognize the pieces to be from the Gregorian chant repertoire.

Material from Gregorian chant is being integrated into orchestral compositions or used as material for variation. As an example of latter we can see John Law's⁶⁶ *Spirit Music For Pentecost*.⁶⁷ This fairly long piece is an improvisation on the well-known Gregorian hymn *Veni Creator Spiritus*. John Eyles writes: 'An improvisation based on early monastic music, it begins simply and establishes a mood of tranquillity. It then sets up an ebb and flow of tension throughout, ending in a thunderous finale' (Eyles, 1996: on-line, accessed 8 October 2009).

Melodic material of Gregorian chant can also be used in 'more invisible' manner. Estonian composer Toivo Tulev⁶⁸ (1958) has used it in his piece *Veel ärgates ...* the Introit of the Mass of Easter Day *Resurrexi*. Melodic material is integrated into the

⁶⁵ Croft, J.B. *Plainsong Masses in modern notation together with some Introits, etc.* Third enlarged ed. Westminster: Rev. J. B. Croft, 1899.

⁶⁶ John Law has a series of recordings based on MSLM.

⁶⁷ Law, John, solo piano. *Pentecost*. CD, FMR Records, FMRCD 270396, 1996.

⁶⁸ Toivo Tulev uses melodic material of Gregorian chant often in his compositions. For example *Hagios o Theos* in short ballet *Cruz* (2002) for symphony orchestra, tape; *Regina caeli* in *Ambra* (2002) for symphony orchestra, synthesizer; principles of psalmody in *Quella sera* (1996) for 12 players: flute, alto flute, oboe, clarinet, bass clarinet, bassoon, horn, 2 violins, viola, cello, double bass, piano, percussion.

cello part. The melody of *Resurrexi* is in the beginning treated only in very short motives. Later it is exposed in more eloquent manner. In the ending section of the piece, we have a hunch of the melody played on solo cello, as it is gradually transposed higher and higher imitating the feeling of the Resurrection.

Gregorian chant has been arranged for instrumental setting. One of most interesting examples is Leopold Stokowski (1882-1977) 'Two ancient liturgical melodies' for orchestra. 'Victor' recorded it under the authors conducting in 1936.⁶⁹ According to some reviewers, it was quite unsuccessful attempt. 'It is dressed up in modern paint and powder, with artificial touches of theatricality, and the feeling is therefore suggested and implied rather than articulated and actually felt' (Kozlenko, 1936: 254-55).⁷⁰

There is a whole body of work concerning accompaniment of chant that is usually considered to be sung *a cappella*. Accompaniment of Gregorian chant has been a custom for many centuries. 'Complete published graduals and antiphoners with organ are known from 18th century' (Hiley, 1990: 50). Works concerning accompaniment of Gregorian chant include theoretical manuals,⁷¹ as well as full written scores for vast variety of chants.⁷²

⁶⁹ Stokowski, Leopold, conductor. *Two Ancient Liturgical Melodies*. 10 inch disk, Victor 1789, 1936.

⁷⁰ Partly because of the negative reviews, I tried to find this recording. Luckily, there is a reissue of 1936 recordings (Stokowski, Leopold, conductor. *Stokowski Philadelphia Rarities*. Leopold Stokowski conducts the Philadelphia Orchestra. Cala Records 1994. Two ancient melodies are reissued from Victor 1789, 1936). The recording according to my understanding is quite interesting and not even close to what one could call 'modern paint and powder' in 1936.

⁷¹ For example, Springer, Max. *The Art of Accompanying Plain Chant*. New York: J. Fisher & Bro., 1906.

⁷² For example, Burton, G. *The choir manual*. Organ Accompaniment. New York: J. Fischer & Bro., 1914.

Figure 7. A fragment from *Kyrie De angelis* harmonized by J. Vranken (Burton, 1914: 7).⁷³

In Festis Duplicibus
(*De Angelis*)

Harm. by
P. J. JOS. VRANKEN

V. (M.M. ♩ = 138) III.

Ký-ri - e * e - - lé - i - son.

III.

Chri - ste e - - lé - i - son.

1.7.3 Reception through evaluation and reception through criticism

There is a wide area of reception that we usually do not recognize self evidently – reception through evaluation. Apart from composing, performing, and listening to music, a great deal of energy is spent in talking about it. In fact, sometimes it tends to fill a substantial amount of time in our musical activities. The domain of talking about music, which was colonised by musicologists from the earliest times, has more recently been reclaimed – at least partly – by composers and performers. In particular, verbal explanations of music by its performer or the composer have been proved valuable material in musicological study.

In the scope of this research, a phenomenon of evaluating music is considered as yet another form of reception of MSLM. How do performers and scholars define Gregorian chant; what do they consider important in its performance? There is a huge amount of possible material for that purpose – every chant related person is able to draw a picture of how he/she understands the repertoire. What is most fascinating is

⁷³ The Roman numeral 'V' on the example indicates that this piece is in the fifth mode.

that if we find enough common denominators in these different receptions, we can – at least theoretically – adumbrate what Gregorian chant ‘actually is’ in our contemporary understanding. Of course, it does not mean finding ‘universal truth’; rather, it is looking for common denominators to describe principles of mainstream trends.

There is another possibility for analysing the reception of Gregorian chant – record reviews, analysis of performance, and other writings about Gregorian chant.⁷⁴ These writings can be considered as a critical reception of Gregorian chant. Mark Everist is sceptical about critical reception:

Reception *history* is often invoked in the study of music, and the German *Rezeptionsgeschichte* is frequently allowed to stand in its place. This much abused term, in music at least, signifies performance history, ‘critical reception’ – which usually means the study of journalism – and scholarly or theoretical responses to music (Everist, 1999: 379).⁷⁵

In a way Everist is right – it is complicated to consider critical reception equally with reception through performance. However, if some scholars consider performance as an analysis of a performed music, why cannot talking about music be considered as a sort of performance, or at least an equal form of reception?

Reading the reviews of the twentieth century is not merely a study of journalism. One can get a good picture of how record consumers got used to the recorded results of the restoration of Gregorian chant and with new developments further on. Opinions in reviews draw a picture of Gregorian chant as listeners received it. Even more, it is possible that critical reception has affected the future reception through performance. Therefore, it should not be underestimated.

It must be admitted that there are several possibilities for misunderstanding in previous discussion about reception through evaluation and/or critical reception. It can be said that all writings (scholarship, record reviews etc.) and discussions are a reception through evaluation. At the same time, even reception through performance is a kind of evaluation of the repertoire. For this research, I needed a special term for

⁷⁴ In course of this research, I studied record reviews of the twentieth century as one possible form of reception of Gregorian chant. I managed to find about hundred reviews starting from 1905. However, the material for this research was too large already to add that aspect to this dissertation. Therefore, a closer study of these record reviews will be a subject for further research.

⁷⁵ Quotation marks and italics are from the original text.

answers of the questionnaire not to confuse them with for example, record reviews. Thus, on the schema (Figure 1) all forms of evaluating the repertoire verbally are separated into different categories: evaluation, scholarship, and criticism. The schema also shows a form of reception 'MSLM – criticism', but generally, the term criticism or critical reception in this research is considered a passive form of reception.

1.7.4 Reception through contemporary western notation and reception through adaptation

An entirely separate and huge issue is the question of early neumatic notations as the precursor of our modern notation. During the transition of Gregorian chant from oral to written tradition, the art of writing music down in European musical culture was created. It is quite evident how important the creation of notation was for the development of the European professional musical culture. Most contemporary professional music is connected with knowledge of fluently reading music. That means an intense connection with notation that in turn must have a connection with earliest neumatic notation. That is where every Western musician meets with Gregorian chant; oversimplifying the understanding about Gregorian chant may in time disfigure the understanding of entire Western music. If we consider that Gregorian chant gave us the art of writing music down, we should by no means underestimate the role of Gregorian chant in our contemporary every-day musical practise of any music that uses written notation as a vehicle.

It was already observed in the subchapter 'The role of reception theory in this research' that Gregorian chant has inspired world famous composers and performers, including the Estonian composer Arvo Pärt, and Japanese soprano Michiko Hirayama who is a widely known performer of contemporary music (see page 54). From these examples we can see that musical activities which have inspiration from close contact with Gregorian chant are not always clearly recognizable. Still, they have a very important role to play in lives of these two world-renowned musicians.

1.7.5 Reception through imitation

Chant recordings have triggered a completely new genre, which is based on imitating recordings of Gregorian chant from religious settings although in effect they function as secular popular music. For example, the pop ensemble 'Gregorian' has produced a

whole series of recordings called 'Masters of chant' where a group of male singers perform hits of popular music with accompaniment of pop ensemble.⁷⁶

Lot of so called 'meditation music' is created on the base of Gregorian chant. On these recordings chant is usually interpolated or accompanied with synthesizers and/or sounds from nature.⁷⁷ These recordings are sometimes referred to as New Age music. New Age movement was initiated in 1970 and it is orientated towards finding 'universal truth'. The movement is decentralized and has interest in various activities, including alternative medicine and cosmology. New Age philosophy has draws its principles from different eastern and western religions and philosophies. Through these, connections the New Age movement exploits different styles of music, including Gregorian chant.

As a contemporary musical genre, New Age has generated important revenue for the international record industry. The term was introduced to the industry in 1976 with Will Ackerman's first release of acoustic guitar solos, *In Search of the Turtle's Navel*. Retrospectively the first New Age album was Tony Scott's *Music for Zen Meditation* (1964), where, as in so many later New Age albums, Asian and western musical instruments and styles are combined. In other respects the stylistic range is broad (Schreiner, 2001: on-line, accessed 1.02.2009).

Some so-called New Age recordings show that there can be a spiritual approach to Gregorian chant, which comes from a different ethos than Christianity. Sometimes they express straightforward confrontation to Christianity. These CDs are very often lacking information about performers. CD sleeve notes have inaccuracies about performed music.

If we follow the definition of 'New Age' given in *The New Grove Dictionary*, we can see that 'New Age Music' is not something that exists only on above described recordings. The idea that Gregorian chant and other early repertoires can be used to

⁷⁶ For example: Gregorian, ensemble. *Masters of chant*. CD stereo, EDEL 0114042 ERE, 2000.

⁷⁷ For example, a set of three CDs: Misericord, ensemble. *Gregorian Chants with Sounds of Nature*. Three CDs, Invincible 1994.

reflect alternative spirituality is also used in high-level concert music.⁷⁸ In 'Performer's note' of a concert of *trio mediaeval*,⁷⁹ Anna-Maria Friman writes:

Today we assume that the women and men who sang and listened to sacred music in its original context were connected to religious establishments and convinced of their Christian religious lifestyle. Unlike our medieval forbears, modern medieval music performers and their audience are not necessarily religious. Today anyone can sing the music, whether they are religious or not and there are probably as many individual perspectives on spirituality as there are performers. Likewise, the listeners of today are free to make up their own minds about how they relate to and connect with spirituality (Friman, 2009).

From this example it can be seen how a performer of Christian music leaves herself the possibility of distancing herself from religion but admits that there might still be 'a spirituality' involved.⁸⁰

1.7.5.1 Same tools, different ethos

Adding extra 'ambience' with instrumental accompaniment, which range from simple string background to full 'ethno rock like' compositions, is not only a demesne of 'decentralized' and 'quasi anonymous' spiritual thinking. For example a Benedictine monk Dominique Minier of Saint-Benoît-du-Lac Abbey has produced a series of recordings on which 'Gregorian Chants were performed in a contemporary ambience and rhythms' (Website *Splendor*, accessed 3 October 2008). On the website it is stated that

Dom Minier of Saint-Benoît-du-Lac Abbey is not an usual Benedictine monk. The idea of actualising Gregorian chant is not new. However, it took a minimum of audacity, on the part of Dom Minier, to launch this adventurous project of producing an album where ancient Gregorian

⁷⁸ It should be noted that my intention is not to be critical towards New Age music and/or spirituality.

⁷⁹ This spelling is used by the ensemble.

⁸⁰ During this highly enjoyable concert, in which I also participated, the audience was offered beautiful 'ambient' pieces with accompaniment of bells in which restoration from medieval manuscripts was interpolated with glimpses of contemporary compositions. To boost the already ambient sound of a medieval chapter house, the singers moved around the room.

chanting is mixed along contemporary arrangements with musical instruments: electric guitar, synthesiser, flutes, strings' quartet, and percussion... The result is just wonderful!!! (Website *Splendor*, accessed 3 October 2008).⁸¹

Although it is somehow different from the other recordings of the same kind, these compositions use the same technique as their counterparts – a non-metrical chanting is laid on a metrically rhythmic background. In the contradiction of these two independent layers of music, chanting gains a very different feel as without the strictly rhythmical accompaniment its non-metrical mood is not so clearly sensible.

1.7.6 A summary of the forms of emergence of MSLM in the twentieth and twenty-first centuries and focus of this research

As Figure 1 demonstrated, the forms and levels of reception and interaction between these forms and levels can be very complicated. Nevertheless, it is possible to distinguish eight basic forms of reception of MSLM: (1) Reception through musical performance or reception through interpretation; (2) reception through evaluation; (3) reception through adaptation; (4) reception through scholarship; (5) reception through criticism; (6) reception through composition; (7) reception through contemporary Western notation; (8) reception through imitation. All these aspects of reception are very interesting and for future research, it will be necessary to study closer all these relationships.

(3) Reception through adaptation definitely needs further study. In this area, the compositions of Arvo Pärt and the performance style of Michiko Hirayama would be a fascinating material. Connections between MSLM and aspects of contemporary musical practices might be a vehicle to make this medieval repertoire better understandable to those who are interested.

(4) Reception through scholarly studies is well equipped with systematic material that appears in musicological and other scholarly disciplines ranging from paleography to liturgical theology. Different disciplines of chant scholarship are thoroughly studied and much disputed. It is well presented in a multitude of written works and discussions

⁸¹ This website does not exist anymore.

on the pages of scholarly journals. Therefore, it was not too hard to leave this well covered aspect of reception aside.

(5) Reception through criticism was one aspect that was part of this research until very recently. In the course of this research, I collected nearly hundred record reviews throughout the twentieth century and they indeed provide some fascinating perspectives for studying the reception of MSLM. For example, some recordings are reviewed by different authors and allow us to see similarities and dissimilarities in understanding of the music performed.

Two aspects that I left out quite reluctantly are (6) reception through composition and (7) reception through imitation. (6) Reception through composition is indeed a tempting issue to analyse. The use of melodic material in compositions along with vernacular translation of Latin chant is a future challenge to scholarship. There is a huge amount of material available and this side of Gregorian chant is not studied very thoroughly, nor is it always even considered a part of chant scholarship.

(7) An aspect that could also be considered as a form of passive reception of Gregorian chant is the imitation of the singing style on the chant recordings by secular rock musicians. This form of reception imitates a reception of Gregorian chant (reception through performance). It would be interesting to know more about this genre of music and interpretational preferences behind it.

(8) Another mainly passive form of reception – reception through modern notation is a separate and too capacious issue, which needs additionally substantial research.

In effect, the focus of this dissertation is on two aspects of reception: (1) reception through musical interpretation or reception through performance and (2) reception through evaluation.

1.8 A summary of the introduction

Since my studies at the University of Limerick in 2000-2001 (MA in Chant and ritual song) I have been interested in different performance practices of medieval sacred Latin monody. When I started planning this dissertation I hoped to study the multiplicity of different performance practices. I heard styles varying from hymnic measured and equal interpretation to the melismatic extravaganza and extremely slow meditative performance. It is noteworthy that these different performance styles were in many respects based on the same sources and semiological principles.

In the course of the development of the topic of this dissertation, there was a conceptual change when the focus shifted from different performance practices to the overall contemporary reception of medieval sacred Latin monody. This change was an effect of understanding that repertory that occurs in the medieval manuscripts and the manifestation of it in our contemporary life are separated with an insurmountable wall – the human prism of reception. The new conception was boosted by recognition of medieval sacred Latin monody in aspects of musical life that in usual understanding has no straight and self-evident connection to it.

However, the task of describing all forms of reception of MSLM was far too big for this project and I had to choose which forms of reception to study in depth. I have personally witnessed rivalry between different schools of chant. I have studied and performed with representatives of various styles of performance and I have learned the pros and cons of knowing and trying very different performance styles. I have come to a conclusion that it is of great benefit to develop knowledge and practice of different styles. Through this, it is possible to develop personal performing skills and obtain valuable experience of other performers, not to mention developing one's understanding about the richness of the tradition. Therefore, it was not hard to decide that of all forms of reception, reception through performance should be an object of closer study.

Reception through performance is accompanied by the second most important form of reception – reception through understanding. Terminological issues in Gregorian chant have fascinated me since I started to work with this repertoire in 1995. Answers to the questionnaire gave the perfect opportunity to analyse what other performers believe Gregorian chant to be and what is important for them in the performance of this repertoire. And finally, these two bodies of material: (1) the

results of measuring of the recordings and (2) answers to the questionnaire together, gave the perfect possibility for a fascinating heuristic experiment of comparing the objective and the subjective, or in other words conceptualisation and practice.

This interdisciplinary research will open possibilities for further projects of the same kind. As it can be observed and as many researchers have pointed out the future of chant scholarship lies in the interdisciplinary study in both music history and cognitive musicology. If developed further, my instrument of analyses may be applied to other repertoires.

The main limit of this study is its indefiniteness in the passing of time, as I am not studying a static object but a dynamic receiver. Change the receiver and the result will change as well. It is true that reception study can ask more questions than give answers – but who needs a scholarship that asks more questions than gives answers? That might make a reception study rather unpopular. Another limit is that recordings might not represent very accurately the actual performance style of the performer. The performer might have had a cold or maybe it was just a bad day. The conclusions made on the base of just one recording of a performer are limited to this performance alone in case of fine details. It is more possible to make wider conclusions on the overall manners and the temporal structure.

One of the purposes of this introduction was to justify the methodologies and principles in which MSLM is approached in this dissertation. There are so many diversities and disagreements in chant scholarship and chant performance. Thus, the only way to approach the material as an entity is to look for a common denominator. To see a common denominator I had to go back to a point at which most chant-related persons were together. This point, at least, for me, is considering MSLM as an abstract amount of information that is 'understood' in very different forms. From this point, it is possible to explain diversities as well as similarities so that our common treasure – MSLM – that in fact gives everybody so much is respected along with every person who approaches it.

2 Periods in the history of Gregorian chant

2.1 Introduction

The purpose of this subchapter is briefly examine the history of restoration of Gregorian chant – mainly in the twentieth century – and finally reach the activities of Eugène Cardine, who is believed to be a key figure in the development of various styles of performance of Gregorian chant. I intend to define the main events that have led us to the contemporary situation. There is so much room dedicated to Cardine in this dissertation because he plays so important a role in contemporary chant performance practice and scholarship. This subchapter intends to demonstrate the basic feel in which the restoration took place and show that the overall characteristics of the process are quite similar in different periods of the nineteenth to twenty-first centuries.

There are different methods to describe periods in music history and there is ongoing research about the origins and history of early chant, but for the purpose of this research, not much can be added to the periods described by Gregory Suñol (1879-1946). He defines four main eras in the history of Gregorian chant: epochs of (1) formation; (2) perfection; (3) decadence; and (4) revival or restoration (Suñol, 1930: 162-63). After the period of revival, we should add another period, which can be symbolically marked by the Second Vatican Council in 1962-1965.

The period of formation extends from the end of persecutions in 312 up to the pontificate of Pope Gregory the Great 590-604. The period of perfection⁸² lasted until the thirteenth century⁸³ after which a decline began because of the development of polyphony and figured music. The beginning of the third period, that of decadence, is marked by some scholars with the Reformation of Martin Luther and the Counter-Reformation during the Council of Trent in 1545-1563. This aspect is missing from Suñol's description. Toomas Siitan writes:

Because of the big success of the monophonic hymn in the Protestant church, the Council of Trent accused church musicians of the Roman Church of over-complication in the music and of a reckless attitude to liturgical texts. The reformation of Gregorian chant and its rehabilitation in

⁸² Suñol divides this period into two: (1) the golden age from Gregory the Great to the eleventh century and (2) the period of preservation and transition lasting until thirteenth century (Suñol et al. 1930: 163).

⁸³ It is arguable whether the 'decline' did not started already earlier.

the liturgy was demanded. As a result of that, Gregorian chant was reformed through simplification. The chant reform was finished in 1614 with the publication of *'Editio Medicea'* – a renewed collection of melodies. This extinguished the medieval chant tradition and was officially used until 1907, when *Editio Vaticana* – a restoration according to medieval sources – was published (Siitan, 1998: 122) (Original text is in Estonian, translated by Eerik Jõks.)

Identifying the start of the period of decadence with the Counterreformation is more accurate. Although the competitors of early medieval Gregorian chant – polyphonic music and new genres of liturgical chant⁸⁴ started to evolve long before the Counterreformation, the Council of Trent sounded the death knell for the tradition of early Gregorian chant. The old repertory was replaced with a new simplified version of it.

The period of restoration according to Suñol began in the middle of nineteenth century (Suñol, 1930: 163). If the beginning of the restoration is not marked by the activities in Solesmes rather than preceding work of Lambillotte, Danjou, and others (see page 78), the period should start already with the beginning of the nineteenth century. The end of the restoration is not unanimously agreed. According to Suñol, who was writing this material in the first third of the twentieth century, the restoration was at this time still going on (Suñol, 1930: 163). It is true – a lot of research was taking place – but the official Vatican Edition of most of the liturgical chant had already been published years previously. In this respect, the basic melodic restoration⁸⁵ for the Catholic Church, which was the main consumer of the chant, was finished; but for those who were not entirely convinced by the results the restoration was continuing. Most of the research in the area of semiology was at this time still to come and there can be important discoveries yet to be made to change the way of understanding of Gregorian chant. If this principle is followed, the restoration is still ongoing, as critical editions of liturgical melodies are still being compiled. For example in a specialist

⁸⁴ Tropes, prosulas etc.

⁸⁵ It has to be noted that the story of the repertoire that of Mass proper and Office were slightly different. There have been several editions of Antiphonale Monasticum since the editorial task was appointed to Solesmes in 1913. Most of the Mass proper has remained as it was in Pothier's *Liber Gradualis, a S. Gregorio Magno olim ordinatus ... in usum Congregationis Benedictinae Galliarum, etc.* Tornaci Nerviorum, 1883.

journal of Gregorian chant *Beiträge zur Gregorianik* there is in every volume a restitution of some pieces from the Gregorian chant repertoire (*Beiträge zur Gregorianik*, since 1985). The end of this process is not detectable because a result of restoration is not clearly definable.

The last period, that following the Second Vatican Council, is considered by some as another time of decadence, but this period was not only about decline. Lance Brunner refers to it as a 'new era' (Brunner, 1982: 317). At that point, Gregorian chant started a life of its own, but mainly outside of Catholic worship. Perhaps it is even more accurate to mark the last period as the period of Eugène Cardine and his semiology, because this study nurtured Gregorian chant during the time when it was abandoned in favour of vernacular music under the influence of the Second Vatican Council. Thanks to Cardine's study, and to his students and disciples, Gregorian chant found many faithful and dedicated followers, who among others,⁸⁶ kept their focus on Gregorian chant in both scholarship and performance. The Second Vatican Council was a turning point for Gregorian chant. From the perspective of the Catholic Church, it was a decline; but in terms of attention paid to Gregorian chant because of semiological research, it was a new ascent. Therefore, it actually should be appropriate to refer to the periods in the twentieth century as periods of 'pre Cardine' and 'post Cardine'.

The last period of the history of Gregorian chant – the period after the Second Vatican Council – is referred to in this study as the 'period of mutation'. Together with the period of revival or restoration, they form the contemporary period of Gregorian chant. The scope of this research is the outcome of this period.

⁸⁶ For example, traditionalist Catholic movements have also a significant role in keeping Gregorian chant practice alive.

2.2 The period of revival, which started in the nineteenth century

2.2.1 Developments before the research in Solesmes

Many aspects in Gregorian chant scholarship have raised unanswered questions. For example there is a big difference in opinion about the origin, emergence and early developments of Latin chant (Hughes, 1980: 89-92) and obviously this diversity has formed different understandings of the whole subject.⁸⁷ However, most agree,⁸⁸ that the nineteenth century marks the beginning of an entirely new era of Gregorian chant. A group of enthusiasts launched the process of restoration of Gregorian chant in what they believed to be 'an authentic manner'.

It should be noted that every attempt to give an overview of this period in only a few pages could not be more than a simplification. If one wants to romanticise the restoration process and the history of performance of Gregorian chant during the contemporary period it is possible of course to imagine monks of Solesmes in the middle of the nineteenth century discovering a dusty manuscript that had all the secrets of performing the true medieval liturgical chant, which had entirely died out on this planet. Sometimes it seems that the restoration process in Solesmes started from an empty place. In fact, however, there was preceding scholarship (Bergeron, 1992: 185) that must have played some part in the restoration. Liturgical books were printed all the time, providing different melodic information. For Gregorian chant that was used before the restoration in the nineteenth and twentieth centuries, manuals for chant performance were also compiled and published. Latin chant was undoubtedly more used than now, after the Second Vatican Council!

During the process of the restoration there were different alternative and competing streams: for example *Traité de plain-chant*⁸⁹ of Louis Niedermayer (1802-1861), who had a school where his ideas were taught, or Antonin Lhoumeau's⁹⁰ treatise on chant, published in 1880 (Pasler, 1999: 379). Apart from activities in France and Italy there were

⁸⁷ Although the origin of Gregorian chant is thoroughly studied, there are still scholars who are willing to put a lot of effort into this matter. One of the latest substantial work in this field was James McKinnon's 'Advent Project' which he called 'beginning of the Mass Proper's final revision' (McKinnon, 2000: 137). Some reviewers consider this book to be a great step towards removing the veil of mystery that has shrouded the circumstances surrounding the origin of Gregorian chant (Maloy, 2001: 329). At the same time it is stated that there is still room to develop: 'McKinnon wanted what we all want: to write the book that definitively solves the problem of the origins of Roman/Gregorian chant. But it is too soon. Too much non-musical evidence remains unexplored' (Jeffery, 2003: 179).

⁸⁸ A difference in opinion is present in this aspect as well – some believe that oral tradition of tenth century Gregorian (Franco-Roman) chant did survive and therefore the continuity of the chant tradition was not cut. This aspect has not been proven by evidence.

⁸⁹ Niedermayer, Louis. *Traité théorique et pratique de l'accompagnement du plain-chant* Paris, 1857.

⁹⁰ Lhoumeau published many works about performance and accompaniment of Gregorian chant: Lhoumeau, Antonin. *De l'harmonisation des mélodies grégoriennes et du plain-chant en général*. Niort: A. Thibault, 1884.; Lhoumeau, Antonin. *Rythme, execution et accompagnement du chant gregorien*. Lille, 1892.; Lhoumeau, R. P. Antonin. *Les chants métriques (Hymnes, séquences et tropes)*. Lyon: Janin Frères, 1919.

restoration movements in Germany, England and other countries (Emerson et al., 2001, accessed 8 October 2009).

Medieval manuscripts played a crucial role in the restoration process. In 1847 French organist and musicologist Felix Danjou (1812-1866) discovered the Tonary from the Abbey of St Bénigne of Dijon from the eleventh century (Montpellier H159) – one of the manuscripts which gave a lot of information for the restoration and became ‘a milestone in the history of Western music’ (Van der Werf, 1983: 12). This manuscript has a very special place because ‘it is the only surviving Medieval source to organize Mass chants – written out in full – according to mode rather than liturgical order. It employs an unusual system of musical notation, consisting of non-diastematic French neumes and letters that fit the pitch of the neumes precisely’ (Brunner, 1977: 73). The manuscript has been studied and used thoroughly. ‘A hand-copied transcription of the manuscript by [Théodore] Nisard [(1812-1888)] (completed 1851; F-Pn lat.8881, formerly suppl. lat.1307) was used as the basis of the *Reims-Cambrai Graduale romanum complectens missas* (Paris, 1851), which represents the first serious attempt to restore medieval chant to modern books’ (Emerson et al., 2001, accessed 8 October 2009). The Tonary of Montpellier was fully transcribed and published by Finn Egeland Hansen in 1974.⁹¹

The debut in the field of publishing facsimiles of Gregorian chant manuscripts was made by the Belgian Jesuit musicologist Louis Lambillotte (1796-1855), who published in 1851 the first facsimile of a Latin chant manuscript:⁹² Cantatorium from St Gall, dated very early tenth century (St Gall, Stiftsbibliothek 359).⁹³ It is ‘a hand-drawn facsimile [...] unfortunately not accurately done, believing that this was the manuscript, which according to St Gall legend, was sent from Rome itself by Pope Hadrian I’ (Hiley, 1993: 623). This remarkable publication – that Vollaerts evaluates as ‘fairly accurate copy’ (Vollaerts, 1958: xiii) – is often left in the shadow of Mocquereau’s ‘Paléographie Musicale’. We can only imagine what Lambillotte could have done if he had not died four years after the publication of his first and last facsimile. Those who have not seen the actual book might be surprised by its contents. The technical quality of the facsimile is excellent; there are long explanations in French; the explanations include tables of neumes from the manuscript; at the end of the publication, there is comparative material about different manuscripts and notations. When looking at the facsimile it is hard to believe that it is

⁹¹ Hansen, Finn Egeland, ed. *H 159 Montpellier: Tonary of St Bénigne of Dijon*. Dan Fog, 1974.

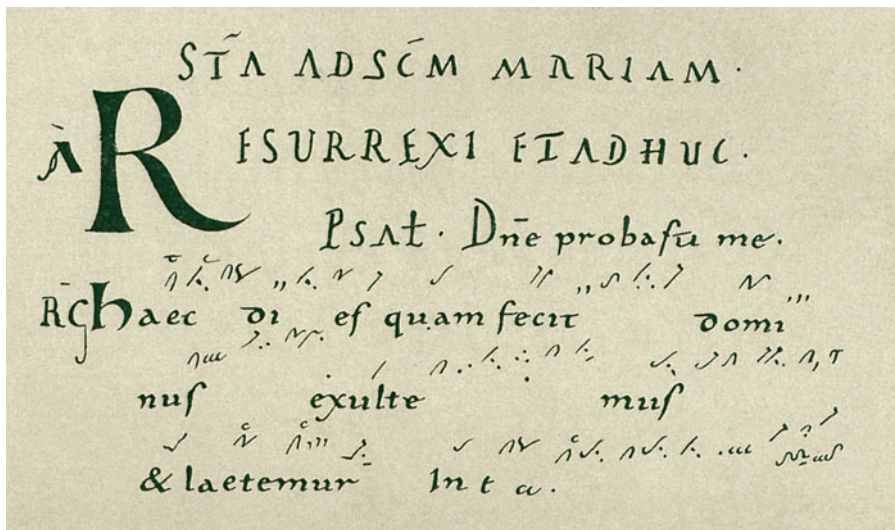
⁹² Lambillotte, Louis. *Antiphonaire de Saint Grégoire. Fac-simile du manuscrit de Saint-Gall, VIIIe siècle; accompagnée 1^o d'une notice historique, 2^o d'une dissertation donnant la clef du chant grégorien, 3^o de divers monuments, tableaux neumatiques inédits, etc. etc. par le P. L. Lambillotte*. Poussielgue-Russand: Paris, 1851.

⁹³ This first attempt to approach the medieval liturgical melodies and to reconstruct them from early historical sources was inspired not only by the romantic spirit that was abroad in Europe in the nineteenth century, but it was also entirely in keeping with the new methods of historical criticism and scientific archaeological research (Vollaerts, 1958: xiii).

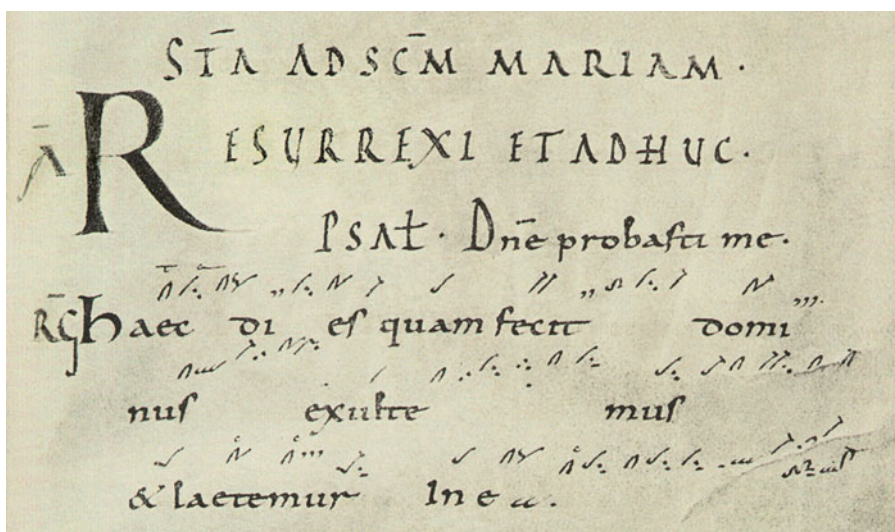
hand copied. However, at the time of the publication there was no better technology for that. It must have been a massive effort to do this work and it is not surprising that there are inaccuracies. To determine the extent of the actual inaccuracies I compared the facsimiles by Lambillotte and photo facsimile from *Paléographie Musicale II*, Cantatorium de Saint-Gall.

Figure 8. Comparison of the facsimiles by Lambillotte and photo facsimile from *Paléographie Musicale II*, Cantatorium de Saint-Gall.⁹⁴

a. Fragment of a facsimile from *Antiphonaire de Saint Grégoire. Fac-simile du manuscrit de Saint-Gall [...]* (Lambillotte, 1851: 107).



b. Fragment of a facsimile from *Paléographie Musicale II*, Cantatorium de Saint-Gall (*Cantatorium de Saint-Gall*, 1988: 108).⁹⁵



⁹⁴ *Cantatorium de Saint-Gall*. Paléographie musicale Deuxième série (Monumentale); 2. Solesmes: Abbay Saint-Pierre in Solesmes, 1988.

⁹⁵ Used by kind permission of SAS La Froidfontaine, Abbaye de Solesmes. Copyright © Éditions H. Lang, Berne et Association Jean-Bouglér, Solesmes, 1988.

Observing these two examples it is possible to see the inevitable inaccuracies of hand copying. For example, the tail of 'c' (*celeriter*) on the *climacus* on the word 'Haec' is shorter in Lambillotte's transcription. In the original manuscript the tail extends until the next *clivis*, showing its meaning also to this neume element. It is not in the scope of this dissertation to analyse the work of Lambillotte and other musicologists from the early layer of restoration of Gregorian chant; the examples and illustrations are presented to give a glimpse of the magnitude of the work that was done before the well-known period of restoration.

Figure 9. Fragment from Lambillotte's accompanying material to the facsimile of Cantatorium of St. Gall. (Lambillotte, 1851: 2); the image is diminished.⁹⁶

IX^{me} Siècle.

Antiphonaire de l'Abbaye de Murbach en Alsace. (Bénédictins)
Neumes sans ligne.

Viderunt omnes fines terre salutare de i nostri
iubilare de o omnis terra.

X^{me} Siècle

Antiphonaire de Montpellier (manuscrit.)
noté en neumes et en lettres,

sont voici la valeur: a | b | c | d | e | f | g | h | i | k | l | m | n | o | p

Nous les plaçons au X^{me} Siècle parce qu'il n'a pu être écrit selon nous qu'après Hucbald de St. Amand.
(Cet auteur qui mourut vers 930 fit observer le premier qu'en ajoutant des lettres aux neumes, on éviterait toute incertitude sur leur valeur tonale.)

tritas f f hk klkh kkk mlk k kl kh khkh hkhkikh h ki kil
Vi de rant om nes fi nes ter- re sa lu ta-
lkikh hg hklk kilmn lk kikh h ki k kkk hkḡf fghkhf
re De - i nos - tri ju bi-la te De - o
fhk lmk k h/k/hg h/hg fgf fhk fhk khgfghghḡf

om - nis ter - ra

XI^{me} Siècle.

Antiphonaire de Gui d'Arc, 2^e c. Ms. de S. Germain Bibl. roy. N. 1017. Paris.
Neumes ou notes avec lignes, qui donnent la valeur numérique et tonale des signes neumatiques de ce répons.

Viderunt omnes fines terre salutare de i nostri iubi la te
de o omnis terra.

(Conforme aux manuscrits de S. Bertin - (S. Omer) (Bénédictins).)

⁹⁶ The image is skew, because it is copied with a digital camera from a rare book. It was not possible to flatten the book any more with out risking damaging the binding.

From Figure 9 it can be seen how Lambillotte already in 1851 uses a comparative method of different manuscripts. Giulio Cattin gives the honour of applying this method to Joseph Pothier (Cattin, 1984: 97) referring to his work *Les Mélodies Grégoriennes*.⁹⁷ It is true that in Solesmes, the process was greatly improved regarding both quantity and quality but Lambillotte's work at this time deserves some credit.

2.2.2 The reestablishment of Abbey St Pierre in Solesmes

Although 1856 is considered the year that marks the beginning of the restoration process⁹⁸ of Gregorian chant in the Abbey St. Pierre de Solesmes (Berry, 1979a: 199); (Combe, 2003: 413), it is important to mark the year 1833 when the Solesmes Abbey was re-established by Prosper Guéranger (1805-1877). From then, Solesmes can in many respects be considered as the centre of Gregorian chant.⁹⁹ Two years later, in 1835, Joseph Pothier, one of the main architects of the reform (Cattin, 1984: 97) and the author of the *Les Mélodies Grégoriennes*, was born. In 1849, the creator of the famous Solesmes method, the author of *Les Nombres Grégorien* and establisher of *Paléographie musicale*, André Mocquereau, was born.

Joseph Pothier entered Solesmes in 1859 and the same year Canon Gontier (1802-1881) described in *Méthode raisonnée*¹⁰⁰ the singing style that the monks of Solesmes had adopted under the guidance of Guéranger (Cattin, 1984: 97). In 1864, the first edition of Solesmes *Directorium Chori*¹⁰¹ was published.

In 1869-1870, the First Vatican Council took place, and the year after that marks the beginning of 30 years of monopoly of Pustet, a German publisher at Regensburg to publish official chant books of Catholic Church. These editions¹⁰² were merely the re-

⁹⁷ Pothier, Joseph. *Les Mélodies Grégoriennes d'après la tradition*. Tournay, 1881.

⁹⁸ The beginning is marked by Paul Jausions' transcription of the 'Rollington Processional', from Wilton Abbey (Hiley, 1993: 624).

⁹⁹ The research in Solesmes were not an isolated case – for example in 1872 Michael Hermesdorff (1833-1885) founded a society for the Investigation of Old Chant Manuscripts. He published several chant editions including *Graduale ad normam cantus S. Gregorii* (Trier, 1876-1882). In this publication, practically the entire medieval shape of the melodies was restored and small printed neumes, imitating the shapes of later medieval Trier manuscripts were added over the music on the staff (Hiley, 1993: 623-24).

¹⁰⁰ Gontier, A. *Méthode raisonnée de plain-chant, etc.* Paris, Le Mans, 1859.

¹⁰¹ *Directorium chori*. Rennes: Solesmes, 1864.

¹⁰² However, in 1908 when, the monopoly had expired for many years, Pustet printed *Graduale Sacrosantae Romanae Ecclesiae. Editio ratisbonensis juxta Vaticanam*. It was so called *editio typica* with melodies from 1883 Solesmes *Liber Gradualis* in other words the same as in 1908 *Graduale romanum* printed in Rome.

prints of so called 'Medici edition' (Cattin, 1984: 96).¹⁰³ Most of the Solesmes editions were published during this period of monopoly, but they were just for local use and were not official chant books of the Catholic Church.

André Mocquereau (1849-1930) entered Solesmes in 1875. Five years after that, in 1880, his future opponent Pothier published *Les Mélodies Grégoriennes*. Joseph Pothier used a comparative method of manuscript sources (Cattin, 1984: 97) and this resulted in a treatise setting out in full the principles of reconstruction (Berry, 1979a: 199). However, Joseph Gajard (1885-1972) considered Pothier's book to be merely a confirmation of the principles which had been embodied twenty years earlier in the book *Méthode raisonnée* by Canon Gontier (Gajard, 1960: 10). In 1882, the Congress of Arezzo took place and sent a report to the Vatican urging that Gregorian chant should be restored in the authentic manner throughout the Catholic Church. Authorities in the Vatican declined the motion, and Pope Leo XIII reiterated his full support for the privileges of the Ratisbon edition (Berry, 1979a: 199).

A very important book in the history of Gregorian chant, *Liber Gradualis*, was published in 1883, which comprised the melodic information that was later used in Vatican Edition of *Graduale Romanum* of 1908.¹⁰⁴ The book (1883) was to 'arouse strong opposition. By way of defending his teacher's work, Mocquereau conceived the grandiose scheme of the series *Paléographie Musicale ...*' (Cardine et al., 2001: on-line, accessed 13.12.2008).¹⁰⁵

In 1889, the first instalment of Mocquereau's 'Paléographie Musicale' was published. It was a collection of facsimiles of most important Latin chant manuscripts and is still a most valuable material for everybody who performs or studies Gregorian chant. After publishing the first instalment of 'Paléographie Musicale' Mocquereau travelled all over Europe and photographed manuscripts so that in 1904 Solesmes possessed more than 250 full copies of manuscripts (Cattin, 1984: 97). After Mocquereau's death in 1930, Joseph Gajard continued the editorial work.

By the end of the nineteenth century the ice started to melt in the Vatican, and Pope Leo XIII 'showed himself more and more determined to embark on a serious

¹⁰³ The first volume of 'Medici edition' was published in 1614. It was a result of Pope Gregory XIII attempt to improve the traditional chants by a process of a radical reform, involving particularly the removal of melismas, which no one any longer understood or was able to perform (Cattin, 1984: 95).

¹⁰⁴ 'The *Graduale Romanum* of 1908 was in effect a new edition of Pothier's *Liber Gradualis*, re-edited in the light of the Solesmes *Liber Usualis* of 1903' (Hiley, 1993: 627).

¹⁰⁵ Italics are from the original text.

revision of liturgical chant' (Cattin, 1984: 98). Changing his policy about the return to traditional Gregorian chant was one of the last major decisions of Leo XIII (Berry, 1979a: 201). Because of Leo XIII's activities, the Ratisbon editions were still recommended, but every bishop was free to use the edition he preferred in his own diocese. As a result, the melodies as restored by Pothier became much more widespread (Cattin, 1984: 98).

In 1901, the monopoly of Pustet of Ratisbon ended and it was not renewed. Pope Pius X (1835-1914) (former Cardinal Giuseppe Melchiorre Sarto) came to office in 1903 and issued the 'Motu proprio of Pope Pius X on Sacred Music'. In this document, it was ordered that Gregorian chant be restored in divine worship.¹⁰⁶

In 1904, a Gregorian congress took place in Rome. The Gramophone Company recorded performances and some of the speeches. Mary Berry describes these recordings:

In this amazing collection of records one can also hear the voices of all those intimately connected at that time with Gregorian restoration. Mocquereau, terse and scholarly, describes the work of the research team on the manuscripts. Pothier launches into a somewhat romantic assessment of the nature of liturgical chant. Baron Kanzler, choirmaster and practical musician to his fingertips, perceives the inestimable future value of recorded sound for the comparison of the performance practices and the handing down of a tradition. Rella, in his happiness, overflows into song and gives his own rendering of the *Vidi aquam* with his little tight vibrato, so touchingly typical of the time (Berry, 1979a: 201).

2.2.3 Mocquereau versus Pothier

In March 1904, Angelo de Santi (1847-1922) raised the question of assigning the editorship of the Vatican Edition to the Abbey of Solesmes. The dissension centred on the fundamental principle that would act as a guide in the restitution of the melodies (Combe, 2003: 414). Nevertheless, Angelo de Santi's proposal was rejected, and a Papal Commission to prepare the Vatican Edition was assigned to this work. Pothier,

¹⁰⁶ Wherefore this ancient Gregorian chant should be largely restored in divine worship, and it should be understood that a service of the Church loses nothing of its solemnity when it is accompanied by no other music than plainchant (Pope Pius X, Instruction on Sacred Music, 1903 in Suñol 1930: 167).

who was not any more a monk of Solesmes but the abbot of Saint-Wandrille, was appointed as a president.¹⁰⁷ Mary Berry writes:

The work of the Commission was continually hindered by disagreement among its members over whether the Vatican edition should keep as close as possible to the earliest melodic tradition or take into account certain later developments. The controversy over rhythmic signs had nothing to do with this far more fundamental problem (Berry, 1979a: 203).

In other words, there were two understandings that competed in the restoration process of melodic material: (1) 'authentic' tradition – *traditio authentica* and (2) 'legitimate' tradition or 'living' tradition – *traditio legitima*.¹⁰⁸ The first, represented by André Mocquereau, claimed that in the restoration of melodies, the research must go to the very roots of this music by analysing the earliest manuscripts, trying to restore it to its original state. The latter, represented by Joseph Pothier, argued that music is developing, and in restoration, this development must be taken into consideration; therefore, later manuscripts must be also considered. Godehard Joppich describes *traditio authentica* versus *traditio legitima* as follows:

Pothier had great support from German musicologist Peter Wagner over the question of the *traditio legitima* against the *traditio authentica*. *Traditio authentica* was a principle of Mocquereau. He said that the melodies have to be restored according to the earliest manuscripts. Pothier argued that we must respect hundreds of years of development. People have changed it, because they sang it in another way, and they had a right to change it – it is a development. Mocquereau said that art could not develop. If a painter paints a picture, it is impossible that another painter comes and develops it by over painting it. However, it was not possible to convince Wagner and others who were with Pothier. They insisted that the *traditio legitima* should be respected. *Legitima* means in this context that the changes made during the centuries are legitimate (Joppich, 2005, interview transcript: 2).

¹⁰⁷ Pothier left Solesmes in 1893 to become prior of Ligugé and abbot at Saint-Wandrille in 1898.

¹⁰⁸ The difference between these two competing understandings is very neatly described in the interview with Godehard Joppich (Joppich, 2005, interview transcript: 2).

Mocquereau stated that he had promised to justify and defend the work of the Commission that he would then have to take responsibility for all the changes. He warned that by continuing on the current way, they were exposing themselves to producing a 'bastard work, indefensible, unworthy of the Commission, of Pius X, and of the Holy Church' (André Mocquereau in (Combe, 2003: 316)).¹⁰⁹ In 1904 Paul Cagin (1847-1923) and Mocquereau wrote:

[The Solesmes monks] have become grammarians, scholars and philologists, paleographers and photographers in order to restore the Gregorian tradition in all its purity, and to defend this tradition against all scepticism. ... They have published in phototypical facsimiles about three hundred passages in manuscript proving that the unity of the liturgical chant was preserved for a thousand years from its origin: they have applied the principles of comparative grammar to the study of these documents; [and] they have analysed them in an artistic and literary spirit so as to make their beauty felt and appreciated (Cagin and Mocquereau in (Bergeron, 1992: 186)).¹¹⁰

André Mocquereau, the follower of the principle of *treditio authentica*, agreed in principle to accept all proposed changes

... provided that they were well substantiated, based on solid reasons and on specific designated documents just as we provide substantiation and foundation for our texts. [...] ... the principle of the legitimate tradition must not be applied willy-nilly, and the revisionists should give proof of (a) the legitimacy of the tradition of their versions, and (b) the reasons that made them select a later and altered tradition over the pure and ancient tradition (André Mocquereau in (Combe, 2003: 316)).

Mocquereau did not deny that there had been a tradition of development and an adoption of new formulae, but 'the truth is that the further away one gets from the ages of faith, the more the Gregorian musical art follows the lamentable downturn of a

¹⁰⁹ Pierre Combe's book was first published in French in 1969. The translators were Theodore N. Marier and William Skinner.

¹¹⁰ Brackets are from the cited publication.

long-term decline' (André Mocquereau in (Combe, 2003: 320)). In defence Joseph Pothier wrote:

In fact, each century is part of this tradition, which is not at all a fixed language, halted in one epoch, but an ancient language, handed down and modified on occasion and perfected by the generations that knew it, understood it, and practised it. [...] What was done in the seventeenth and eighteenth centuries is not always to be held in disdain. [...] Archaeology ought to have the first word, if it will not always be the last. [In the case of disagreement] performance will have more weight, for Gregorian chant is not a piece of museum furniture. [...] Surely, the ancient manuscripts and even the most ancient among them must be followed, but without placing in them the legitimate tradition as a unique haven of refuge without discovering in them the necessary perfecting of the art, without recognizing constantly improved conditions for performance. At the same time, what we call the living tradition will be followed (Joseph Pothier in (Combe, 2003: 327)).

Finally, the idea of Pothier won and the melodic information presented in the Vatican Edition was that which was restored under the supervision of Pothier. The argument between the Commission, which was preparing the Vatican Edition (Pothier), and Solesmes Abbey, who had so far done most of the editorial work (Mocquereau), got to the point where Mocquereau did not find it possible to participate in the work of the Commission. Pierre Combe describes it: 'The misunderstanding was irreconcilable: an impasse had been reached' (Combe, 2003: 414). What Pierre Combe describes as 'impasse' was a result of a conflict in which rather strong words were used. Peter Wagner, a German musicologist who was in the camp of Pothier, said

that the Fathers at Solesmes wrote their missive in vinegar rather than ink. He said that they showed neither a knowledge of history nor musical taste, two things absolutely necessary to perform well the task of editing. They merely copy manuscripts (Peter Wagner in (Combe, 2003: 323)).

From the other side Joseph Pothier was accused for neglecting the commission and making decisions on his own. Angelo de Santi, the secretary of the Commission declared:

[...] Given the circumstances, it is our conviction that the Very Reverend President should guarantee the impersonal authority of the Commission in all his resolutions. Otherwise, the idea will germinate that the President does not direct, but that he governs despotically (Angelo de Santi in (Combe, 2003: 326)).

Eventually Mocquereau withdrew his participation in the Commission's work and his ideal to restore melodies in the Vatican Edition on the bases of the earliest manuscripts did not come to fulfilment. During 1905-1912 many books were published under leadership of Pothier: *Kyriale*,¹¹¹ *Graduale*,¹¹² *Officium pro Defunctis*,¹¹³ and *Antiphonale*.¹¹⁴

In 1908, André Mocquereau published his *Le Nombre Musical Grégorien I*¹¹⁵, on which the Solesmes method of singing was based. The second volume was published in 1927.

In 1913, when the Commission was disbanded, the editorial task of the Vatican Edition was eventually appointed to Solesmes (Combe, 2003: 415). By that time, most of the repertory that was restored according to Pothier's principles had already been published. The repertory was in use and it was not possible to change history. Although the melodic information in the Vatican Editions is a compilation and a result of 'living tradition', it is considered to have 'obtained a rather faithful melodic restitution of the authentic Gregorian repertory' (Cardine et al., 1982: 7).

¹¹¹ *Kyriale seu ordinarium missae cum cantu Gregoriano ad exemplar editionis Vaticanae. Concinnatum et rhythmicis signis a Solesmensibus monachis diligenter ornatum.* Rome: Societatis S. Joannis Evang., 1905.

¹¹² *Graduale Sacrosanctae Romanae Ecclesiae de Tempore et de Sanctis ... restitutum et editum. Cui addita sunt festa novissima. Ad exemplar editionis typicae.* Rome: Tornaci, 1908.

¹¹³ *Officium pro defunctis: cum Missa et absolutione nec non exsequiarum ordine: cum cantu restituto jussu SS. D.N. Pii Papae X.* Ed. Ratisbonensis juxta Vaticanam. ed. Ratisbonae ; Cincinnati: F. Pustet, 1910. The first edition of this book was already published in 1909, but I was not able to find full bibliographical information of the original publication.

¹¹⁴ *Antiphonale Sacrosanctae Romanae Ecclesiae pro diurnis horis SS. D. N. Pii x. Pontificis Maximi jussu restitutum et editum.* Rome, 1912.

¹¹⁵ Mocquereau, Andre. *Le Nombre musical grégorien, ou Rythmique grégorienne. Théorie et pratique.* Rome: Tournai, 1908.

Now many critical editions show melodic material that has been attempted to restore exactly following the earliest manuscripts (see page 75).¹¹⁶ After the Second Vatican Council in the mainly vernacular Catholic Church, however, these attempts are more of theoretical than practical liturgical value.

The space in this introduction is far too limited to describe all the dramatics of the restoration process. It was far more dynamic than is possible to describe in a few pages¹¹⁷ and we are far from knowing all the facts necessary to reconstruct history. For example, the opposition between Mocquereau and Pothier was not always bad. After all, they were a pupil and a teacher! In many aspects of disagreement, the issue of restitution of melodies was not the only question; the rhythmic system devised by Mocquereau was another spring of conflict. Sadly, it is a story of opposition and in many cases broken friendship. As we can see in the following events in the history, this was not an isolated case and rivalry between different camps of the ‘music of reconciliation’ continued.

2.2.4 Brief excursus into ‘writing history’ of Gregorian chant

Pierre Combe in his book *The restoration of Gregorian chant: Solesmes and the Vatican edition* gives a long description of the restoration process with the highly valuable addition of large amounts of documents and letters. However, Combe, who was a monk of Solesmes, is limited in the evaluations he can make because of his loyalty to his monastery and his vows. This phenomenon – namely, a question of discretion – recurs repeatedly. Some disagree with the notion that Combe describes only part of the story. ‘Some have said that it [Combe’s book] only tells part of the story (the Solesmes side), but I did not regard it that way’ (Weber, 2004). Some see Combe’s book as a fair accusation towards the Vatican Commission. ‘His book gives a depressing picture of the proceedings in which, from the beginning, the most important scholar [Mocquereau] was put into the background’ (Anonymous, 1970: 441).

Katherine Bergeron envisages a very different approach to the period of restoration in the *Decadent Enchantments – The Revival of Gregorian Chant at*

¹¹⁶ (1) ‘In 1948, Solesmes undertook a critical edition of the Roman Gradual; this work was to receive encouragement from the Second Vatican Council, and later the Libreria Editrice Vaticana accepted responsibility for its publication (Cardine et al., 2001, accessed 13.12.2008). However, the Critical Edition of Solesmes has not been published.

¹¹⁷ I am mentioning this not to avoid longer description of this period, rather that for not wanting to be among those who tend to oversimplify this matter.

Solesmes. It should be said that the book was not particularly well received by the reviewers; however, Bergeron deserves credit for having the courage to look at the history from a different perspective and in a different manner. The critics saw many faults in the book: 'I am not sure that the key shifts need to be as striking or introduce as many distant tonalities as this book does ...' (Krummel, 1999: 151); 'Integrating intuitive and empirical methods involves challenges. How can historians bridge the gap between subjective responses to an imagined past and realities suggested by documents?' (Pasler, 1999: 370).

In his long review, Pasler refers to many aspects that should have been mentioned in Bergeron's book to qualify as an object of responsibly used new historical method. Pasler's review is very well written and has a lot of valuable information that broadens the picture. Bergeron's writing, however, awakens at least in me a question of how big actually is the gap between subjective responses to an imagined past and realities suggested by documents, for the latter becomes a subjective response to an imagined past while it is studied and/or interpreted by a historian. The true value of her writing is in her boldness to allow her personal relationship to Gregorian chant into the picture. '... for learning something about its theory I felt I was not just discovering another musical tradition, but in effect, rediscovering my own' (Bergeron, 1998: xi). She laid her relationship into a scholarly writing, which identifies much more with the subject than ordinary empirical study. It is true that conclusions drawn from this kind of study are not meant to fit into entirely empirical paradigm of musicology. In his review Peter Jeffery writes:

Prof. Bergeron first encountered Gregorian chant in college and thus observes it from safe historical distance, ignoring the squabble between Latin-craving 'sacred musicians' and guitar-scraping 'pastoral musicians'. This permits her to write from an original perspective, free of the controversial baggage the story has carried for so long, free to follow her own criteria of historical significance (Jeffery, 1999: 483).

In his review, Andrew Thomson has acknowledged Bergeron's ability to apply 'her intellectually responsible and discrete use of the twentieth century thinkers – Benjamin, Foucault, Derrida – to illuminate the philosophical ideas and aspirations of the monk-musicologists of Solesmes, which still seem alive and relevant today'

(Thomson, 1999: 57). It is obvious that isolated studies in Gregorian chant cannot give the insights that are a result of broader and imaginative studies. This writing indeed 'combines meticulous study of the early history of chant scholarship with a compelling and imaginative approach to the writing of that history' (Dillon, 1999: 271).

It is quite true that 'Integrating intuitive and empirical methods involves challenges' (Pasler, 1999: 370), but these challenges cannot be met without applying intuitive methods. At the same time, the contemporary society with its clashing differences is seriously challenging empirical method and is begging at least some intuition to be involved. 'The history of musicology and music theory in our generation is one of loss of confidence; we no longer know what we know' (Cook et al., 1999: v). If the knowledge fails, then the intuition comes to help and Bergeron's writing is special because she risked receiving this help. Most certainly, any approach, including that of Bergeron does not justify factual mistakes by the author to which reviewers have referred.

There is no comprehensive history of Gregorian chant of the contemporary period. If a study of this kind will be written in the future, I think it should be compiled through the prism of performance history and include the history of scholarship and other aspects where necessary. It should cover a period from the beginning of the nineteenth century rather than middle of it, to show the dynamics of the process and the role of Gregorian chant performance before the results of the restoration process. This study should not concentrate on proving things in terms of 'right and wrong' rather than explain the differences and provide a platform to understand these differences.

2.3 Gliding from the period of revival to the period of mutation

As it was said before, the end of the period of revival is not clearly detectable. In fact, one can ask whether Gregorian chant has revived in a sense that was planned in the end of the nineteenth and beginning of the twentieth centuries. It must be acknowledged that the period after the Second Vatican Council can hardly be called 'the period of revival' although in some senses the revival continues until today. However, the most striking characteristic of the period after the Second Vatican Council is the mutation of Gregorian chant. Therefore, there is a grey zone between the periods of revival and mutation, which is not clearly detectable.

After disbanding the Commission in 1913, the editorial task was appointed to Solesmes and editorial work continued. 'The volumes that followed were chiefly the work of Joseph Gajard, a monk of Solesmes: *Cantus Passionis*,¹¹⁸ *Officium Majoris Hebdomadae...*,¹¹⁹ and *Officium (et Missae) in Nativitate Domini*.¹²⁰ [...] Gajard also edited the *Antiphonale Monasticum* (1934),¹²¹ which was a notable advance on the first 'Vatican' editions' (Cattin, 1984: 99).

Apart from publishing chant books, the monks of Solesmes continued a wide variety of research about Gregorian chant. For example, Joseph Gajard, who became the director of the choir of Solesmes 1914, simplified the Solesmes Method that was created by Mocquereau, in order to facilitate its propagation (Cardine et al., 2001, accessed 13.12.2008).

However, when talking about Solesmes Method and Solesmes singing style it must be noted that Mocquereau's method was never realised in Solesmes. It was a strange situation – Solesmes was promulgating a simplified system of Mocquereau as a Solesmes Method, but in Solesmes, the singing was actually done according to Pothier's principles (Joppich, 2008, interview transcription: 2 and 4-5).

¹¹⁸ This book was first published in 1916. I was not able to find full bibliographical information of this publication.

¹¹⁹ *Officium majoris hebdomadae et octavae paschae, cum cantu juxta ordinem Breviarii*. Parisiis,: Typis Societatis S. Joannis Evangelistae, 1925. The first edition of this book was published already in 1922, but I was not able to find full bibliographical information of the original publication.

¹²⁰ *In nocte nativitatis Domini ad matutinam, missam et laudes juxta ritum monasticum*. Parisiis, Tornaci, Romae: Desclée, 1936. The first edition of this book was published already in 1926, but I was not able to find full bibliographical information of the original publication.

¹²¹ *Antiphonale monasticum pro diurnis horis ordinis Sancti Benedicti a Solesmensibus monachis restitutum*. Parisiis: Desclée, 1934.

2.4 The period of mutation

I have decided to mark the beginning of the period of mutation with Eugène Cardine entering Solesmes in 1928 and taking his vows in 1930. The most characteristic feature of this period is Cardine's activities and the outcomes of it. The beginning of the period can also be marked by appearance of commercial recordings that started to appear more frequently and in various styles of interpretation.¹²²

There is no full written biography of Eugène Cardine and I am not aware that anybody is writing it. The Cardine bibliography in Grove Music Online is quite short – there are only five writings.¹²³ Additionally, I am aware of few other papers¹²⁴ but it seems to be quite a small amount of material considering the importance of Eugène Cardine. In these few writings there seems to be more talk about Cardine's work as a musicologist than about him as a person. Jean Claire's article¹²⁵ that he wrote after Cardine's death in 1988 includes most biographical detail. None of these writings is available in English so there is definitely a language barrier in question. Cardine's most important writings have, however, been translated into English.¹²⁶ It can be said that Cardine's heritage as a musicologist is known and recognized pretty well internationally, but his biography is less acknowledged. Cardine as a musician and

¹²² Various styles of interpretation from 1928-1936 can be heard on *Gregorian Chant: The Early Recordings*. Two CDs, Parnassus PACD 96015/6, 1998.

¹²³ Please see Spieth-Weissenbacher, Christiane, Marie-Noël Colette, and Jean Gribenski. 'Cardine, Eugène', in *The Grove Dictionary of Music and Musicians*, 2nd ed., eds. Stanley Sadie and John Tyrrell. London: MacMillan, 2001. Accessed at Grove Music Online, ed. Laura Macy <http://www.oxfordmusiconline.com.libproxy.york.ac.uk/subscriber/article_citations/grove/music/04915?q=Cardine&search=quick&pos=1&_start=1> (accessed 11 October 2009).

¹²⁴ For example Saulnier, Daniel. 'Le radici dell'interpretazione di dom Eugène Cardine Joseph Pothier e André Mocquereau'. Paper presented at the AISCGrè 8e Convegno internazionale, Firenze (Italy), 29 May 2007.

¹²⁵ Claire, Jean. 'Dom Eugène Cardine (1905–1988)'. *Etudes grégoriennes* xxiii (1989), 11-26.

¹²⁶ (1) Cardine, Eugène. 'Les limites de la sémiologie en chant grégorien'. *Etudes grégoriennes* xxiii (1989), 5-10. English translation in Combe, Pierre. *The restoration of Gregorian chant: Solesmes and the Vatican edition*. Washington, D.C.: Catholic University of America Press, 2003. pp xxii-xxxiii

(2) Cardine, Eugène, Godehard Joppich, and Rupert Fisher. *Semiologia gregoriana. Note raccolte dalle lezioni*. Roma: Pontificio istituto di musica sacra, 1968.

(3) Cardine, Eugène. *Semiologia gregoriana. Note raccolte dalle lezioni*. Roma: Pontificio istituto di musica sacra, 1968. English translation Cardine, Eugène, Godehard Joppich, and Rupert Fisher, eds. *Gregorian semiology*. Sable-sur-Sarthe: Solesmes, 1982.

(4) Cardine, Eugène. *Primo anno di canto gregoriano*. Roma: Pontificio istituto di musica sacra, 1970. English translation Cardine, Eugène and William Tortolano. *Beginning studies in Gregorian chant*. trans. from the Italian and French editions with editorial comments by William Tortolano. Chicago: G.I.A. Publications, 1988.

(5) Cardine, Eugène. 'Vue d'ensemble sur le chant grégorien'. *Etudes grégoriennes* xvi (1977), 173-92. English translation Cardine, Eugène. *An overview of Gregorian chant: XVI of Etudes grégoriennes*. From Solesmes about the chant. Orleans, Mass.: Paraclète Press, 1992.

teacher is also quite little known, but this will hopefully change in the close future when the recordings from Michiko Hirayama's sound archive will be analysed and described (see page 32 and (Hirayama, 2006, interview transcript: 1)).

Cardine entered Solesmes in 1928 and left for Rome in 1952. For those who are not familiar with the monastic lifestyle it might be a surprise that 24 years of this extraordinary musicologist and singer are not documented. However, there is nothing peculiar about it. The period of noviciate and the following years as a monk are spent in obedience and hard work. Every monk has his duties in the community and if we add daily Offices that occupy substantial part of day and night, we get a motto of monastic lifestyle '*Ora et labora*' or 'Pray and work'. This is probably how Cardine's years in Solesmes passed. Apart from little fragments from the interviews of Joppich and biographical article by Jean Claire, I do not have much material in my disposal to shed light on this period. Godehard Joppich remembers:

His solemn vows were 1930 and he started his work after that. Only then was he able to go alone to the 'Paleo' [a manuscript room in Solesmes]. Before taking solemn vows, it was forbidden for novices to go to the 'Paleo' unaccompanied. Therefore, only in 1930 did he have a chance to look at the manuscripts. [...] Of course, he had his duties in the community. It was not possible for him to sit all day and study manuscripts. I know that he was an organist and he had to accompany singing of psalms during the Office. He had to do it always using the same sequence of chords. He could never change even one chord. I accompanied the Office in my monastery for many years using different registrations and different harmonies. I asked him once why he did not change the harmony. He said 'No, no, no – I was not allowed. I have to use only these harmonies'. These harmonies were repeated in some cases 20 times, if it was necessary (Joppich, 2008, interview transcript: 3).

In 1950s, Eugène Cardine instituted Gregorian semiology that in following years led Gregorian chant to a new ascent. Guy Sixdenier suggested the term 'Gregorian semiology' in 1954 and it was immediately accepted (Cardine, 1984: xxiii). In 1957, Cardine presented a paper on the III International Church Music Congress in Paris. It

was about a remarkable discovery in Gregorian semiology – a neumatic break.¹²⁷ Mary Berry describes the event:

This research and his subsequent work on the individual signs used by the scribes of the St Gall and other schools of early notation, in particular the scribe of MS Laon 239, have shed fresh light on many a dark corner that had baffled the first generations of Solesmes scholars (Berry, 1979a: 205).

It is not easy to explain the principle of neumatic break to those who are not familiar with the earliest neumatic notations. Of course, there are definitions in dictionaries and textbooks but these are not able to communicate either the actual practical meaning of neumatic break or the importance of Cardine's discovery to the whole performance practice of Gregorian chant. In a formulation of a very short definition: neumatic break is 'the separation or cutting apart of elements in a melodic group with rhythmic implications at the cut (of length or pinpointing)' (Berry, 1979a: 217). In Cardine's *Gregorian Semiology*, there is a whole chapter on neumatic break. Cardine explains:

Now, since there are various symbols for tying the diverse elements in each of the neumes, there must be a special reason when one of the elements is graphically separated from the others. The copyist's hand, and the conductor's hand as well, stops on a note in order to show its importance (Cardine et al., 1982: 79).

However, it is not as easy as that. Not every break is expressive. 'In order to understand the rules for the cutting of neumes, it is not enough to look at the note preceding the break. In addition it is necessary to take into consideration the melodic context' (Cardine et al., 1982: 86).

The significance of his research was not entirely appreciated at that time, but soon many performers of early music were fascinated by the complexity that was represented in early notation. Semiological and palaeographical research triggered the birth of very different performance practices of Gregorian chant. Suddenly, there were many very different performance styles (see page 36), all claiming if not to be a restoration of authentic Gregorian chant performance, then at least to be a convincing

¹²⁷ In French 'coupure neumatique'.

interpretation of the earliest neumatic notations. The idea of Pothier and his supporters has become true in quite a strange form – the tradition was living the life of its own, and ironically, Mocquereau’s ideal to return to earliest manuscripts played an important part in it.

2.4.1 A theory of banishment

In 1952, Cardine was called to Rome to become a Professor in the Pontifical Institute of Sacred Music.¹²⁸ This is a very controversial – and no doubt, a highly important – point in chant history, which has not been recorded properly. Cardine was a fine musicologist. He was very interested in paleography. His observations on notation were extremely clever and bright. And suddenly this promising and bright musicologist was called from the centre of Gregorian chant research to Rome to teach paleography to seminarians, who in most cases were even not very interested in it. Godehard Joppich remembers:

I knew that most of the students at the institute were not there because of Gregorian chant. It was very prestigious to have a diploma of this institute. From fifty students you did not have one who was interested in Gregorian chant. During the study course, they had to do organ playing and choir conducting. They also had to do Gregorian chant. Most of them said: Oh, this Cardine with his neumes! I do not understand anything! (Joppich, 2005, interview transcript: 8).

However, it might be that appointing Cardine to Rome became a central point of the period of mutation. For some, this fact represents another clash in Gregorian chant history – similar to that which happened during the compiling of the Vatican Edition between Pothier and Mocquereau. The difference is that many who participated in this process are still with us, and therefore the issue is very delicate. It is true that in scholarship one must provide proof for what he/she is presenting. The best of course is written and published hard evidence. However, if the issue is delicate and the ones who were somehow part of the process or know anything about it still do not feel like talking about it ‘on record’, it might easily happen that an important part in the history will be buried under the dust of loyalty, solidarity and discretion. Nevertheless, I think,

¹²⁸ Pontificio Istituto di Musica Sacra.

there is sufficient oral history to present this issue. Therefore, I take the risk of presenting this theory as a hypothesis for scrutinizing in the future for if I will not do it, there will probably be nothing to scrutinize, and the whole issue will remain on the level of gossip. The reason for describing these events in the history through different reception prisms is neither to judge anybody nor to justify. It was initially not my intention to integrate this matter into my dissertation, but I believe it illustrates a traditional pattern of conduct in chant history where the subject is taken very personally and therefore a possibility of conflict and diversity of opinions is highly probable. As well as this, it is quite clear that Cardine's work in Rome played a major role in the future developments of contemporary Gregorian chant scholarship and performance. Thus, all aspects of this period – including his assignment to Rome – are very important from the point of view of history and should be studied carefully.

According to some, when Eugène Cardine started to study manuscripts, especially to copy them, he came soon to the conclusion that there was something wrong with the way Gregorian chant was sung at Solesmes. As he became increasingly aware of the possible meaning of the earliest notations, he started to have visitors, who wanted to consult with him. Godehard Joppich:

About 1943 he [Cardine] had so much knowledge about neumes that people started to come to consult him. I do not know how they got information about Cardine but they came and wanted to see Cardine. I know that these contacts became more active and more frequent in following years. Monks in Solesmes were surprised: why do people not go to see Gajard? What do they want from Cardine? I am sure it was not the technique of accompanying psalms on the organ!¹²⁹ They started to acknowledge that Cardine has a different understanding of Gregorian chant and performance of Gregorian chant (Joppich, 2008, interview transcript: 3).

It is unlikely that Cardine proposed some of his theories to Joseph Gajard, who was a choirmaster and the main ideologist of Gregorian chant in Solesmes at this time (Joppich, 2008, interview transcript: 2). However, it must have been apparent that something different was happening. For understandable reasons, Gajard was bound to the Solesmes singing style. It was necessary to have a uniform performance style for successful promulgation of Gregorian chant in the Catholic Church (see page 91).

¹²⁹ For the explanation please see page 93.

Therefore, he was obliged to have a very concrete understanding of right and wrong.

On his lecture on 21.09.1949 in Mexico Gajard stated:

This theory [free rhythm] takes two forms which, although not directly opposed each other, differ considerably in their varying degrees of exactness and by some marked characteristics. They are: the theory of *free speech rhythm*, which has also been named Dom Pothier's theory, and the theory of *free musical rhythm*, which is that of Dom Mocquereau. Strange as it may seem on a first approach, both theories are upheld by Benedictines and both come from Solesmes. This may easily give rise to misunderstanding. Since differences of opinion now exist (and in a definitely weakened form) only between the partisans of one or the other of these two theories of free rhythm, it is important that we should clearly define each one and describe exactly what is and what is not the teaching of Solesmes' (Gajard, 1960: 8).¹³⁰

Aside from 'free speech rhythm' theory there was also a 'mensuralist' approach. The basic idea of all mensuralist theories is 'at least some kind of fixed time' (Gajard, 1960: 4). There were at least eight different mensuralist theories. It is sometimes thought that mensuralist styles simply recognised singing in two or three distinctive and measured note values. To some extent, it is true, as can be seen from the following example.

Figure 10. Houdard's transcription of *Asperges me* (used in Gajard, 1960: 5); the image is enlarged.¹³¹



The image shows a musical score for the hymn 'Asperges me'. It consists of two staves of music written on a five-line staff with a treble clef. The notes are mostly quarter and eighth notes, with some beamed eighth notes. There are rests and phrasing slurs. Below the first staff, the lyrics are: 'A-spér- ges me, Dó- mi- ne, hyssó- po et mundá- bor :'. Below the second staff, the lyrics are: 'la- vá- bis me, et su- per ní- vem de- albá- bor.' The lyrics are in a bold, serif font.

¹³⁰ Italics and ordinary brackets are from the cited edition.

¹³¹ Used by kind permission of Liturgical Press. Copyright © The Order of St. Benedict, Inc. Collegeville, Minnesota, 1960. All rights reserved.

The following illustration shows, how mensuralist theories differed from each other. In the previous example, the melody was simply transcribed using modern notation. In the next one, it is also set into metrical framework.

Figure 11. Dechevrens' transcription of *Asperges me* (used in Gajard, 1960: 5); the image is enlarged.¹³²

A- spér- ges me, Dó- mi- ne, hys- só-
 po et mun-dá- bor; la- vá- bis me
 et su- per ní- vem de- al-bá- bor.

However, mensuralist theorists went much further than that. They tried to transcribe melismatic chants of the repertoire of Gregorian chant in modern notation with astonishing detail in dynamics and agogics.

Figure 12. Houdard's transcription of *Alleluia Iustus Germinabit* (used in Gajard, 1960: 6); the image is enlarged.¹³³

Alle- lú- ia.

¹³² Used by kind permission of Liturgical Press. Copyright © The Order of St. Benedict, Inc. Collegeville, Minnesota, 1960. All rights reserved.

¹³³ Used by kind permission of Liturgical Press. Copyright © The Order of St. Benedict, Inc. Collegeville, Minnesota, 1960. All rights reserved.

Behind most mensuralist theories, there were not simply aesthetical preferences or artistic fantasies. These theories were supported with massive scholarly work, for example Jan Vollaerts' *Rhythmic Proportions in Early Medieval Ecclesiastical Chant*.¹³⁴ His work was later continued by Gregory Murray in his *Gregorian Chant according to the Manuscripts*¹³⁵ and strongly criticised by Cardine in 'Le chant grégorien est-il mesuré?'.¹³⁶

Figure 13. Vollaerts' transcription of a fragment from the verse *Qui timetis* of the Offertory *Laudate Dominum* (Vollaerts, 1958: 56); the image is enlarged.

The image displays a musical transcription of a fragment from the Offertory *Laudate Dominum*, specifically the verse *Qui timetis*. It features a staff of musical notation at the top, followed by four lines of mensural notation. The mensural notation is labeled with 'S.G.339', 'Eins', 'B.N.1118', and 'Laon'. The notation consists of vertical strokes with various flags and beams, representing rhythmic values. The staff of notes is in G-clef and shows a melodic line with various note values and rests.

Gajard's evaluation of mensuralism was even harsher than to 'free speech rhythm'. He said the results of mensuralist theories to be 'absurdities' and 'challenge not only to science of neumes, but also to most elementary common sense' (Gajard, 1960: 6). His verdict was:

¹³⁴ Vollaerts, Jan W. A. *Rhythmic Proportions in Early Medieval Ecclesiastical Chant*. E. J. Brill: Leiden, 1958.

¹³⁵ Murray, Anthony Gregory. *Gregorian Chant according to the Manuscripts*. London: L. T. Cary & Co., 1963.

¹³⁶ Cardine, Eugène. 'Le chant grégorien est-il mesuré?' *Etudes grégoriennes* vi (1963), 7-38.

Moreover, the authors of all these systems had difficulty enough in getting them accepted even in their own lifetime and in their immediate surroundings. Except for a few that have lingered on, they have not survived the men who created them. Now, for all practical purposes, they are dead, and so we may leave them to sleep in peace. *Requiescant in pace!* (Gajard, 1960: 8).¹³⁷

I can imagine how ideas of Eugène Cardine were trying to rise in the atmosphere of ‘we already know what is right and what is wrong’. Can it be a conflict of two understandings of which one ‘wants to know’ and the other ‘already knows’? Was it a growing possibility of another ‘Pothier versus Mocquereau case’, a collision that is also doubted by Gajard.

Dom Mocquereau has sometimes been accused of opposing his master [Pothier]. This is a gross calumny, for, on the contrary, he at that time [when he was associate of Pothier] devoted himself wholeheartedly to defending Dom Pothier’s work, especially his *Liber Gradualis* of 1883, which had given rise to violent controversy. It was actually in giving him this support that he came to perfect Dom Pothier’s achievements and very soon to surpass him (Gajard, 1960: 12).

If we look at the principles of what Cardine represented, we see that they are much closer to Pothier than to Mocquereau, for Pothier’s free speech rhythm is based on text but Mocquereau’s free musical rhythm is based on music. Among the fundamental principles of Gajard were: ‘(1) Gregorian rhythm is specifically of a *musical* nature and is not the rhythm of speech; [...] ; (5) the words are subordinate to the melody; [...]’ (Gajard, 1960: 15).¹³⁸ Pothier on the other hand was in favour of ‘assimilation to the free rhythm of speech. [...] as Dom Pothier himself wrote: ‘It is a number or proportion which exists in speech without being apparent; one feels it and on hearing it one is charmed by it, but one cannot say exactly what it is’’ (Gajard, 1960: 11). Gajard adds: ‘This fundamental *lack of clear definition*, this *vagueness* or

¹³⁷ Italics and are from the cited edition.

¹³⁸ Italics are from the cited edition.

approximation is what primarily characterizes Gregorian speech rhythm' (Gajard, 1960: 11).¹³⁹

In *The New Grove Dictionary* article 'Solesmes' in the sub-section 'The performing practice of Solesmes' by Eugène Cardine and David Hiley,¹⁴⁰ it is stated:

In *Les Mélodies Grégoriennes* Pothier explained his conception of free rhythm: this is 'oratorical rhythm' similar to that of speech, which achieves coherence through respect for the Latin words and their accentuation, and balance through the proportions existing between the various divisions. Pothier's intuition was basically correct, but lacked the deep knowledge of the sources which only time can bring' (Cardine et al., 2001: on-line, accessed 13.12.2008).

The next paragraph of the same article, which is about Mocquereau's principle, starts with words 'Mocquereau aimed at greater precision' (Cardine et al., 2001: on-line, accessed 13.12.2008). Discretely, there is no evaluation of any kind. In his Musicological testament Cardine comes to a most startling conclusion:

'If all music begins 'beyond the sign', this is even more true of Gregorian chant. Its notation is as supple as its rhythm is free. After having pleaded for respect for the sign, we must beg gregorianists to surpass it!' (Cardine, 1984: xxxi).

This is a statement of a man who has studied neumes all his life and was probably the most eminent scholar in Gregorian semiology. He just says – forget the signs after you have had respect for them. Although this document is written at the end of his life, it gives us a feeling of his nature, what seems to be quite opposite to his choirmaster Joseph Gajard.

I think it is justified to ask what were the motives of appointing Cardine to teach in Rome. The only possibility of answering this question lies in oral history. While

¹³⁹ Italics are from the cited edition.

¹⁴⁰ The authors of the 'Solesmes' article in *The Grove Music Online* are recorded as Eugène Cardine, David Hiley, and Richard Sherr. The text for the sub-section 'The performing practice of Solesmes' was Cardine for the 1980s edition. After Cardine's death, David Hiley revised sections 1-3 for the edition in 2000. However, the section 'The performing practice of Solesmes' (section 2) remained as it was. Thus, it can be said that it the author is Eugène Cardine. I owe my thanks for comparing different editions to Jerome Weber.

collecting material for this dissertation, I had a chance to collect oral history from those who intimately knew Eugène Cardine – his friends in Rome, his students, and his colleagues. As I am very interested in Cardine’s person, his life, and his work, I also asked a question about Cardine’s assignment to Rome and how he felt about it. Godehard Joppich tells:

I think that they sent Cardine away from Solesmes. When Joseph Gajard was a schola master and Cardine became more and more aware that Gregorian chant in Solesmes is not properly sung, what happened was that they sent him to Rome. That was the only reason. It is not possible to combine the Cardine and the Solesmes way of singing. It is like fire and water – this is how Cardine thought (Joppich, 2005, interview transcript: 9).

Joppich continues: ‘When Rome asked for one teacher for Gregorian chant in 1952 it appeared to be the best solution to send Cardine to Rome. They used a principle *‘promoveatur et amoveatur’*.¹⁴¹ They were glad that he went to Rome and it was ‘quiet’ again in Solesmes’ (Joppich, 2008, interview transcript: 3-4). Michiko Hirayama tells in her interview:

[...] and the French all refused Cardine because, Solesmes did not like Cardine. Solesmes knew that Cardine was the best and they did not want to admit that he is a kind of genius among the monks who all wanted to be ‘top’. Cardine never wanted to be ‘top’ – he just wanted to be a singer. Everybody knew that he was the best. They did not want to have Cardine in Abbey of Solesmes (Hirayama, 2006, interview transcript: 3).

In a meeting with Marie-Noel Colette in Paris, among other things I also asked how did Cardine end up in Rome and her evaluation was ‘Cardine explained me that Solesmes did not want him to stay in Solesmes with his new ideas’ (Colette, 2005b).¹⁴² The same idea was also confirmed by Mary Berry (Berry, 2005b).¹⁴³

¹⁴¹ A translation of this Latin phrase in English would be: ‘Let him be promoted to get him out of the way’.

¹⁴² The information of this personal communication is also available as a recorded interview: Colette, Marie-Noel. Interview with Marie-Noel Colette on 21 June 2005. Paris. Original format: Digital recording, located in Personal Archive of Eerik Jöks. Language: English.

¹⁴³ The information of this personal communication is also available as a recorded interview: Berry, Mary. Interview with Mary Berry on 16 March 2005. Cambridge. Original format: Digital recording, located in Personal Archive of Eerik Jöks. Language: English.

Cardine was a monk and a monk must be obedient – he goes where he is sent. That is what he was supposed to do and that is exactly what he did. Another question is whether he was happy about it. During the interview with Godehard Joppich, I asked: ‘I have several quotes from his friends that he was unhappy about leaving Solesmes. How do you comment?’ Joppich answered:

I think it is true. When school finished on the day of St Peter and St Paul on 29 June he left Rome immediately. On the same evening, he took a train to Paris where his sister lived and after that, he went straight to Solesmes. He did not stay there for one hour more than necessary. He loved his home and he loved Solesmes. [...] I admired his love towards his home monastery. I asked him: ‘how can you stay here and still sing Mocquereau’s system?’ He replied that it is not straightforwardly Mocquereau’s system; rather it is Pothier’s system. [...] Cardine was able to adapt to life and singing in Solesmes for three and a half months until he returned to Rome on 15 October. He was happy in Solesmes. He was happy (Joppich, 2008, interview transcript: 4).

However, in a good tradition of chant scholarship there is a diametrically different opinion. When I talked to Daniel Saulnier in Solesmes and presented the ‘theory of banishment’ he was very surprised for he had never heard it before (Saulnier, 2005). To get a clear different point of view I sent him an e-mail in which I asked him to comment on that issue (Jöks, 2008). According to his understanding ‘Cardine was called to Rome to teach, because he was competent in Gregorian chant!’ (Saulnier, 2008). On my two questions (1) whether Cardine was ‘sent away from Solesmes, because his interpretation of neumes did not fit into the picture at this time’ and (2) Is it true that ‘monks of Solesmes did not want Dom Cardine to go to Rome because this way “the secrets of semiology” would leave the Abbey of Solesmes’ Saulnier replied:

I confirm that the first idea is absolutely false. Cardine in this time had not yet elaborated his interpretation of neumes. The second idea is also inexact! But it is true that the development of semiology became possible because Cardine was teaching in Rome (Saulnier, 2008).

In this dissertation, there is only one example against the ‘theory of banishment’, that of Daniel Saulnier’s. I do not think that really matters – surely there are many people who would claim the same. After all, it is not a question of weighing the arguments; rather it is a demonstration of differences in opinion and importance of personal relationship to reconstructing history.

This situation can also be argued in a way Gajard does in case of Mocquereau versus Pothier (see page 83). There is written evidence, which proves that Cardine hold very high esteem of Mocquereau and his work. Cardine writes in his Musicological testament:

Even before being called to Rome in January 1952, and to a much greater extent in the years that followed, by profession and by vocation, I dedicated myself to the study of neumes, by following the path laid out by Dom Mocquereau, a path which always left me in awe. I believed in it from my first reading of his work, and I still believe in it today! (Cardine, 1984: xxiii).

At the same time, it is known that Cardine did not approve of Mocquereau’s rhythmical theory. Godehard Joppich: ‘Cardine told me that he could not believe what Mocquereau has written in his research about the Method of Solesmes. He could not believe it was right’ (Joppich, 2005, interview transcription: 6). It is also hard to believe that Cardine was playing a double-dealing game. The answer might be in two aspects. Firstly, Cardine was a good monk and he loved Mocquereau as he loved everybody else in Solesmes. Joppich continues: ‘However, Cardine loved Solesmes and all people in Solesmes. He loved also Mocquereau although he was convinced that his ideas were dreams. You cannot verify this theory in manuscripts – it is impossible. His tolerance towards Mocquereau’s research was fraternal solidarity’ (Joppich, 2005, interview transcription: 6).

In his way of conduct, there was no way to criticise his home monastery, a fellow monk, and even more an elderly monk, in public. It was a question of solidarity. Secondly, as he was a good monk and a good person he always found a way to see good things first. He did admire Mocquereau, but not for his rhythmic theories. Rather it was an admiration towards a man who gave him example in his basic principle – always follow the manuscripts and do not make any exceptions on that way.

There are also examples of fierce criticism from Cardine including critics against Benedictine monks. He criticised strongly the theory of Vollaerts and following work of Murray as well as the work of German musicologist Constantin Floros. 'Cardine was very strict in his judgement upon those who evidently ignored the fact of the manuscripts. He was very strict in these cases but he never criticised publicly his fellow monks of Solesmes. Never!' (Joppich, 2005, interview transcript: 7).

I do not imply with 'theory of banishment' that Solesmes actively looked for a possibility to send Cardine away. There is no slightest proof for that! However, when the Pontifical Institute of Sacred Music in Rome asked for a tutor in paleography Cardine was sent. It is also interesting to observe that Cardine did not teach singing of Gregorian chant in the Pontifical Institute of Sacred Music but only paleography.¹⁴⁴ According to some opinions, he was not even allowed to teach singing in the institute. It is quite understandable – there was another tutor for that – Raffaele Barrata, who taught singing in a quite different manner.

Cardine's obligation in Rome was not to teach the performance of chant. There was another teacher for that. Cardine was teaching paleography. I remember that I went to Raffael Barrata to sing. After that, you had to forget everything before you went to study with Cardine, because it was so different. Only when Cardine left Musica Sacra did they start officially to teach semiology (Joppich, 2008, interview transcript: 5).

Nevertheless, Cardine's lessons of paleography included lot of singing. Michiko Hirayama recalls:

During the lesson he spoke very little – mostly he was singing. As a singer, I noticed the natural way of using his body. This kind of singing makes a real natural melody. From my point of view, it is completely different from his students in Gregorian chant. They looked at neumes and said: this is how it should be sung. I do not know theory that well but the way Cardine did singing ... [Michiko demonstrates Cardine's body movement during singing, which includes slight movement of feet. The upper body was slightly

¹⁴⁴ However, Cardine conducted the schola of St Girolamo, the monastery where he lived and where the Pontifical Institute of Sacred Music is now situated. For a very brief description of Cardine's work with the schola please see 'Interview with Professor Godehard Joppich in Frankfurt 1.03.2005' (Joppich, 2005, interview transcript: 7)

bouncing from hips.] ... that was something. Gregorian chant scholars never noticed what I noticed (Hirayama, 2006, interview transcript: 4).

It must not be forgotten that the period of mutation gave us two important books: *Graduel Neumé*¹⁴⁵ and Gregorian semiology. *Gregorian semiology* has become ‘the book’ for those who try to perform chant according to semiological principles and *Graduel Neumé* was a precursor of *Graduale Triplex* – another book that most Gregorian chant performers have highly appreciated.

Cardine started compilation of *Graduel Neumé* about 1932 with transcribing the neumes to the Introits *Exurge*,¹⁴⁶ *Circumdederunt me*,¹⁴⁷ and *Esto mihi*,¹⁴⁸ and it was finished by the time when he was called to Rome (Joppich, 2008, interview transcript: 3). Joppich tells about the first publication of *Graduel Neumé*:

In 1960, I made the first 20 copies of *Graduel Neumé* by using photos. When they heard in Solesmes that I was already circulating the *Graduel Neumé*, the director of the Solesmes Editions said that ‘we must print it’. Solesmes printed the first version in 1966 (Joppich, 2008, interview transcript: 5).

Godehard Joppich told me that most students in the Pontifical Institute of Sacred Music did not understand what Cardine wanted to teach them and from this *Gregorian semiology* started.

Most of them [students] said: Oh, this Cardine with his neumes! I do not understand anything! That was the reason why I started to write down notes. I had reservations about showing it to Cardine. Once one of the students had my notes in the class and Cardine asked: What do you have here? Who has written it? When they said that it was I, he came to me and said: You should write all the lessons – all Gregorian semiology. That was how Cardine’s *Gregorian semiology* was born – we wrote it together with Rupert Fisher from the Abbey of Metten (Joppich, 2005, interview transcription: 8).

¹⁴⁵ Cardine, Eugène. *Graduel neumé*. Solesmes, Sarthe: Abbaye Saint-Pierre de Solesmes, 1966.

¹⁴⁶ Page 66 in the *Graduel neumé*.

¹⁴⁷ Page 62 in the *Graduel neumé*.

¹⁴⁸ Page 69 in the *Graduel neumé*.

Michiko Hirayama tells about the compilation of *Gregorian semiology*:

Cardine was fortunate to have Joppich and Fisher who did the book *Gregorian semiology* for him. If they [Germans] take something to do they do it properly and they worked very hard. Italians never work that way and the French all refused Cardine because Solesmes did not like Cardine (Hirayama, 2006, interview transcript: 3).

Today *Gregorian semiology* has been published in many languages and is a valuable tool for those who are interested in semiology. In bibliographies this book has usually Cardine as single author. I think that it would be more appropriate to cite Cardine, Joppich, and Fisher as co-editors. I have done accordingly in the bibliography of this dissertation. This will by no means diminish Cardine's role in scholarship but will give well-earned credit to Joppich and Fisher without whom there might have not been *Gregorian semiology* as we know it today.

The subchapter about the 'theory of banishment' has shown the importance of getting better knowledge about Cardine as a person. He was not just a scholar – he was a priest, a monk, and a musician. It is surprising how much this knowledge can actually add to Cardine's research and teach us important things about Gregorian chant. Besides semiology, Cardine has so much to teach – obedience, humility, and compassion. All these things put together reflect his important understanding that we should study neumes accurately but eventually we must aim 'beyond the sign' (Cardine, 1984: xxxi) where most important things in music happen. Although Cardine wrote the idea of going beyond the sign in his musicological testament, he thought about it already earlier. Michiko Hirayama remembers 'We talked so much about it. Every Sunday after the Mass we had one hour for talking. We talked much about singing and how it must be beyond any sign, any fixed idea, beyond the technique. It should come out like vapour. We talked so much about it' (Hirayama, 2006, interview transcript: 5). Michiko, who was a very close friend of Cardine, told me a story about him that in my understanding is perfect to sum up this subchapter.

There was a beautiful thing that Cardine told me. After the Mass, he remained alone to sit and pray at his place for at least 15 minutes. He knew that I was coming but he always sat and prayed at least 15 minutes. One day I asked a very un-polite question: why do you always stay at your place

after the Mass and pray? What are you praying for? And he said: We have been given such a beautiful and great gift in Gregorian chant. There is only very little we can give back. I am asking for forgiveness of the Father that I am not able to give back enough (Hirayama, 2006, interview transcript: 6).

2.5 Bitter history and its possible reasons

There is truly a lot of bitterness and strong words in every period of the history of the contemporary period of Gregorian chant. Evaluations towards other parties of Gregorian chant range 'from moderate scepticism to outright hostility' (Rice, 2005).¹⁴⁹ Some evaluations to the situation after the Second Vatican Council are rather dramatic. For example, Alison Hope writes:

The Second Vatican Council closed Pius X's effort to graft Gregorian chant onto the 20th century. Whatever the intentions of the Council, the references to sacred music in the Council documents effectively legitimated the replacement of chant with vernacular hymns and folk music. A new chapter in the history of chant is perhaps now taking shape through the thrust of the traditional rite movement and the thirst of a secular world...but like all nows, the promise of the present remains for the moment no more than a whisper through the darkness (Hope, 2001: on-line, accessed 12 October 2009).

If that is not dramatic enough, there are writings, which show post Vatican II treatment of Gregorian chant as something disgustingly treacherous. For example Sandro Magister labels his articles and interviews: 'Gregorian Chant: How and Why It was Strangled in its Own Cradle' (Magister, 2003: on-line, accessed 12 October 2009) and 'I Had a Dream: The Music of Palestrina and Gregory the Great Had Come Back' (Magister, 2006: on-line, accessed 12 October 2009).

To conclude this brief overview of the contemporary period of Gregorian chant it would be just to at least try to explain why there are so many controversies and why it becomes so fierce and personal in some instances. In fact, I do not think that anybody is able to describe the reasons behind the arguments about Gregorian chant performance without massive research on this topic. However, David Hiley has made a suggestion that at least allows us to have a hunch of the magnitude and complexity of the paradigm in which these differences have developed – religion. Hiley writes:

The performance of plainchant has given rise to much controversy.

Plainchant is the sacred music of the church, a part of Christian ritual

¹⁴⁹ Richard Rice used the expression 'from moderate scepticism to outright hostility' to illustrate 'negative attitudes among many academics toward the classic Solesmes method' (Rice, 2005), but I think it describes accurately the climate in Gregorian chant performance world much wider.

worship, and questions about the 'right' way to sing it often touch upon deeply held religious beliefs. If a performance tradition be altered, perhaps as a result of religious reform, or if two different practices come into conflict, then not only musical but also religious principles may be felt to be at stake (Hiley, 1993: 37).

Humans have committed much bigger atrocities to justify their beliefs than severely criticising somebody's performance or understanding of Gregorian chant. It can also be that the religious dimension has long grown out of *fides Christiana* and has become a religion in itself. In either ways, if one deals with religious understandings he/she should not expect an entirely rational treatment of the topic. Nevertheless, it is accepted as scholarship. If we just imagine how many of the musicologists who launched the restoration were monks then we can understand the amount of religious beliefs put into the subject. It is highly unlikely that it could be separated from it afterwards installing it into the topic. Therefore, the treatment of the history of Gregorian chant, and especially performance of it, should be treated in a very balanced manner and not only with empirical but also with tools that take the peculiarity of the subject into consideration.

2.6 A summary of 'Periods in the history of Gregorian chant'

This chapter has shown that one characteristic issue of the contemporary period is conflict. There has been a huge amount of hostility in chant scholarship during past 200 years – beginning from the time of restoration up to rivalry between different schools of chant. Chant is also one of the weapons in the fight between reformed Catholic Church and conservative Catholic movements. The music that is supposed to be a vehicle of peace and reconciliation has become a reason for wrecked friendships and broken vows.

One of the significances of this dissertation is its attempt at peace making. It stands as a proposal for understanding this valuable heritage in a perspective that leaves every party happy with what they believe to be right. Reception study gives us the possibility of explaining diversities so that everybody's understanding is respected as long as everybody will retain a minimal amount of self-criticism. This allows sharing with respect valuable experience of other understandings and enriching by this personal understanding of chant. Negligence of other opinions can be construed as a lack of identity, and this, according to my understanding, is beneficial neither to scholarship nor performance practice.

3 Observations on the results of the questionnaire

3.1 Introduction

In this chapter, I observe the results of an online questionnaire for chant performers and experts. In the introductory part of the chapter, there is (1) a discussion on methodological issues and (2) a description of the selection of the respondents of this questionnaire. In this description, the results of the questions that characterize the selection of the respondents will be presented.¹⁵⁰ However, these questions are not only of an introductory nature. They have importance for future comparisons between different sets of data; for example, does nationality affect respondents' opinions about what is important in the performance of Gregorian chant?¹⁵¹ Apart from the introduction, the chapter is divided into two parts: (1) analyses of sets¹⁵² of raw data¹⁵³ in order to detect tendencies and correlations within these sets and (2) analyses of the results that emerge from the comparison of selected different sets of data and tendencies between these sets. For example, is there a difference in opinion about what is important in performance of Gregorian chant (Q42-74) between respondents who consider religion less important and respondents who consider religion more important? In the section of analyses of the raw data, different subsections are dedicated to the following themes: (1) meaning of Gregorian chant as a term and a

¹⁵⁰ 110. What is your musical education?; 111. When (what year) did you start your activities concerning Gregorian chant?; 127. Do you sing more at concerts or at church services?; 130. How often do you sing, conduct, or study Gregorian chant?; 131. Do you sing/conduct or study music other than Gregorian chant?; 145. How often do you attend church services, i.e. the mass, liturgy, prayer services, meditations, adorations or other forms of organized worship?; 146. How important is religion for you? [...]; 147. Other than at church services, how often do you pray?; 148. How often do you read the Scriptures?; 149. Do you belong to a parish or congregation?; 150. Which church/denomination do you belong?; 151. What is your age?; 152. What is your nationality?; 153. Are you male or female?

¹⁵¹ In the introduction of this dissertation, there is an explanation about problems of usage of the term 'Gregorian chant'. The conclusion was that it is more proper to use the term 'medieval sacred Latin monody' (MSLM). In the questionnaire, the term that was used was 'Gregorian chant' and therefore the same term is used in the chapter that analyses the questionnaire. However, in the introduction of the questionnaire it was stated that 'In this questionnaire, the term "Gregorian chant" is used in a wide sense, meaning both the repertory of different liturgical families of medieval Western church, and their current reflections in literature and performance' (Appendix 6, vol 2, p 421).

¹⁵² A 'set of data' is to be understood as answers to one question or block of questions, for example what does Gregorian chant mean to respondents (Q1-31). A set can also mean questions that are thematically similar and are therefore considered in one subchapter, for example 'Issues of authenticity of the performance of Gregorian chant', in which questions 97-106; 107-109; 117-119 are observed together.

¹⁵³ This form of analysis is called 'analysis of raw data', because observations are done within a particular set of data and this set is not manipulated with results of other sets of data. Raw data that is not presented in this chapter, in the form of frequency tables is available in the appendix (Appendix 9, vol 2, pp 446-488).

phenomenon;¹⁵⁴ (2) important qualities and aspects for a good performance of Gregorian chant;¹⁵⁵ (3) relationship between the text and music;¹⁵⁶ (4) issues of authenticity of the performance;¹⁵⁷ (5) top ten of the key figures of Gregorian chant through out all times and from the beginning of the nineteenth century;¹⁵⁸ (6) a ‘family tree’ of Gregorian chant performers.¹⁵⁹ Correlation and factor analyses of sets of questions 1-27, that ask the respondents’ opinion what does Gregorian chant mean, and 42-71, that observes what is important for a good performance of Gregorian chant are not discussed in the thematic subsections. This discussion is in the subchapter ‘Comparison within sets of data’, which comes after the subchapter ‘Issues of authenticity of the performance’. The decision to place correlation and factor analyses in a separate subchapter was made because of methodological differences from other analyses.

The results of question 120¹⁶⁰ concern issues of the temporal structure of the performance of Gregorian chant, and will be observed in the chapter ‘A study of temporal structure and some other features of performance of MSLM, using, as examples, 35 solo performances of the Gradual *Haec dies*.

It must be admitted that there were more questions asked in the questionnaire than it was possible to accommodate in this research.¹⁶¹ When the questionnaire was

¹⁵⁴ Questions 1-31

¹⁵⁵ Questions 42-74

¹⁵⁶ Questions 89-95 and 96

¹⁵⁷ Questions 97-106; 107-109; 117-119

¹⁵⁸ Questions 32-41; 75-84

¹⁵⁹ Question 113

¹⁶⁰ Question 120 in the questionnaire was: ‘Please have a look at the two beginning words of gradual *Haec dies*. When performing this song, which notes do you perceive as having equal durations? Please build up to 4 groups of these notes, marking the notes with equal durations. For example, “notes 4 and 5 have an equal duration” or “notes 3, 4, 5, 10 and 12 have an equal duration”’.

¹⁶¹ The questions that were left out from this study were: 112. Please name, in chronological order where you have studied Gregorian chant. (schools, ensembles, master classes); 114. Other than your teachers, what other people have influenced your chant interpretation? 115. What other factors have influenced your chant interpretation? 116. What sources (both medieval and modern) do you use for performing or studying Gregorian chant?; 121. When singing, we deliver notes of different durations. Assuming, that the increased value of duration can arise from either extending the duration of an individual note/individual notes, or slowing down the tempo, which of the two options do you use in Gregorian chant performance? (this question was used only as a comparison variable); 128. Do you experience performing for recording as different from the usual performing, not considering the recording-specific aspects?; 129. [If yes,] When recording, what do you do differently from the usual performance?; 132. What kind of repertory do you sing/conduct or study, other than Gregorian chant? 133.-139. Please name, in chronological order, in which Gregorian chant groups/ensembles you have participated. 139.-143. Please name in the order of importance up to five, in your opinion most important scholarly discoveries in the domain of Gregorian chant from the beginning of the nineteenth century.

compiled, it was not entirely sure how active the participation would be and how much of the material would be usable. Thanks to the very active participation of the respondents, there was much more data than I could use, and due to space limits of this research, some of the results had to be left out. I hope to consider the results of this research in future projects. The results of quantitative questions that were left out will be presented in the appendix. Abandoned qualitative results are omitted from the appendix because it was not possible to present them without extensive editing and it was not optimal to use valuable time to edit results that are not going to be used.

In the second part of this chapter, there is a comparison between different sets of data. For that purpose, I use sets of questions 1-27 and 42-71 together with results that were presented in the subchapter 'About the respondents' in order to describe the selection. Using a method called 'compare means', I observe whether there are significant differences in opinion for example between men and women.

It is inevitable that chapters that discuss the questionnaire and the recordings involve lot of rather long tables that might complicate the reading of this work. However, it was necessary to include all tables into the text for fluent presentation of this dissertation. The problem is most acute if the text that comments the table is on other page than the particular table. To ease this complication the tables that might be looked at during the reading are duplicated in the appendix. This way it is possible to follow the table simultaneously with reading. The tables that are duplicated are equipped with a corresponding note at the end of the description of the table (see also an explanation on page 28).

There are also appendices of 'A0' size, for example in the comparison of means in the subchapter 'Comparison of selected different sets of data'. To make the following of these tables easier, I have always put into the text a reference to a number of a particular question. The reference is also useful if the reader wants to follow the appendix of raw data (Appendix 9, vol 2). Usually these references are in the footnotes, but if the table consists of the numbers of the questions rather than the text of the question, the number is referred to in the text together with the question. If a particular question is used repeatedly on one page, the reference to its number might not be repeated.

For the better observation qualities, the tables in the text are with single line spacing and font size of ten. By using these parameters, it was possible to have tables to be fitted on one page.

At the end of every subchapter that discusses the results of the questionnaire, there is a brief summary of the particular theme. At the end of the chapter, the whole chapter is summarised.

3.1.1 Methodological issues

The online questionnaire¹⁶² was programmed using programming language ASP¹⁶³ and information server software MySQL.¹⁶⁴ A special feature of this online questionnaire was that every answer was immediately recorded to the information server. In other words, the respondent did not have to save his/her answers but the questionnaire was programmed to do it simultaneously with the answers to the questions being received. A benefit from this feature was that even people who started the questionnaire and never finished contributed to the project through answers that they managed to give. Every respondent had his/her personal link to the questionnaire. Respondents had a possibility to view and amend their answers. It was also possible to quit the questionnaire and continue later.

Because of the high participation of Estonian performers, the questionnaire was devised in two languages – English and Estonian.¹⁶⁵ For those respondents who for any reason did not want to answer the questionnaire online, a paper version was devised (see Appendix 8, vol 2, in the pocket on the back cover). A paper version was only needed for English speaking respondents. Respondents were promised that answers would remain anonymous. As an exception, permission was asked of the respondents to publicize their teachers and exemplars in Gregorian chant. It was necessary to compile a ‘family tree’ of Gregorian chant performers, which was unthinkable on anonymous grounds. A compilation of a ‘family tree’ was necessary to study the

¹⁶² The author of this dissertation constructed the questionnaire and the online version was technically realized with help of an Estonian programmer Mr Anti Tiik. Highly appreciated help in methodological questions in sociology was received from Professor Gillian Parker (University of York) and Dr Andrus Saar (Estonia). For introducing me to software SPSS (Statistical Package for The Social Sciences) I must thank Estonian sociologist Anu Rentel. For other good advice my gratitude goes to Eva-Liisa Jaanus and Liina Kilemit. In all statistical questions that needed solution in this research I owe my gratitude to Professor Ene-Margit Tiit.

¹⁶³ Active Server Pages

¹⁶⁴ Structure Query Language

¹⁶⁵ The questionnaire in Estonian is added to the appendix (Appendix 7, vol 2, pp 433-444).

understanding of teacher-students relationships in performance practice of Gregorian chant. Studying performance of Gregorian chant is usually not done by following academic patterns. It was presumed that the compilation of a family tree would show from where have performers obtained their knowledge for interpretation of Gregorian chant and open yet another possibility to explain how Gregorian chant is understood.

During presenting this research, there has been a constant need to point out the multidisciplinary character of this work. In explaining, how the questionnaire was compiled and the results were analysed there is yet another reason to mention this aspect. If one has to do a multidisciplinary research, it is inevitable to work with the methods that are not the researcher's first area of specialisation. My knowledge about compiling a questionnaire is of a more practical nature. I have assisted large sociological enquires while working for the Estonian Council of Churches in 1996-2004. Thus, there are not many references to handbooks of sociology or other relevant literature. My written companions in this process were the electronic manual of SPSS 16.0 and *Quantitative Data Analysis with SPSS 14, 15 & 16 A Guide for Social Scientists*¹⁶⁶ by Alan Bryman and Duncan Cramer. During the compilation of the questionnaire and the process of analysis, I constantly consulted with various well-established sociologists and specialists of statistics in England and Estonia. All methods that go beyond classical sociological borders like 'thermometer of agreement' and analysis of 'core values' are explained systematically. At the same time there is not much room dedicated to explaining how conventional methods like factor analysis, comparison of means and, cluster analysis work and what is the theoretical background behind the functioning of these methods.

The questionnaire was devised by using both qualitative and quantitative methods. This means that all respondents were focused upon together as a group (quantitative), but also that single respondents were considered as individuals (qualitative). There were purely statistical questions, for example, 'How often do you sing, conduct, or study Gregorian chant?'¹⁶⁷, but also questions of a more creative nature – for example, 'If you were able to travel back in time to study Gregorian chant performance, and had seven minutes at your disposal, where would you go and how

¹⁶⁶ Bryman, Alan and Duncan Cramer. *Quantitative data analysis with SPSS 14, 15 and 16: a guide for social scientists*. Hove, East Sussex ; N.Y., NY: Routledge, 2008.

¹⁶⁷ Question 30

would you spend the seven minutes?'.¹⁶⁸ Quantitative questions in turn are divided into (1) scale questions¹⁶⁹ and (2) questions with variants. In some quantitative questions, respondents were able to add personal opinions if they found that not all aspects were described by the variants proposed by the questionnaire. Most of the six themes¹⁷⁰ in the analysis of the raw data are discussed with the help of the results of both quantitative and qualitative questions.

The aim of compiling this questionnaire was to map as many different aspects of Gregorian chant as possible. However, after reading the results it was seen that many aspects still eluded this extensive brainstorming. This was proved by so many qualitative additions by the respondents. The questionnaire consists of 154 questions. There are large blocks of questions that may comprise up to 30 questions – for example, 1-27 (possible qualitative additions by the respondents 28-31) and 42-74 (possible qualitative additions by the respondents 72-74). Questions that from above described blocks are also referred to as 'arguments' or 'variables'. The full text of the questionnaire is available in the Appendix (Appendix 6, vol 2, pp 420-432 and pp 433-444).

The methodologies used for the analyses are not always well-known classical statistical methods for sociological research. For instance, for the presentation of the raw data from large sets of scale questions, I devised a methodology that can be called a 'thermometer of agreement' that uses the subtraction of mean and variance¹⁷¹ to measure which more important/less important aspects the respondent agree or disagree on. The procedure of the creation of this methodology is described systematically in the subchapter 'What does Gregorian chant mean?'. To present quantitative questions with variants, simple frequency tables are used. To find correlations between different arguments within one set of data, correlation matrix and factor analyses are applied. In the usage of the correlation matrix lays another rather unorthodox methodology that I am calling analysis of 'core values'. Instead of looking for correlations between two arguments, the arguments were categorised

¹⁶⁸ Question 117-119

¹⁶⁹ The scale questions of this questionnaire are assumed to represent an underlying continuous distribution.

¹⁷⁰ (1) Meaning of Gregorian chant as a term and a phenomenon; (2) important qualities and aspects for a good performance of Gregorian chant; (3) relationship between the text and music; (4) issues of authenticity of the performance; (5) top ten of the key figures of Gregorian chant through out all times and from the beginning of the nineteenth century; (6) a 'family tree' of Gregorian chant performers.

¹⁷¹ Variance = square of standard deviation.

according to the number of positive correlations they have among other arguments. This method extracts the arguments that have more strong relations among other arguments. It is an unusual way to use the correlation matrix and because of that, there are multiple risks to interpret the results of this analysis wrongly. However, as the results were interesting, the method was still used and possible misinterpretations are discussed in the introduction of the subchapter 'Comparison within sets of data'. The same problems are also reminded during the actual analysis.

The methodologies for finding resemblances between different sets of data are comparison of means, correlation, and factor analyses. In the 'top ten' of key figures of Gregorian chant, different methodologies were tested and finally a system of raw scores was used. The qualitative additions had to be edited extensively. The reason was that some of the additions were written in a hurry and not in full sentences. So-called 'Internet English' was used frequently and among the respondents, many do not have English as their first language. Some additions were translated from German, French, and Estonian.

3.1.2 About the respondents

To find respondents for the questionnaire, I extended the method that was used to engage performers who had been willing to make a recording for this project (see page 247). For the latter purpose, I asked 90 performers all over the world. For additional possible respondents I searched the Internet and asked colleagues and friend for contacts of performers and experts of Gregorian chant.¹⁷² It must be said that the method of finding possible contributors was to some extent random. Thousands of people have some kind of contact with Gregorian chant performance. Even if we were only to consider the number of monasteries, we might have a vast selection of respondents. Very many choirs and ensembles who perform Gregorian chant are listed on the Internet. Apart from these two categories, there must be many congregations all over the world, where – notwithstanding the diminished use of Gregorian chant in liturgical practice – this repertoire is still used. In other words, this study could have been done on a much wider scale but would then have needed altogether a different approach – one which was not reasonably possible for a single person's research project over four years.

¹⁷² Please see the correspondence with the respondents as Appendix 10, vol 2, pp 489-493.

The selection of respondents is not quantitatively representative by classical sociological means because in this kind of questionnaire it is not possible to detect the level of quantitative representational quality. If we are doing a sociological enquiry in a country with 1,000,000 habitants for example, we know that it is enough to have a certain number of respondents to reach a level of representational quality. It would not be necessary to engage more respondents because after that amount of responses, the results do not make significant changes. It is not possible to detect how many people belong to the worldwide community of chant performers and scholars without researching every institution in the world where chant might be sung: monasteries, churches, scholarly institutions, to mention just a few. Therefore, it is also not possible to determine the size of a selection that would represent this community quantitatively. Thus, this sociological research can study only the responses of this particular selection of respondents; to broaden conclusions beyond this selection is unsound. It is however possible to mark universal tendencies in the answers of respondents, and to suggest that some of them might apply beyond this group, because of the availability of other sources that confirm the results of this questionnaire. For example, worldwide sociological questionnaires about people's religious values show that there is an overall tendency of 'believing, but not belonging' that suggests that religion is important apart from organized worship. According to the 'World Values Survey 2005-2008', only 20.7% of the respondents answered that they are active members of church or religious organisation.¹⁷³ At the same time, 49.5% of the respondents claimed that religion is very important for them and 22.5% stated that religion is rather important. Only 17% said that religion is not very important and 11% that religion is not at all important¹⁷⁴ (Website *World Values Survey*, accessed 3 September 2009). In my questionnaire, 23 respondents answered that they do not belong to a parish or a congregation.¹⁷⁵ 17 of them claimed religion to be quite important for them.¹⁷⁶ It is not within the scope of this dissertation to discuss

¹⁷³ The question in the 'World Value Survey' was following: V24.- Now I am going to read out a list of voluntary organizations; for each one, could you tell me whether you are a member, an active member, an inactive member or not a member of that type of organization? Church or religious organization.

¹⁷⁴ The question in the 'World Value Survey' was following: V9.- For each of the following aspects, indicate how important it is in your life. Religion.

¹⁷⁵ Question 149

¹⁷⁶ The question in my questionnaire was following: '146. How important is religion for you? The term "religion" is here taken as meaning the relationship with God. Please evaluate the statement on a scale of 1-8.' From 23 respondents who do not belong to a parish or a congregation 17 answered this

terminological, ideological, and practical differences of 'religiousness' and 'spirituality'. Wherever these terms are used, they refer to a generalised understanding of religion in which the term 'religion' is understood as relationship with God.

Another reason to suggest that results of the questionnaire might apply beyond this selection is a very clear tendency among responses that follow acknowledged understanding. For example, those respondents who consider religion 'more important'¹⁷⁷ also understand Gregorian chant more as 'prayer'.¹⁷⁸

The questionnaire was sent online to 215 respondents and on paper to 18 respondents. The respondents reacted as described in the following table.

Table 1. Number of respondents and amount of questions they completed.

Number of respondents	Number of online completed questions
90	154
1	120
1	114
2	111
1	84
4	74
1	68
1	42
2	41
10	31
1	27
1	19
1	18
1	5
1	3
2	1
22	0
73	0

Table 2. Number of questionnaires sent out on paper.

Questionnaires sent out on paper	Returned questionnaires on paper
18	11

In effect, 127 respondents¹⁷⁹ (54.51 %) out of 233 respondents¹⁸⁰ (100%) answered the questionnaire. Of those respondents who did not answer any questions, 22 (9.44%)

question with scale points 6-8.

¹⁷⁷ Question 146

¹⁷⁸ Question 18

¹⁷⁹ 116 online and 11 on paper

opened the online questionnaire but did not start answering. There were four respondents (1.72%), who answered five questions or fewer and therefore were treated equally with respondents who did not start answering. 73 respondents (31.33%) did not open the online questionnaire. Seven respondents (3%) who received their questionnaire on paper did not reply.

There are respondents from 21 nationalities. The biggest groups are Estonians (21 respondents), Americans (19 respondents), Germans (14 respondents), and British (13 respondents). In the following tables, 'frequency' (also 'freq') means the number of respondents that have answered positively to a particular question; 'percent' (also '%') represents a percentage from the whole selection (127 respondents); and 'valid percent' (also 'valid %') represents a percentage from respondents who have answered this particular question.

Table 3. Respondents according to 'What is your nationality?' (Q152); sorted by nationality.

		Frequency	Percent	Valid Percent
Valid	American	19	15.0	18.3
	Austrian	2	1.6	1.9
	Belgian	5	3.9	4.8
	Brazilian	1	0.8	1.0
	British	13	10.2	12.5
	Canadian	2	1.6	1.9
	Czech	1	0.8	1.0
	Dutch	3	2.4	2.9
	Estonian	21	16.5	20.2
	Finnish	3	2.4	2.9
	French	7	5.5	6.7
	German	14	11.0	13.5
	Spanish	1	0.8	1.0
	Hungarian	1	0.8	1.0
	Irish	1	0.8	1.0
	Italian	4	3.1	3.8
	Jewish	1	0.8	1.0
	Latvian	1	0.8	1.0
	Portuguese	1	0.8	1.0
	Swedish	1	0.8	1.0
	Swiss	2	1.6	1.9
Total		104	81.9	100.0
Missing	System	23	18.1	
Total		127	100.0	

A regrouping that proved to give interesting possibilities for comparison was the division between European and non-European respondents.

Table 4. Respondents according to 'What is your nationality?' (Q152); regrouped into European and non-European partition (q152.1).¹⁸¹

		Frequency	Percent	Valid Percent
Valid	European	82	64.6	78.8
	Non European	22	17.3	21.2
	Total	104	81.9	100.0
Missing	System	23	18.1	
Total		127	100.0	

As expected, the ratio between male and female respondents was in favour of male respondents. Unfortunately, it was not possible to regulate the balance between male and female respondents in this questionnaire. However, the female representation is sufficient to make comparisons on the partition of male and female. There are four respondents whose genders I do not know, because some respondents are not known to me by name.

Table 5. Respondents according to 'Are you male or female?' (Q153).

		Frequency	Percent	Valid Percent
Valid	Male	100	78.7	81.3
	Female	23	18.1	18.7
	Total	123	96.9	100.0
Missing	System	4	3.1	
Total		127	100.0	

For this research it was important to know if and how person's religiousness influences his/her evaluations on Gregorian chant. This knowledge is necessary to locate the position of Gregorian chant in a multi religious world where this kind of repertoire can be a part of religious activities outside of its acknowledged domain. Therefore, many questions were asked about aspects of religion and religious practice.

¹⁸¹ If the number of the question has a subsection number after a full stop, it means that the results of this question are regrouped. Another attribute that refers to regrouping is a regular 'q' at the beginning of the number of the question instead of capital 'Q'.

Table 6. Respondents according to ‘How important is religion for you? The term “religion” is here taken as meaning the relationship with God. Please evaluate the statement on a scale of 1-8¹⁸² (Q146); see also Appendix 9, vol 2, p 487.

		Freq	%	Valid %
Valid	1 (completely insignificant)	5	3.9	5.1
	4 (equally important with the other factors)	5	3.9	5.1
	5 (slightly more important than the other factors)	4	3.1	4.0
	6 (among the most important factors)	10	7.9	10.1
	7 (one of the most essential factors)	20	15.7	20.2
	8 (most important factor for me)	55	43.3	55.6
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

Respondents did not use scale points two and three at all. From the results, it can be seen that the overall tendency of respondents is towards religiousness. From 99 respondents who answered this question, 85 (85.5%) marked the importance of religion with a scale point six or higher. From all respondents, 55 (55.6%) marked the importance of religion with the highest scale point.

To use the results more effectively in comparison, I regrouped the respondents into two groups: (1) respondents with a tendency to consider religion less important and (2) respondents with tendency to consider religion more important. The first group is formed from those who answered on the scale 1-5 and the second group from 6-8.

Table 7. Respondents according to ‘How important is religion for you? The term “religion” is here taken as meaning the relationship with God. Please evaluate the statement on a scale of 1-8’ (Q146); regrouped into two partitions (q146.1).

		Freq	%	Valid %
Valid	Respondents who consider religion less important for themselves	14	11.0	14.1
	Respondents who consider religion more important for themselves	85	66.9	85.9
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

As expected, the majority of respondents consider religion ‘more important’. However, 14 respondents consider religion ‘less important’ and this still gives an opportunity to compare the answers of these two groups.

¹⁸² Descriptions of the values of the scale points in brackets were suggestive.

Table 8. Respondents according to 'Which church/denomination do you belong?' (Q150).

		Frequency	Percent	Valid Percent
Valid	Not belonging	23	18.1	21.9
	Anglican	4	3.1	3.8
	Baptist	2	1.6	1.9
	Episcopalian	3	2.4	2.9
	Lutheran	9	7.1	8.6
	Orthodox	2	1.6	1.9
	Reformed (Presbyterian)	1	0.8	1.0
	Roman catholic	57	44.9	54.3
	Free church	1	0.8	1.0
	Not specified pre-reformation	1	0.8	1.0
	Not specified post-reformation	1	0.8	1.0
	Not specified	1	0.8	1.0
	Total	105	82.7	100.0
Missing	System	22	17.3	
Total		127	100.0	

There is a wide distribution of denominational allegiance. From the previous table, it can be seen that there are three bigger groups among respondents: (1) respondents without denominational allegiance; (2) Roman catholic respondents; (3) respondents from other denominations. Grouping respondents in this way gives the possibility of analysing opinions in different partitions.

Table 9. Respondents according to 'Which church/denomination do you belong?' (Q150); regrouped into Roman Catholic and others (q150.3).

		Frequency	Percent	Valid Percent
Valid	Roman Catholic	57	44.9	54.3
	Other denominations	25	19.7	23.8
	Not belonging	23	18.1	21.9
	Total	105	82.7	100.0
Missing	System	22	17.3	
Total		127	100.0	

There were three questions concerning frequency of practice – 'Other than at church services, how often do you pray?'¹⁸³; 'How often do you read the Scriptures?'¹⁸⁴; 'How often do you attend church services?'¹⁸⁵.

¹⁸³ Question 147

¹⁸⁴ Question 148

¹⁸⁵ Question 145

Table 10. Respondents according to 'Other than church services how often do you pray?' (Q147); see also Appendix 9, vol 2, p 487.

		Frequency	Percent	Valid Percent
Valid	More than once a day.	50	39.4	50.5
	Almost every day.	18	14.2	18.2
	At least once a week.	5	3.9	5.1
	Few times a year or less.	4	3.1	4.0
	I do not pray at all.	7	5.5	7.1
	I prefer not to answer to this question.	15	11.8	15.2
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

These answers are regrouped into (1) more frequently praying respondents; (2) less frequently praying respondents; (3) respondents who do not pray at all; (4) respondents who preferred not to answer to this question.

Table 11. Respondents according to 'Other than church services how often do you pray?' (Q147); regrouped into more frequently and less frequently praying respondents (q147.1).

		Freq	%	Valid %
Valid	More frequently praying respondents	68	53.5	68.7
	Less frequently praying respondents	9	7.1	9.1
	Respondents who do not pray at all	7	5.5	7.1
	Respondents who preferred not to answer to this question.	15	11.8	15.2
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

Table 12. Respondents according to 'How often do you read the Scriptures?' (Q148); see also Appendix 9, vol 2, p 487.

		Frequency	Percent	Valid Percent
Valid	Every day	29	22.8	29.3
	Almost every day.	17	13.4	17.2
	At least once a week.	16	12.6	16.2
	At least once a month.	10	7.9	10.1
	Few times a year or less.	12	9.4	12.1
	I prefer not to answer to this question.	15	11.8	15.2
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

In the previous question, there were respondents who said that they do not pray at all, but in this question, no respondents stated that they do not read the Scriptures at all.

This is quite logical because the Scripture is the basic source of the texts for the Propers of Gregorian chant,¹⁸⁶ and even if the respondent does not practice religion in any way, he/she still in effect reads the Scriptures through performing sacred music. As in previous the question, the answers are regrouped into (1) more frequently Scripture reading respondents; (2) less frequently Scripture reading respondents; (3) respondents who do not read the Scriptures at all; (4) respondents who preferred not to answer to this question.

Table 13. Respondents according to 'How often do you read the Scriptures?' (Q148); regrouped into more frequently and less frequently Scripture reading respondents (q148.1).

		Frequency	Percent	Valid Percent
Valid	More frequently	46	36.2	46.5
	Less frequently	38	29.9	38.4
	Preferred not to answer to this question	15	11.8	15.2
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

In the question about attending church services, the latter was defined as mass, liturgy, prayer services, meditations, adoration, or other form of organized worship.¹⁸⁷ As with Scripture reading, there are no respondents who do not attend church services at all. This again is logical, as the singing of Gregorian chant originally belonged to the church service, and every performer of this repertoire will attend services because of his/her musical activities even if there is no religious affiliation. The same applies to Scripture reading.

Table 14. Respondents according to 'How often do you attend church services [...]?' (Q145); see also Appendix 9, vol 2, p 486.

		Frequency	Percent	Valid Percent
Valid	Every day	26	20.5	26.3
	Almost every day.	6	4.7	6.1
	At least once a week.	46	36.2	46.5
	At least once a month.	13	10.2	13.1
	Few times a year or less.	8	6.3	8.1
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

¹⁸⁶ The repertory of Gregorian chant consists of 'ordinary' and 'proper'. The first comprises of texts that do not change during the church year, for example 'Kyrie' and 'Agnus Dei'. The latter comprises chants with special texts for every Sunday and feast day during the church year, for example 'Introit' and 'Gradual'. The texts are usually from the Scriptures.

¹⁸⁷ Question 145

In regrouping answers to this question, I considered frequent attendees to be those respondents who attend church service at least once a week. The principle was different with praying and reading the Scriptures, where this activity at least once a week did not qualify as 'frequent'.

Table 15. Respondents according to 'How often do you attend church services [...]?' (Q145); regrouped into frequent attendees and less frequent attendees (q145.1).

		Frequency	Percent	Valid Percent
Valid	Frequent attendees	78	61.4	78.8
	Less frequent attendees	21	16.5	21.2
	Total	99	78.0	100.0
Missing	System	28	22.0	
Total		127	100.0	

The age¹⁸⁸ of the respondents, vary from 28 to 87. The distribution of age of the respondents is wide and continuous. For analyses with other groups, three partitions were formed: (1) under 40; (2) 41-60; (3) over 60.

Table 16. Respondents according to 'What is your age?' (Q151); regrouped into three partitions (q.151.1); see also Appendix 9, vol 2, p 488.

		Frequency	Percent	Valid Percent
Valid	Under 40	28	22.0	28.0
	41-60	50	39.4	50.0
	over 60	22	17.3	22.0
	Total	100	78.7	100.0
Missing	System	27	21.3	
Total		127	100,0	

Even more important than the respondent's age was the question of when he or she started his/her activities in Gregorian chant. The starting year varies among respondents from 1934 to 2003. I have regrouped this data into: (1) before 1950; (2) 1951-1970; (3) 1971-1985; (4) after 1985.

¹⁸⁸ Respondents age on the day he/she filled the questionnaire.

Table 17. Respondents according to 'When (what year) did you start your activities concerning Gregorian chant?' (Q111); regrouped into four partitions (q111.1); see also Appendix 9, vol 2, p 485.

		Frequency	Percent	Valid Percent
Valid	Before 1950	9	7.1	8.7
	1951-1970	19	15.0	18.3
	1971-1985	32	25.2	30.8
	After 1985	44	34.6	42.3
	Total	104	81.9	100.0
Missing	System	23	18.1	
Total		127	100.0	

About respondents' musical education and activities, it was asked: 'What is your musical education?',¹⁸⁹ 'Do you sing more at concerts or at church services?',¹⁹⁰ 'How often do you sing, conduct, or study Gregorian chant?',¹⁹¹ and 'Do you sing/conduct or study music other than Gregorian chant?'.¹⁹²

Table 18. Respondents according to 'What is your musical education?' (Q110); see also Appendix 9, vol 2, p 484.

		Freq.	%	Valid %
Valid	I have no special musical education.	9	7.1	8.7
	I have elementary musical education.	24	18.9	23.1
	I have a higher musical education.	38	29.9	36.5
	I have a masters' or doctoral (or equivalent) degree in music.	33	26.0	31.7
	Total	104	81.9	100.0
Missing	System	23	18.1	
Total		127	100.0	

Table 19. Respondents according to 'Do you sing more at concerts or at church services?' (Q127).

		Frequency	Percent	Valid Percent
Valid	More at concerts.	22	17.3	21.8
	More at church services	60	47.2	59.4
	More or less equally	19	15.0	18.8
	Total	101	79.5	100.0
Missing	System	26	20.5	
Total		127	100.0	

¹⁸⁹ Question 110

¹⁹⁰ Question 127

¹⁹¹ Question 130

¹⁹² Question 131

Table 20. Respondents according to 'How often do you sing, conduct, or study Gregorian chant?' (Q130); see also Appendix 9, vo2 x, p 486.

		Frequency	Percent	Valid Percent
Valid	Several times a day.	25	19,7	24,8
	Almost every day.	37	29,1	36,6
	At least once a week	29	22,8	28,7
	At least once a month	7	5,5	6,9
	Few times a year or less.	3	2,4	3,0
	Total	101	79,5	100,0
Missing	System	26	20,5	
Total		127	100,0	

Table 21. Respondents according to 'How often do you sing, conduct, or study Gregorian chant?' (Q130); regrouped into more frequent and less frequent singers/conductors /scholars (q130.1).

		Frequency	Percent	Valid Percent
Valid	More frequent	62	48.8	61.4
	Less frequent	39	30.7	38.6
	Total	101	79.5	100.0
Missing	System	26	20.5	
Total		127	100.0	

Table 22. Respondents according to 'Do you sing/conduct or study music other than Gregorian chant?' (Q131).

		Frequency	Percent	Valid Percent
Valid	Yes	92	72.4	91.1
	No	9	7.1	8.9
	Total	101	79.5	100.0
Missing	System	26	20.5	
Total		127	100.0	

3.1.2.1 A summary of the description of the selection of the respondents

The performers and experts of Gregorian chant who participated in this project represent altogether 21 nationalities. The biggest groups are Estonians (21), Americans (19), Germans (14), and British (13). There are more European respondents (78.8%) than non-European ones (21.2%). 81.3% of the respondents are male and 18.7% are female.

The selection of the respondents consists mainly of performers who consider religion important for them. The respondents are from various Christian denominations and the biggest group is formed by Roman Catholic (54.3%) respondents. It can be said that most respondents do practice their religion frequently. For example, more than half (50.5%) of the respondents pray more than once a day.

The vast majority of the respondents (91.1%) sing/conduct or study other music than Gregorian chant. The majority of the respondents (61.4%) are frequent users of Gregorian chant and their performance is more likely to take place during a church service than a concert. The respondents are musically well educated – only 8.7% have no special musical education. More than half of the respondents (68.2%) have higher musical education. The age of the respondents vary from 28-87 years and they have different experiences in Gregorian chant.

Although there is a great dominance in many partitions, for example male/female and more religious/less religious, there are still enough respondents with alternative features in most cases to conduct a comparison between these different groups.

3.2 Analyses of the raw data

3.2.1 Some explanations on quantitative scale questions and variance

In the scale questions, the scale points were given a suggestive value: (1) in no way means that; (2) essentially does not mean that; (3) means that to a small extent but not significantly; (4) means that to a certain extent; (5) means that to a moderate extent; (6) means that to a great extent, belonging in fact to the essential meanings; (7) is one of the most essential meanings; (8) is the primary meaning, the most essential, for me. It is not a usual practice to add this kind of suggestive values to the scale because it is believed that it distorts the dynamics of the scale. However, in the course of the pilot questionnaire¹⁹³ that I made before launching the main project, most of the respondents said it was complicated, if not impossible, to evaluate these arguments on a scale without having any suggestive values for the scale points. It is important to stress that the respondents were asked to evaluate statements on the scale, not to select a variant. Therefore, the results of the scale questions can be considered as continuous data. The suggestions for the scale points are not added to all questions in this chapter but they are all available in the full text of the questionnaire in the appendix as well as in the frequency tables.

In the following tables (questions 1-27; 42-71; 85-93; 107-109), column 'Q' gives the numbers of the questions as in the questionnaire; column 'Responses' or 'R' gives the number of respondents who answered to this question;¹⁹⁴ column 'Mean' or 'M' gives arithmetical average¹⁹⁵ of answers to the particular question; column 'Variance'¹⁹⁶ or 'V' gives an index of disagreement, i.e. the bigger the index, the bigger the disagreement among respondents. The connection between variance and standard deviation is static, in other words variance equals square of standard deviation and therefore there is no statistical difference, which is used. Variance was preferred to standard deviation because of its terminological clarity. For example, if the 'variance' is low, it means that respondents tend to agree on the importance or unimportance of a particular argument – see table 23.

¹⁹³ There were 10 respondents in the pilot project.

¹⁹⁴ The number for 'Responses' differs because not every respondent answered all questions.

¹⁹⁵ The mean is calculated by adding up all values and dividing by number of values. In the particular case, all values given by respondents to a particular question are added up and divided by the number of respondents.

¹⁹⁶ The way of calculating variance is following: (1) calculate the mean; (2) subtract the mean individually from each of the numbers given, square the result and add up the results; (3) divide with number of values - 1. Standard deviation equals the square root of variance.

Table 23. 'Gregorian chant for me means prayer' (Q18); variance is low (2.4) because many answers tend towards scale point eight.

Scale from 1 to 8	R
1 (In no way means that.)	3
2 (Essentially does not mean that.)	1
3 (Means that to a small extent but not significantly.)	2
4 (Means that to a certain extent.)	3
5 (Means that to a moderate extent.)	6
6 (Means that to a great extent, belonging in fact to the essential meanings.)	9
7 (Is one of the most essential meanings.)	23
8 (Is the primary meaning, the most essential, for me.)	79
Total	126

If the variance is high, the respondents tend to disagree on the importance or unimportance of a particular argument – see table 24.

Table 24. 'Gregorian chant, for me, means any kind of monodic Latin liturgical chant' (Q5); variance is high, (5.56) because answers distribute equally among scale points one to eight.

Scale from 1 to 8	R
1 (In no way means that.)	31
2 (Essentially does not mean that.)	22
3 (Means that to a small extent but not significantly.)	12
4 (Means that to a certain extent.)	19
5 (Means that to a moderate extent.)	10
6 (Means that to a great extent, belonging in fact to the essential meanings.)	10
7 (Is one of the most essential meanings.)	12
8 (Is the primary meaning, the most essential, for me.)	11
Total	127

The variance would be minimal (0), if all answers were to bunch up under one scale point; the variance would be maximal (14) if half of the respondents were to have given the lowest scale points and half of the respondents the highest scale points.

3.2.2 What does Gregorian chant mean?

3.2.2.1 'What does Gregorian chant mean for you? (both as a term and as a phenomenon)' (Q 1-27).

In this set of quantitative scale questions, the respondents were asked to evaluate 27 arguments on the scale from one to eight. The means of the answers to questions 1-27

vary from 1.4 for the argument 'a boring duty that I need to do routinely'¹⁹⁷ (lowest possible is one) to 7.14 for the argument 'prayer'¹⁹⁸ (highest possible is eight). Variance of questions 1-27 varies from 1.27 for 'a boring duty that I need to do routinely'¹⁹⁹ (lowest possible is 0) to 5.56 for 'any kind of monodic Latin liturgical chant'²⁰⁰ (highest possible is 14).

To analyse blocks of questions of this type,²⁰¹ the main concentration is on the results of extreme arguments. This way it is possible to see tendencies that most significantly differ from each other. If means are observed together with variance, it will be seen whether there is more agreement in more important aspects than less important aspects. Observing extreme results in the combination of mean and variance gives us a picture about three extreme points: (1) respondents agree in importance of the argument; (2) respondents agree about unimportance of the argument; (3) respondents disagree about importance/unimportance of the argument. We also see the evolution from one point to another. However, because of the limited selection of respondents, it is more plausible to concentrate on clear and extreme differences.

In the following table, the arguments are sorted according to the means of the answers. To gain better observation quality, there was a need to divide the observed column vertically into two and have a group with higher values and a group with lower values. The question was, where should the separation point be? It would have been possible to calculate the separation point using different statistical averages.²⁰² However, I decided to make separation of two groups from the arithmetical middle point (henceforth AMP²⁰³) of a particular column. In this case, the lowest mean is added to the highest mean and divided by two (4.3).²⁰⁴ Means smaller than 4.3 form one group and means bigger than 4.3 form another group. Groups are highlighted with different colours. Most of the following tables are optimised for better visual observation. For example, in this table, the beginning of every argument 'Gregorian

¹⁹⁷ Question 27

¹⁹⁸ Question 18

¹⁹⁹ Question 27

²⁰⁰ Question 5

²⁰¹ Questions 1-27; 42-71; 85-93; 107-109

²⁰² Different forms of statistical average are mean, median, mode, and range.

²⁰³ AMP is not a standard statistical method. It is different from mean (arithmetical average) because in AMP only the lowest and the highest values are taken into consideration. It is the optimal separation method because it takes into consideration the range of a specific column rather than all the values in the column.

²⁰⁴ $AMP = (1.40 + 7.14) : 2 = 4.3$

chant for me means' is omitted and a smaller font is used. Very long arguments are shortened by omitting some text from other parts of the argument. All omitted segments in the tables are marked with [...]. For a better reading quality omissions in the text are not marked with square brackets. Arguments in the text are marked with “ and there is a reference to a particular argument in the footnote. In few cases, square brackets are also used if there is a variable text within the argument. For an example, please see the headline of the following table.

Table 25. Number of responses, mean values, and variance of the answers to the questions 1-27 'Gregorian chant for me means [an argument]'; sorted by mean; AMP=4.3; please see the table also as Appendix 11, vol 2, p 494.

Q	An Argument	R	M	V
27	[...] a boring duty that I need to do routinely.	124	1.40	1.27
17	[...] musical text, performed in a theatrical manner.	126	1.98	2.10
8	[...] an opportunity for career enhancement.	127	2.49	4.00
4	[...] exciting repertory that can be used to fill concert programmes.	127	3.67	4.22
5	[...] any kind of monodic Latin liturgical chant.	127	3.69	5.56
14	[...] a method of composing liturgical music.	126	3.80	4.56
20	[...] a bridge to Pre-Christian cultures and spiritualities.	124	3.82	4.29
26	[...] one vocal repertory among many others.	124	4.23	3.92
12	[...] a collection of medieval manuscripts and liturgical texts.	126	4.37	3.23
10	[...] an opportunity to investigate medieval notation.	127	4.45	3.68
23	[...] an opportunity to introduce interesting music [...] to the audience.	124	4.77	4.18
13	[...] a broad-based domain of musicology and liturgics.	126	4.90	3.29
6	[...] beautiful melodies.	127	5.02	4.02
1	[...] a way of life.	127	5.19	3.71
7	[...] inspiration for my musical activities.	127	5.35	3.74
11	[...] liturgical song, to be interpreted according to certain rules.	127	5.43	3.60
16	[...] a way of musical thinking.	126	5.46	3.75
24	[...] a form of teaching about the Word of God [...].	125	5.65	3.67
22	[...] meaningful texts.	124	5.97	2.57
9	[...] Roman Catholic liturgical music.	127	6.04	4.28
25	[...] a part of my activities as musician.	124	6.06	2.72
3	[...] Franco-Roman chant, a part of Latin sacred monody.	127	6.10	3.28
19	[...] medieval monodic liturgical chant of the Western church [...].	125	6.12	3.19
21	[...] thematically coherent and textually complete repertory [...].	124	6.14	2.97
2	[...] the foundation of European professional musical culture.	127	6.15	3.30
15	[...] sacred text, illuminated by music.	126	6.25	3.32
18	[...] prayer.	126	7.14	2.41

In the next table, the same results are sorted by variance. Groups that were formed according to means are highlighted as in the previous table. Variances are separated into two groups from AMP (3.4)²⁰⁵ and respectively highlighted.

²⁰⁵ AMP=(1.27+5.56):2=3.4

Table 26. Number of responses, mean values, and variance of the answers to the questions 1-27 'Gregorian chant for me is [an argument]'; sorted by variance; AMP=3.4; please see the table also as Appendix 12, vol 2, p 495.

Q	An Argument	R	M	V
27	[...] a boring duty that I need to do routinely.	124	1.40	1.27
17	[...] musical text, performed in a theatrical manner.	126	1.98	2.10
18	[...] prayer.	126	7.14	2.41
22	[...] meaningful texts.	124	5.97	2.57
25	[...] a part of my activities as musician.	124	6.06	2.72
21	[...] thematically coherent and textually complete repertory [...].	124	6.14	2.97
19	[...] medieval monodic liturgical chant of the Western church [...].	125	6.12	3.19
12	[...] a collection of medieval manuscripts and liturgical texts.	126	4.37	3.23
3	[...] Franco-Roman chant, a part of Latin sacred monody.	127	6.10	3.28
13	[...] a broad-based domain of musicology and liturgics.	126	4.90	3.29
2	[...] the foundation of European professional musical culture.	127	6.15	3.30
15	[...] sacred text, illuminated by music.	126	6.25	3.32
11	[...] liturgical song, to be interpreted according to certain rules.	127	5.43	3.60
24	[...] a form of teaching about the Word of God [...].	125	5.65	3.67
10	[...] an opportunity to investigate medieval notation.	127	4.45	3.68
1	[...] a way of life.	127	5.19	3.71
7	[...] inspiration for my musical activities.	127	5.35	3.74
16	[...] a way of musical thinking.	126	5.46	3.75
26	[...] one vocal repertory among many others.	124	4.23	3.92
8	[...] an opportunity for career enhancement.	127	2.49	4.00
6	[...] beautiful melodies.	127	5.02	4.02
23	[...] an opportunity to introduce interesting music [...] to the audience.	124	4.77	4.18
4	[...] exciting repertory that can be used to fill concert programmes.	127	3.67	4.22
9	[...] Roman Catholic liturgical music.	127	6.04	4.28
20	[...] a bridge to Pre-Christian cultures and spiritualities.	124	3.82	4.29
14	[...] a method of composing liturgical music.	126	3.80	4.56
5	[...] any kind of monodic Latin liturgical chant.	127	3.69	5.56

This table shows that three 'most agreeable' aspects (arguments with lowest variance) are two arguments with lowest means – 'a boring duty that I need to do routinely'²⁰⁶ and 'musical text, performed in a theatrical manner'²⁰⁷ – and one argument with highest mean – 'prayer'.²⁰⁸ That suggests that respondents tend to agree about the aspects that they consider most unimportant and arguments that they consider most important.

However, looking only at the table sorted by variance will not give a full picture because it provides a list of nominal values of means sorted by variance. In this list, two arguments with almost equal variants can be next to each other, but they can have means that differ significantly more than the variances. For example:

Q	An Argument	R	M	V
3	[...] Franco-Roman chant, a part of Latin sacred monody.	127	6.10	3.28
13	[...] a broad-based domain of musicology and liturgics.	126	4.90	3.29

²⁰⁶ Question 27

²⁰⁷ Question 17

²⁰⁸ Question 18

The variance deviates 0.01 but the mean deviates 1.2. These two arguments are similar by agreement of the respondents but they are different by importance. Therefore, it is necessary to calculate the relationship between mean and variance. By this, we can see the 'distance' between the mean and the variance. If the distance is bigger, then the agreement about importance/unimportance is also bigger. For that purpose, deviation or ratio can be used. In the first case, a difference between two values is calculated by subtracting one from the other. By this, we get a difference between two values, or in other words, how much one value deviates from the other. Another way to do this would be to get a ratio of mean and variance. In the following table, both possibilities are shown.

Table 27. Number of responses, mean values, variance, ratio of mean and variance, subtraction of mean and variance, position of the arguments in the table of the answers to the questions 1-27 'Gregorian chant for me means [an argument]'; sorted by the subtraction of mean and variance ('M-V'); please see the table also as Appendix 13, vol 2, p 496.

Q	An Argument	R	M	V	M/V	M-V	P
5	[...] any kind of monodic Latin liturgical chant.	127	3.69	5.56	0.66	-1.87	1
8	[...] an opportunity for career enhancement.	127	2.49	4.00	0.62	-1.51	2
14	[...] a method of composing liturgical music.	126	3.80	4.56	0.83	-0.76	3
4	[...] exciting repertory that can be used to fill concert programmes.	127	3.67	4.22	0.87	-0.55	4
20	[...] a bridge to Pre-Christian cultures and spiritualities.	124	3.82	4.29	0.89	-0.47	5
17	[...] musical text, performed in a theatrical manner.	126	1.98	2.10	0.94	-0.12	6
27	[...] a boring duty that I need to do routinely.	124	1.40	1.27	1.11	0.14	21
26	[...] one vocal repertory among many others.	124	4.23	3.92	1.08	0.31	20
23	[...] an opportunity to introduce interesting music [...].	124	4.77	4.18	1.14	0.59	19
10	[...] an opportunity to investigate medieval notation.	127	4.45	3.68	1.21	0.77	18
6	[...] beautiful melodies.	127	5.02	4.02	1.25	1.00	17
12	[...] a collection of medieval manuscripts and liturgical texts.	126	4.37	3.23	1.35	1.14	16
1	[...] a way of life.	127	5.19	3.71	1.40	1.48	15
7	[...] inspiration for my musical activities.	127	5.35	3.74	1.43	1.61	14
13	[...] a broad-based domain of musicology and liturgics.	126	4.90	3.29	1.49	1.61	13
16	[...] a way of musical thinking.	126	5.46	3.75	1.45	1.71	12
9	[...] Roman Catholic liturgical music.	127	6.04	4.28	1.41	1.76	11
11	[...] liturgical song, to be interpreted according to certain rules.	127	5.43	3.60	1.51	1.83	10
24	[...] a form of teaching about the Word of God [...].	125	5.65	3.67	1.54	1.99	9
2	[...] the foundation of European professional musical culture.	127	6.15	3.30	1.86	2.82	8
3	[...] Franco-Roman chant, a part of Latin sacred monody.	127	6.10	3.28	1.86	2.85	7
15	[...] sacred text, illuminated by music.	126	6.25	3.32	1.88	2.93	6
19	[...] medieval monodic liturgical chant of the Western church [...].	125	6.12	3.19	1.92	2.93	5
21	[...] thematically coherent and textually complete repertory [...].	124	6.14	2.97	2.07	3.18	4
25	[...] a part of my activities as musician.	124	6.06	2.72	2.23	3.34	3
22	[...] meaningful texts.	124	5.97	2.57	2.32	3.40	2
18	[...] prayer.	126	7.14	2.41	2.96	4.73	1

For the ratio of mean and variance, an abbreviation 'M/V' is used. This column is also segmented into two groups from AMP 1.8.²⁰⁹ In column 'M-V' there are subtraction of mean and variance. This column is separated so that positive values form one group and negative values are in the other group. This segmentation gives an interesting possibility to observe the column as a kind of 'thermometer'. In the column 'P' there are positions of the arguments starting from both sides of the chart and meeting up at the zero point of the column 'M-V'.

Sorting the table according to 'M-V' corrects some aspects that were problematic in the table that was sorted only according to variance. Although the table is not perfectly arranged by means, the two groups – that of lower means and higher means compiled in Table 25 – are perfectly intact. With minor exceptions, 'M/V' follows the dynamics of 'M-V'. The table is sorted and analysed by column 'M-V' because it resembles a kind of 'thermometer', whose zero point is between arguments 17 and 27. The higher the 'temperature' gets from the zero point, the bigger is the difference between mean and variance. In other words, a rise of 'temperature' indicates an increase of agreement about what Gregorian chant is. If the temperature starts to drop below zero, the difference between mean and variance starts to increase again, but this time it is a negative figure. In other words, a fall in the 'temperature' shows an increase of disagreement about what Gregorian chant is, or is not. When the 'temperature' approaches zero, mean and variance are coming closer to each other. Around zero, therefore, we find the arguments that the respondents consider most unimportant – and they also agree about that.²¹⁰ This can be seen perfectly in arguments 17 and 27, which are on both sides of the zero point. They have very low means – 1.98 (argument 17) and 1.4 (argument 27) – and very low variance respectively 2.1 and 1.27. That makes their 'M-V' respectively -0.12 and 0.14 and positions them on both sides of the zero point.

Apart from the statistical aspect, it is also interesting to look at what the most favoured meanings of Gregorian chant for the respondents are. For that purpose, I use Table 27 (see the table also as Appendix 13, vol 2, p 496.), in which the results are sorted by the subtraction of mean and variance.

²⁰⁹ AMP=(0.62+2.96):2=1.8

²¹⁰ It can occur that both mean and variance are low but it cannot be that they both are high. For example, if there are eight respondents and all answer '1' then the mean is one and variance is zero. If they all answer eight, then the mean is also eight but variance is still zero. That rules out the possibility that an argument with high mean can get close to the zero point.

The argument with the highest mean, 7.14, is 'prayer'.²¹¹ It is not just the argument with the highest mean but it is at a quite 'secure distance' from other arguments. The closest mean is 6.25 'sacred text illuminated by music'.²¹² In the table, its 'temperature' is 2.93, which puts it in the sixth highest position. There is an argument about text in a higher place 5.97 – 'meaningful texts'²¹³ is in second highest position. Another argument that connects with texts and occupies a high place is 6.14 'thematically coherent and textually complete repertoire for the whole church year',²¹⁴ which is in fourth highest position. The same cannot be said about the text related argument, 'a form of teaching about the Word of God and what the teaching expresses'²¹⁵ with mean of 5.65 which stands in ninth highest position with 'temperature' of 1.99. Among arguments with high means, in third highest position is 'a part of my activities as a musician'²¹⁶ with a mean of 6.06. The vast majority (91.1%) of all respondents sings, conducts, or studies other music besides Gregorian chant. It is significant that respondents consider Gregorian chant as a part of their *musical* activities. It suggests that Gregorian chant is not, in fact, an isolated and separate repertoire for most of the respondents, but just a part of their musical lives. It is important to note that in twentieth highest place, there is an argument, which says that Gregorian chant is 'one vocal repertoire among the others'.²¹⁷ This argument has a mean (4.23) below APM and is only one place away from the zero point, where two most highly agreed unimportant arguments are situated. It shows that although Gregorian chant is a part of the respondents' musical activities, it holds an important place in their lives and is *not* just one vocal repertoire among the others. In thirteenth highest position, there is an argument, which says that 'Gregorian chant is an inspiration for the respondents' musical activities'.²¹⁸ This argument has a mean of 5.35 and variance 3.71, which positions it among fairly important arguments and suggests that Gregorian chant also plays an important role for respondents in performing other repertoire.

²¹¹ Question 18

²¹² Question 15

²¹³ Question 22

²¹⁴ Question 21

²¹⁵ Question 24

²¹⁶ Question 25

²¹⁷ Question 26

²¹⁸ Question 25

On the other side of the chart, there are arguments like ‘an opportunity for career enhancement’,²¹⁹ ‘any kind of monodic Latin liturgical chant’,²²⁰ and ‘a method of composing liturgical music’.²²¹

3.2.2.2 Qualitative additions to the question ‘What does Gregorian chant mean to you?’ (Q 28-31)

There were many qualitative additions made by the respondents, which shows the diversity and richness in the understanding of Gregorian chant. It also gives an indication of dedication of the respondents towards the repertoire. From all respondents, 52 made a total of 83 additions on this set of questions. Six additions were not rationally understandable – they consisted of question or exclamation marks and/or single letters. It was possible to make a maximum of four comments for one respondent. Respondents made additions as follows: six respondents made four additions; two respondents made three additions; nine respondents made two additions; 35 respondents made one addition. It was also possible for the respondents to evaluate the added arguments on the eight-point scale. No respondents added aspects that they considered less important than four on the eight-point scale. The vast majority of evaluations were seven and eight. There were only two fours and nine sixes. The mean of added arguments is 7.25. This figure is only illustrative and cannot be used in any statistical manipulations. However, it shows that the additions are of a positive rather than a negative character.

It is not possible to classify the additions into clearly defined groups. Some additions mention many aspects and some are so vague that it is not possible to classify them. However, the classification of qualitative additions is not an issue here.

Most of the additions were elaborations of already-existing arguments. The argument that had the highest mean and the third lowest variance – ‘prayer’²²² – was the most commonly elaborated argument (15 additions). In addition to simple elaborations like ‘sung prayer’, an important aspect that was stressed by many respondents was a ‘communality of prayer’ that Gregorian chant represents. There were three different levels of communality expressed: (1) praying together with fellow

²¹⁹ Question 8

²²⁰ Question 5

²²¹ Question 14

²²² Question 18

singers; (2) praying together with those who are listening; (3) praying together as the Church: 'a form of liturgical music that is perfectly suited for the celebration of the Mass or any communal prayer in the Roman Catholic Church, since it crosses all national and cultural boundaries'. One respondent pointed out a very important communal aspect of Gregorian chant: 'an essential element for building a religious (or quasi-religious) community'.

The unifying character of Gregorian chant was also mentioned outside of the aspect of 'prayer' (4 additions): it was written to be 'the focal point of a musical and social community'; 'a singing together in unison with friends'; 'a way to meet other cultures and people in deep dialogue'.

Another interesting comment was that Gregorian chant is 'method of praying'. This resonates with further additions that elaborate the aspect of Gregorian chant as a method of composing liturgical music. It is interesting to note that prayer in some comments is referred to as 'art' or 'method' and that there are claimed to be 'clearly defined rules' to practice it. It was also mentioned that Gregorian chant is at the same time both art and prayer: 'music which is entire art and entire prayer; an integral part of revelation' or 'a liturgical prayer of the highest artistic and historical level'. Some respondents open the 'meaning of Gregorian chant' question with longer statements than just a few words: Gregorian chant, for them means 'the art of prayer and spiritual practice with clearly defined rules'; 'a kind of prayer that begins where words are no longer sufficient'; 'a historically transcendent form of prayer that touches the minds, hearts, and souls of human beings in a way no other musical form of prayer can'. The idea of prayer was also rephrased as 'praise': 'the greatest praise and particularly Christian praise'. The beauty and simplicity of a prayer through Gregorian chant was also mentioned: 'beautiful prayer, plain and simple'. There is also an interesting comment that suggests that Gregorian chant itself is not prayer, but instead is a 'sacred musical incarnation of liturgical prayer'.

A fairly large group of additions – nine in all – was about different aspects of text: (1) unity of text and music: 'the wedding of Sacred Text with Gregorian melody'; (2) vehicle of the text: 'modal atmospheres carrying the text'; (3) music as a result of pronunciation or proclamation of the text: 'a sacred text elevated beyond speech' or 'Word of God that becomes alive through singing'; (4) music as a tool to understand

the text: 'a tool helping to penetrate to the profound meaning of biblical texts and Christ's teaching'.

Many additions (15) described Gregorian chant with different spiritual values from different angles. Some values in these descriptions were peace, love, spiritual self-arrangement, purification, spiritual values, healing, and meditation. Some respondents stressed a personal relationship with Gregorian chant: 'my spiritual life' or 'a big part of my spiritual life'. Gregorian chant was also described as 'an expression of human spirituality'.

Some of the comments (ten additions) were simply repetitions of arguments presented in the questionnaire or slight variations. For example, one addition specified the meaning of Gregorian chant as a bridge to pre-Christian cultures as 'one way to temple and Synagogue music' and two additions stressed Gregorian chants function as a teaching material of medieval music.

So far, I have described qualitative additions that more or less comment and/or duplicate arguments from the questionnaire. From this point forward, the additions have a character that is more original. Some of the statements (seven additions) were very dogmatic and/or philosophical. Most of them were so carefully formulated that it would be unfair not to present them in full: Gregorian chant, for me means (1) 'a profoundly Christ-centric engagement of the people of God with the mystery of redemption'; (2) 'the expression of the eternal song on the Earth, that the Son gave to the Father by the Holy Spirit in the Trinity; the love song of the Church to her husband, Jesus Christ, and the beginning of the eternal chant that we will sing to God'; (3) 'not art nor end in itself, but only part of the heritage of sacred Christian art in service of the universal church'; (4) 'sung poetry expressing a unity of the good, the true and the beautiful that transcends Christianity and touches upon the heart of all religions and the meaning of mankind'; (5) 'a possibility of cognition of presence of the Living Spirit of Truth'; (6) 'hope on God's grace and mercy'; (7) 'a possibility to be spiritually connected with performers of music from oral traditions and their spirituality through all times'.

A group that consists of evaluations of Gregorian chant from the perspective of history (six additions) has some original statements: Gregorian chant, for me, means (1) 'an example of one melismatic style from history'; (2) 'a reliable hint how the texts of Bible were interpreted in medieval spirituality'.

To conclude the description of qualitative additions to this set of questions, I present four additions that were in my opinion most original. One respondent described Gregorian chant as ‘an essential element in the restoration of the traditional Latin Mass’. One respondent said Gregorian chant was ‘musical freedom’ and two respondents wrote that Gregorian chant for them means ‘a great pleasure to teach and sing’ and ‘happiness’.

3.2.2.3 A summary of the analyses of the set of questions 1-31

In this set of questions, respondents tend to agree about the aspects that they consider most unimportant and arguments that they consider most important. According to the results of the quantitative questions, the respondents agree that Gregorian chant is a ‘prayer’²²³ with ‘meaningful texts’²²⁴ and that it is ‘a part of their activities as a musician’.²²⁵ There are two arguments about whose unimportance the respondents agree – Gregorian chant is not ‘a musical text, performed in a theatrical manner’²²⁶ or ‘a boring duty that they have to do routinely’.²²⁷ Further, on the side of disagreement, there are arguments, which have lower means but higher variance, suggesting that they are less important; but many respondents disagree about that. It is quite logical that in basic terms, Gregorian chant is not ‘any kind of monodic Latin liturgical chant’²²⁸ and usually it is not ‘an opportunity for career enhancement’,²²⁹ but it is perfectly understandable that these aspects can be important for some respondents. The same applies to arguments, which state that Gregorian chant is ‘a method of composing liturgical music’,²³⁰ ‘an exciting repertoire that can be used to fill concert programmes’,²³¹ and ‘a bridge to Pre-Christian cultures and spiritualities’.²³² However there is a very clear distinction between these arguments and arguments ‘a

²²³ Question 18

²²⁴ Question 22

²²⁵ Question 25

²²⁶ Question 17

²²⁷ Question 27

²²⁸ Question 5

²²⁹ Question 8

²³⁰ Question 14

²³¹ Question 4

²³² Question 20

musical text, performed in a theatrical manner²³³ and ‘a boring duty that they have to do routinely’,²³⁴ which logically could not have got much positive response.

Among the qualitative additions, there were statements that elaborated already-described features. At the same time, original and well-elaborated additions opened up understanding of how deep and complicated understanding of Gregorian chant can be. The latter-described qualitative additions varied from describing Gregorian chant as ‘a method to understand medieval interpretation of the Holy Scriptures’ to dogmatic renditions and personal religious statements. There were valuable additions concerning the aspect of communality of the prayer that reflect an omission on my own behalf.

3.2.3 What is important for a good performance of Gregorian chant?

3.2.3.1 ‘What do you consider important for a good performance of Gregorian chant?’ (Q 42-71)

In this set of quantitative scale questions, the respondents were asked to evaluate 30 arguments on the scale from one to eight. The method of analyses is the same as with questions 1-27. Means of answers to the questions 42-71 vary from 2.49²³⁵ for the argument ‘an accurate costume?’²³⁶ (lowest possible is one) to 6.90²³⁷ for the argument ‘understanding of what the text means’²³⁸ (highest possible is eight). Variance of questions 42-71 varies from 1.58²³⁹ for the argument ‘understanding of what the text means’²⁴⁰ (lowest possible is 0) to 5.06²⁴¹ for ‘theoretical knowledge of paleography’²⁴² (highest possible is 14).

In the following table, the arguments are sorted according to the means of the answers. The means are divided into two sections according to AMP 4.7.²⁴³ Sections are respectively highlighted with different colours.

²³³ Question 17

²³⁴ Question 27

²³⁵ The lowest mean in the previous set of questions (1-27) was 1.4.

²³⁶ Question 63

²³⁷ The highest mean in the previous set of questions (1-27) was 7.14.

²³⁸ Question 70

²³⁹ The lowest variance in the previous set of questions (1-27) was 1.27.

²⁴⁰ Question 70

²⁴¹ The highest variance in the previous set of questions (1-27) was 5.56.

²⁴² Question 66

²⁴³ AMP=(2.49+6.9):2=4.7

Table 28. Number of responses, mean values and variance of the answers to the questions 42-71 'How important is [an argument] for a good performance of Gregorian chant?'; sorted by mean; AMP=4.7; please see the table also as Appendix 14, vol 2, p 497.

Q	An Argument	R	M	V
63	[...] an accurate costume [...]?	110	2.49	2.64
56	[...] imitation of one's teacher [...]?	110	3.53	3.59
50	[...] an idiolectic (personal and original) approach to the music [...]?	110	3.72	4.00
64	[...] an accurate venue for performance [...]?	110	4.16	4.08
65	[...] textual narrative [...]?	108	4.29	4.30
66	[...] theoretical knowledge of paleography [...]?	111	4.33	5.06
57	[...] singing from memory [...]?	111	4.37	3.54
60	[...] a rhetorical approach to the music that is performed [...]?	111	4.51	4.47
67	[...] theoretical knowledge of semiology [...]?	111	4.55	4.96
49	[...] knowledge of the historical background [...]?	110	4.65	3.11
58	[...] the aim of performing in as authentic manner as possible [...]?	111	4.72	4.13
71	[...] animated performance [...]?	110	4.78	5.02
44	[...] variety of dynamics [...]?	111	4.87	4.29
69	[...] following the right style of chant performance [...]?	110	5.14	4.12
48	[...] a personal contribution to the exegesis of text [...]?	111	5.17	4.58
53	[...] singer's belief in the text that is performed [...]?	110	5.39	4.81
51	[...] respecting the individualities of the 8 modes [...]?	110	5.40	3.53
62	[...] semiological precision [...]?	111	5.40	3.57
47	[...] excellent vocal quality [...]?	111	5.53	1.91
55	[...] liturgical environment [...]?	110	5.63	3.72
59	[...] religious intention [...]?	111	5.68	4.64
61	[...] avoiding a routine interpretation [...]?	111	5.69	3.60
42	[...] agogic variety (subtle changes of tempo related to phrasing) [...]?	112	5.88	3.49
54	[...] general musicality of the performer [...]?	110	5.99	1.92
46	[...] excellent diction [...]?	111	6.20	2.05
43	[...] excellent articulation [...]?	111	6.28	2.06
45	[...] musical phrasing [...]?	110	6.41	2.04
52	[...] passive comprehension of the Latin language [...] [...]?	110	6.43	1.92
68	[...] excellent intonation [...]?	111	6.44	1.94
70	[...] understanding of what the text means [...]?	110	6.90	1.58

Sorting the same results by variance (see Table 29) gives a slightly different picture than was seen in the previous set of questions. Respondents agree about aspects that they consider important, but there are no clearly unimportant aspects that have the same level of agreement as important aspects. First arguments with means lower than AMP are only in ninth and tenth position. These questions ask about the importance of 'an accurate costume'²⁴⁴ and 'knowledge of historical background of the music that is performed'.²⁴⁵ The reason why the argument about 'an accurate costume'²⁴⁶ is in ninth place with its lowest mean in this table (2.49) and relatively low variance (2.6) could be

²⁴⁴ Question 63

²⁴⁵ Question 49

²⁴⁶ Question 63

that there are so many important arguments concerning performance that the respondents agree about.

Table 29. Number of responses, mean values and variance of the answers to the questions 42-71 'How important is [an argument] for a good performance of Gregorian chant?'; sorted by variance; AMP=3.3²⁴⁷; please see the table also as Appendix 15, vol 2, p 498.

Q	An Argument	R	M	V
70	[...] understanding of what the text means [...]?	110	6.90	1.58
47	[...] excellent vocal quality [...]?	111	5.53	1.91
54	[...] general musicality of the performer [...]?	110	5.99	1.92
52	[...] passive comprehension of the Latin language [...] [...]?	110	6.43	1.92
68	[...] excellent intonation [...]?	111	6.44	1.94
45	[...] musical phrasing [...]?	110	6.41	2.04
46	[...] excellent diction [...]?	111	6.20	2.05
43	[...] excellent articulation [...]?	111	6.28	2.06
63	[...] an accurate costume [...]?	110	2.49	2.64
49	[...] knowledge of the historical background [...]?	110	4.65	3.11
42	[...] agogic variety (subtle changes of tempo related to phrasing) [...]?	112	5.88	3.49
51	[...] respecting the individualities of the 8 modes [...]?	110	5.40	3.53
57	[...] singing from memory [...]?	111	4.37	3.54
62	[...] semiological precision [...]?	111	5.40	3.57
56	[...] imitation of one's teacher [...]?	110	3.53	3.59
61	[...] avoiding a routine interpretation [...]?	111	5.69	3.60
55	[...] liturgical environment [...]?	110	5.63	3.72
50	[...] an idiolectic (personal and original) approach to the music [...]?	110	3.72	4.00
64	[...] an accurate venue for performance [...]?	110	4.16	4.08
69	[...] following the right style of chant performance [...]?	110	5.14	4.12
58	[...] the aim of performing in as authentic manner as possible [...]?	111	4.72	4.13
44	[...] variety of dynamics [...]?	111	4.87	4.29
65	[...] textual narrative [...]?	108	4.29	4.30
60	[...] a rhetorical approach to the music that is performed [...]?	111	4.51	4.47
48	[...] a personal contribution to the exegesis of text [...]?	111	5.17	4.58
59	[...] religious intention [...]?	111	5.68	4.64
53	[...] singer's belief in the text that is performed [...]?	110	5.39	4.81
67	[...] theoretical knowledge of semiology [...]?	111	4.55	4.96
71	[...] animated performance [...]?	110	4.78	5.02
66	[...] theoretical knowledge of paleography [...]?	111	4.33	5.06

As well as this, it could be so because there were enough respondents who did consider 'accurate costume' important for a good performance of Gregorian chant. Another difference from the set of questions 1-27 is that in the section of higher variance there are considerably more arguments from a section of higher means. In other words, respondents tend to disagree more about important aspects of performance than about important aspects about what Gregorian chant for them

²⁴⁷ AMP=(1.58+5.06):2=3.3

means. It implies that there is a bigger agreement about what Gregorian chant is (1-27) than how Gregorian chant should be performed (42-71). This claim is also supported by the fact that the highest mean of this set of questions (6.90) is lower than the highest mean of the block 1-27 (7.14). In the previous set of questions (1-27), the distance between the means of two most important agreeable arguments is 1.17 and between two arguments with highest means is 0.89. In this set of questions (42-71), the corresponding values are 0.46 and 0.47. Therefore, it is possible to say that this table is much 'tighter' and suggest again a bigger disagreement about interpretational preferences than about the repertoire itself. Sorting the results according to subtraction of mean and variance (see Table 30) arranges the table so that the groups compiled on the bases of mean ('M') are almost intact.

Table 30. Number of responses, mean values, variance, ratio of mean and variance, subtraction of mean and variance, position of results of the answers to the questions 42-71 'How important is [an argument] for a good performance of Gregorian chant?'; sorted by subtraction of mean and variance; please see the table also as Appendix 16, vol 2, p 499.

Q	An Argument	R	M	V	M/V	M-V	P
66	[...] theoretical knowledge of paleography [...]?	111	4.33	5.06	0.86	-0.73	1
67	[...] theoretical knowledge of semiology [...]?	111	4.55	4.96	0.92	-0.41	2
50	[...] an idiolectic [...] approach to the music [...]?	110	3.72	4.00	0.93	-0.28	3
71	[...] animated performance [...]?	110	4.78	5.02	0.95	-0.24	4
63	[...] an accurate costume [...]?	110	2.49	2.64	0.94	-0.15	5
56	[...] imitation of one's teacher [...]?	110	3.53	3.59	0.98	-0.06	6
65	[...] textual narrative [...]?	108	4.29	4.30	1.00	-0.01	7
60	[...] a rhetorical approach to the music [...]?	111	4.51	4.47	1.01	0.04	23
64	[...] an accurate venue for performance [...]?	110	4.16	4.08	1.02	0.08	22
53	[...] singer's belief in the text that is performed [...]?	110	5.39	4.81	1.12	0.58	20
44	[...] variety of dynamics [...]?	111	4.87	4.29	1.13	0.58	21
48	[...] a personal contribution to the exegesis of text [...]?	111	5.17	4.58	1.13	0.59	18
58	[...] the aim of performing in [...] authentic manner [...]?	111	4.72	4.13	1.14	0.59	19
57	[...] singing from memory [...]?	111	4.37	3.54	1.23	0.83	17
69	[...] following the right style of chant performance [...]?	110	5.14	4.12	1.25	1.02	16
59	[...] religious intention [...]?	111	5.68	4.64	1.22	1.04	15
49	[...] knowledge of the historical background [...]?	110	4.65	3.11	1.50	1.54	14
62	[...] semiological precision [...]?	111	5.40	3.57	1.51	1.83	13
51	[...] respecting the individualities of the 8 modes [...]?	110	5.40	3.53	1.53	1.87	12
55	[...] liturgical environment [...]?	110	5.63	3.72	1.51	1.91	11
61	[...] avoiding a routine interpretation [...]?	111	5.69	3.60	1.58	2.09	10
42	[...] agogic variety [...]?	112	5.88	3.49	1.68	2.39	9
47	[...] excellent vocal quality [...]?	111	5.53	1.91	2.90	3.62	8
54	[...] general musicality of the performer [...]?	110	5.99	1.92	3.12	4.07	7
46	[...] excellent diction [...]?	111	6.20	2.05	3.02	4.15	6
43	[...] excellent articulation [...]?	111	6.28	2.06	3.05	4.22	5
45	[...] musical phrasing [...]?	110	6.41	2.04	3.14	4.37	4
68	[...] excellent intonation [...]?	111	6.44	1.94	3.32	4.50	3
52	[...] passive comprehension of the Latin language [...]?	110	6.43	1.92	3.35	4.51	2
70	[...] understanding of what the text means [...]?	110	6.90	1.58	4.38	5.32	1

Two arguments from the group of lower means have migrated into the group of higher means (57 and 49), and one argument has changed its position the other way round (71). The ratio of mean and variance again follows the dynamics of subtraction of mean and variance, with few exceptions.

The zero point of the 'thermometer' of 'M-V' is between arguments that consider importance of 'textual narrative'²⁴⁸ and 'rhetorical approach to the music'.²⁴⁹ The difference between sets 1-27 and 42-71 is that in the latter there are fewer arguments with very low means. Only three arguments have a mean less than four, whereas in set 1-27 the corresponding number is seven. Therefore, the arguments around the 'zero' point have relatively higher values. Because of that, there are arguments around the 'zero' point that have relatively higher means than in the set 1-27. Thus, it is arguable whether the principle that around the 'zero' there are most agreed unimportant arguments is valid in the set 42-71. Against this, however, the validity of this principle is confirmed by a common understanding that 'imitation of one's teacher'²⁵⁰ is not usually considered to be an important virtue in music performance.

On the 'thermometer', two 'hottest' arguments ask about the importance of 'understanding of what the text means'²⁵¹ and 'passive comprehension of language'.²⁵² As in previous set of questions, it can be seen how the respondents have a special affiliation towards text. However, it is important to underline that this tendency is towards understanding the text. The argument about 'singers, belief in the text that is performed'²⁵³ comes only in twentieth highest position, with a 'temperature' of 0.58. Considering that most respondents did consider Gregorian chant as a prayer opens interesting possibilities about the relationship of 'belief' and 'prayer' versus 'understanding' and 'prayer'. After two text-specific arguments, there follows a list of musical virtues that are important about the performance of any vocal music, and many of them about any repertoire. From positions three to ten, these arguments are: 'excellent intonation',²⁵⁴ 'musical phrasing',²⁵⁵ 'excellent articulation',²⁵⁶ 'excellent

²⁴⁸ Question 65

²⁴⁹ Question 60

²⁵⁰ Question 56

²⁵¹ Question 70

²⁵² Question 52

²⁵³ Question 53

²⁵⁴ Question 68

²⁵⁵ Question 45

diction',²⁵⁷ 'excellent vocal quality',²⁵⁸ 'agogic variety',²⁵⁹ and 'avoiding a routine interpretation'.²⁶⁰ Only in eleventh and twelfth position come the first arguments that are more specifically related to performance of Gregorian chant repertoire: 'liturgical environment'²⁶¹ and 'respecting the individualities of the eight modes'.²⁶² Virtues such as 'religious intention'²⁶³ and 'singer's belief in the text that is performed'²⁶⁴ come only in positions 15 and 20.

Two 'coldest' arguments in this table are issues about 'theoretical knowledge of paleography'²⁶⁵ and 'theoretical knowledge of semiology'.²⁶⁶ The mean value of these two arguments is just below the AMP (4.33 and 4.55). These are definitely not low means; but the arguments end up on the 'cold' side of the table because of high variance, respectively 5.06 and 4.96, which mean that respondents do not agree about importance of these virtues. However, respondents do agree more about importance of 'semiological precision'.²⁶⁷ This raises the interesting question of whether semiological precision can be the result of other qualities, for example two virtues with highest means and very low variance – 'understanding of what text means'²⁶⁸ and 'passive comprehension of Latin language'.²⁶⁹

3.2.3.2 Qualitative additions to the question 'What is important for a good performance of Gregorian chant?' (Q 72-74)

In this set of questions, 39 respondents made 60 additions. There are less additions than in the previous set because (1) fewer respondents answered the set of questions 42-71; (2) there were fewer possibilities for additions compared with the previous set of questions. It was seen from Table 30 that in the opinion of the respondents, the most important virtues of good performance of Gregorian chant are not that different from good virtues of performance of any vocal music. A question concerning the very

²⁵⁶ Question 43

²⁵⁷ Question 46

²⁵⁸ Question 47

²⁵⁹ Question 42

²⁶⁰ Question 61

²⁶¹ Question 55

²⁶² Question 51

²⁶³ Question 59

²⁶⁴ Question 53

²⁶⁵ Question 66

²⁶⁶ Question 67

²⁶⁷ Question 62

²⁶⁸ Question 70

²⁶⁹ Question 52

nature of Gregorian chant belongs to a more imaginative field than a question about what is important for a good performance of Gregorian chant. It was possible to add a maximum of three statements per respondent. Eight respondents made three additions; five respondents made two additions and 26 respondents made one addition. Respondents had the possibility of evaluating their own additions on the eight-point scale. The mean of all additions is 7.2. Most evaluations were sevens and eights; there were seven sixes; one five; and one four.

The biggest group (21 additions) of added statements concerned musical questions and, particularly, issues of ensemble. The additions vary from very basic statements, such as that for a good performance of Gregorian chant it is necessary to have 'good singers' or 'good liturgical musicians', to specific issues such as 'right tessitura'; 'good breathing'; 'stylistic distinction between different styles'; 'ability to perform pure intervals of ancient music'; 'excellent diction of the Latin words'; 'clear attractive presentation of the music'. This addition about 'pure intervals' probably refers to a discussion about acoustical intervals versus tempered intervals. It was also suggested that the Italian language is a good possibility for approaching Gregorian chant. Among the group, most comments (eight) were made about the necessity of good ensemble, for example 'homogeneous ensemble'; 'effective unison among the singers'; 'collective sense of purpose and intent'. It is surprising that only two respondents felt it necessary to elaborate the issues of rhythm: 'uniform understanding of chant rhythm'; 'a well developed sensitivity for the Gregorian rhythmical style'.

There might be different reasons behind the lack of comments about rhythm. I believe the main reason is that although the question of rhythm is so widely discussed among chant scholars, the performers of Gregorian chant do not actually think in the category of rhythm, as it is custom in classical music. Rhythm seems to be a part of a complex movement, as many chant scholars point out (for example see (Cardine et al., 1988: 33-38)). The fact that the rhythm, in other words the length of the notes, is still a basic category in the classification of performance practice is understandable. Rhythm, or the length of notes, is a one-component issue, and therefore easy to exploit. Movement, however, is a multi-component issue, which consists of rhythm, tempo, agogics, articulation, and dynamics. In the performance of Gregorian chant, there is no clearly definable framework in which these changes could be observed. Therefore,

rhythm – although not the most suitable parameter for discussing chant performance – has inevitably become extremely important in the scholarly discussion of performance of this repertoire. In the ‘language’ of performers, however, it does not seem to have much place.

As expected, many respondents (ten additions) felt it necessary to stress and elaborate spiritual issues, particularly the aspect of prayer. For example, the respondents thought that for a good performance of Gregorian chant it is necessary to have ‘a focus on the inner prayer, and conscience of the spiritual act of chant’; ‘to understand that Gregorian chant is sung prayer’; ‘faith’; ‘a heart that hungers for an excellent expression of the prayer’. One of the respondents defined beautifully the balance between prayer and musical abilities by writing that it is necessary to have ‘the will to pray and to do it expressively with best musicality everyone can’.

As was seen from the results to the set of questions 42-71, the respondents consider issues of text very important. This was also confirmed by several additions that the respondents made about text (eight additions). Four of these additions were about understanding the text and forwarding the meaning to the audience. For example, ‘a spiritual understanding of the text’ and ‘inner connection to the meaning of the text; own experience, which renders the chant believable for the listeners’. The other four were about connection of the text and music. For example, ‘construction of a melodic line together with its text’ and ‘total readiness to express the music and the text’.

Nine additions simply repeated virtues that were already presented in the questionnaire: liturgical context (three additions); knowledge of the neumes and use of original notation (four additions); a list of various aspects that are all in the questionnaire (two additions).

There were also some original statements (11 additions). Some of these were carefully formulated principles that are all quoted in full. Some were commenting on aspects that were not mentioned in the questionnaire at all and it is quite surprising that there were not more additions of that kind: for example, a necessity to understand ‘a hierarchical and a social context of Gregorian chant’. One of the respondents pointed out that it is necessary ‘not to have breaks between the syllables of the word’. One respondent wrote that for a good performance of Gregorian chant it is necessary to have ‘knowledge of the Solesmes School and paleography’. One

respondent also pointed out that ‘Gregorian chant is not for performance – it is a form of prayer of the Church’.

However, the most fascinating additions are those mentioned at the beginning of the previous paragraph. In the previous set of questions, we observed a certain amount of Christian dogmatism involved. In this set of questions, the statements vary from aspects of musical perception to somewhat religious-mystical renditions. According to these additions, for a good performance of Gregorian chant it is important to: (1) have ‘a soul that desires to share the gift of Gregorian chant with others’; (2) have ‘a body and mind that are opened to discipline’; (3) ‘harmonize melody with a theological meaning’; (4) ‘feel the situation and circumstances in which Gregorian chant performance is “happening” and through this, convert the chant into something that has its birth at this very place’; (5) ‘not to pretend to be a medieval monk or a “chosen one” but try to find the right balance between humility and confidence of a performing artist’; (6) have ‘obedience, sensitivity to performing as ensemble, perception of musical time and susceptibility to real time impulses’; (7) ‘make it your “own song” by finding your way through the maze of theories, trends and personal doubts and uncertainties, finding the way that helps to join the Liturgy’.

3.2.3.3 A summary of the analyses of the set of questions 42-71

In this set of questions, the situation is slightly different than in the set 1-27 – respondents agree about aspects that they consider important, but there are no clearly unimportant aspects that have the same level of agreement as important aspects. The virtues according to the results of the quantitative questions that are important for a good performance of Gregorian chant and about which the respondents agree, are of basic musical nature rather than religious-spiritual quality. In three highest places are ‘understanding of what the text means’,²⁷⁰ ‘passive comprehension of the Latin language’,²⁷¹ and ‘excellent intonation’.²⁷² Among the features that the respondents agree to be unimportant are ‘an accurate costume’,²⁷³ ‘imitation of one’s teacher’,²⁷⁴ ‘textual narrative’,²⁷⁵ and ‘a rhetorical approach to the

²⁷⁰ Question 70

²⁷¹ Question 52

²⁷² Question 68

²⁷³ Question 63

²⁷⁴ Question 56

²⁷⁵ Question 65

music'.²⁷⁶ The last two arguments have higher means than the two first ones, but high variance brings them into the group of arguments that are agreed to be not so important. Among the questions that the respondents disagree are two interesting arguments: 'theoretical knowledge of paleography'²⁷⁷ and 'theoretical knowledge of semiology'.²⁷⁸ Both arguments have a fairly high mean but also high variance. This can be called two features about the performance of Gregorian chant that divides the community of performers.

There is definitely more agreement about what Gregorian chant is (1-27) than about how Gregorian chant should be performed (42-71). What is common in these two sets of questions is that they both show affiliation towards the text. The tendency seems to be more towards the understanding of the text than believing in the text.

There were fewer qualitative additions to this set of questions. From different aspects of musical issues, the aspect of ensemble was most common. Surprisingly few additions concerned rhythm. Issues of spirituality and relationship to the text were several times mentioned. Original statements as in the previous set of questions were not missing and offered once again a reflection of the profundity that performers have towards the repertoire.

3.2.4 Relationship between the text and music

3.2.4.1 'How would you characterize the relationship between music and text in Gregorian chant?' (Q 85-93)

In this set of quantitative scale questions, the respondents were asked to evaluate nine arguments about possible relationships of text and music in Gregorian chant on the eight-point scale. Means of answers to the questions 85-93 vary from 1.88 for the argument 'music has been forced upon the text and earns its merits at the expense of the text'²⁷⁹ (lowest possible is one) to 6.00 for the argument 'music and text are inseparable, i.e. they absolutely belong together'²⁸⁰ (highest possible is eight). Variance of questions 85-93 varies from 1.98 for the argument 'music has been forced upon the

²⁷⁶ Question 60

²⁷⁷ Question 66

²⁷⁸ Question 67

²⁷⁹ Question 92

²⁸⁰ Question 85

text and earns its merits at the expense of the text'²⁸¹ (lowest possible is 0) to 5.00 for 'the text is saying the same as what is narrated by the music'²⁸² (highest possible is 14).

Table 31. Number of responses, mean values, and variance of the answers to the questions 85-93 'How would you characterize the relationship between music and text in Gregorian chant?'; sorted by mean; AMP=3.9; please see the table also as Appendix 17 , vol 2, p 500.

Q	An argument	R	M	V
92	[...] music has been forced upon the text and earns its merits at the expense of the text.	104	1.88	1.98
91	[...] music and text are different structures, which have been combined together.	96	3.01	3.80
93	[...] the text is saying the same as what is narrated by the music.	104	3.28	5.00
88	[...] music constitutes a paraphrase of the text, i.e. music contains/carries the meaning of the text even without the text itself.	104	3.47	4.93
89	[...] text and music in Gregorian chant are related as much as in any other vocal repertory.	105	3.95	4.53
90	[...] music is included in the prosodic intonation of the text and is brought forward by enhancement.	103	4.63	4.06
87	[...] music is only a means of transmitting the text, i.e. the text is what is essential and music only helps to express it.	104	5.27	4.02
86	[...] music and text are different structures but they exist together in unity, functioning as complementary to each other.	104	5.89	4.15
85	[...] music and text are inseparable, i.e. they absolutely belong together.	105	6	4.17

After sorting the table by variance (please see the next table), we see a pattern not previously encountered. Two arguments from a group of lowest means are at the beginning of the table and two are at the end of the table. All arguments from the group of higher means are in the middle of the table. This distribution suggests that agreement is highest and lowest about arguments that the respondents consider less important. This distribution is also special, because AMP divides the column into two so that the group of lower variance is formed by only one value. The other variances are all higher than AMP. This shows that there is only one argument about which the respondents agree that it is more or less not to be true: 'music has been forced upon the text and does not earn its merits at the expense of the text'.²⁸³ However, it is interesting to note that among 104 respondents, eight evaluated this statement on the eight-point scale with a scale point higher than four.²⁸⁴

²⁸¹ Question 92

²⁸² Question 93

²⁸³ Question 92

²⁸⁴ For a particular frequency table please see vol 2, p 480.

Table 32. Number of responses, mean values and variance of the answers to the questions 85-93 'How would you characterize the relationship between music and text in Gregorian chant?'; sorted by variance; AMP=3.1; please see the table also as Appendix 18 , vol 2, p 501.

Q	An argument	R	M	V
92	[...] music has been forced upon the text and earns its merits at the expense of the text.	104	1.88	1.98
91	[...] music and text are different structures, which have been combined together.	96	3.01	3.80
87	[...] music is only a means of transmitting the text, i.e. the text is what is essential and music only helps to express it.	104	5.27	4.02
90	[...] music is included in the prosodic intonation of the text and is brought forward by enhancement.	103	4.63	4.06
86	[...] music and text are different structures but they exist together in unity, functioning as complementary to each other.	104	5.89	4.15
85	[...] music and text are inseparable, i.e. they absolutely belong together.	105	6	4.17
89	[...] text and music in Gregorian chant are related as much as in any other vocal repertory.	105	3.95	4.53
88	[...] music constitutes a paraphrase of the text, i.e. music contains/carries the meaning of the text even without the text itself.	104	3.47	4.93
93	[...] the text is saying the same as what is narrated by the music.	104	3.28	5.00

Sorting the table by subtractions of mean and variance gives a clearer picture. The 'zero point' of the 'thermometer' is between the arguments 90 and 92 (Table 33). The respondents agree that music is not 'forced upon the text and earns its merits at the expenses of the text'²⁸⁵ – this argument has low mean and low variance. The arguments above the zero point are mostly from the higher group of means. However, they all have variance higher than four, including the 'warmest' argument that 'music and text are inseparable, i.e. they absolutely belong together'.²⁸⁶ This means that there is no clear consensus among respondents regarding the nature of the relationship between music and text in Gregorian chant. Closest to the consensus is the above-described argument 92. This kind of consensus is much higher in the set of questions 1-27 where the argument with highest mean is 'Gregorian chant, for me, means prayer'.²⁸⁷

²⁸⁵ Question 92

²⁸⁶ Question 85

²⁸⁷ Question 18

Table 33. Number of responses, mean values, and variance of the answers to the questions 85-93 'How would you characterize the relationship between music and text in Gregorian chant?'; sorted by the subtraction of mean and variance; please see the table also as Appendix 19, vol 2, p 502.

Q	An argument	N	M	V	M/V	M-V	P
93	[...] the text is saying the same as what is narrated by the music.	104	3.28	5.00	0.66	-1.72	1
88	[...] music constitutes a paraphrase of the text, i.e. music contains/carries the meaning of the text even without the text itself.	104	3.47	4.93	0.70	-1.46	2
91	[...] music and text are different structures, which have been combined together.	96	3.01	3.80	0.79	-0.79	3
89	[...] text and music in Gregorian chant are related as much as in any other vocal repertory.	105	3.95	4.53	0.87	-0.58	4
92	[...] music has been forced upon the text and earns its merits at the expense of the text.	104	1.88	1.98	0.95	-0.10	5
90	[...] music is included in the prosodic intonation of the text and is brought forward by enhancement.	103	4.63	4.06	1.14	0.57	4
87	[...] music is only a means of transmitting the text, i.e. the text is what is essential and music only helps to express it.	104	5.27	4.02	1.31	1.25	3
86	[...] music and text are different structures but they exist together in unity, functioning as complementary to each other.	104	5.89	4.15	1.42	1.74	2
85	[...] music and text are inseparable, i.e. they absolutely belong together.	105	6	4.17	1.44	1.83	1

On the other side of the 'thermometer' of Table 33, there are two arguments that state an opposite side of the same issue: 'text is saying the same as what is narrated by the music'²⁸⁸ and 'music constitutes a paraphrase of the text even without the text itself'.²⁸⁹ Positioning of these arguments on diametrically different pole of an argument, which says that 'music and text are inseparable'²⁹⁰ asks a very interesting question – what is the nature of this inseparability, if the text does not say what is narrated by music and music does not contain the meaning of the text? Can it be in the argument that states that 'music is included in the prosodic intonation of the text and is brought forward by enhancement'?²⁹¹ This argument is in much 'warmer' area than other arguments that might explain the inseparability of the text and music. However, its mean is significantly lower (4.63) than the mean of the very argument that states the actual inseparability of text and music (6.00).

²⁸⁸ Question 93

²⁸⁹ Question 88

²⁹⁰ Question 85

²⁹¹ Question 90

3.2.4.2 Qualitative additions to the question ‘How would you characterize the relationship between music and text in Gregorian chant?’ (Q 94-95)

In this set of questions, there was a possibility of two additions per respondent. There were altogether 47 additions: five respondents made two additions and 37 respondents made one addition.

After leaving out statements that simply repeat or rephrase the arguments already presented in the questionnaire (14 additions), the qualitative additions to this set of questions can be divided into five groups. The largest of these groups (11 additions) elaborate the statement that music’s function is to serve the text. For example, ‘music can be an exegesis of the text’; music projects the comprehension of the text to the congregation’; ‘music communicates the truth of the text to the heart’; ‘music helps the text to be absorbed, as sugar helps the medicine go down’. Some respondents (six additions) opened up new possibilities in considering the relationship of text and music by pointing out that music adds something to the text. For example, ‘music has its message which can be considered as a counterpoint of the text’; music adds to the text what words cannot express’; ‘music adds spiritual meaning to the text’; ‘music adds elements of beauty not found in the text’. A possibility that music is present in the prosodic intonation of the text was also mentioned (seven additions). For example: ‘music grows out of the text and becomes wedded to it in a melding of artistic expression’; ‘saying the text is music’.

An interesting group of statements (six additions) raised the question of whether it is possible at all to define ‘one right relationship’ of text and music in Gregorian chant. Respondents who made additions to the group stated that ‘the relationship of text and music is different among the genres’; ‘antiphons show a prosodic relationship, responsories are more purely musical’. One respondent pointed out that ‘what is missing in the questionnaire is the concept of “formula”’. This is a well-founded remark. There are texts that are sung with melodies that are very similar to each other. This raises the question of how text and the music can be closely related if the music is so similar but the text diametrically different. However, some believe that texts are not framed up with repeatedly used melodic formulae – rather that the formulae was used and adapted for a particular text because it accorded with the text.

There were also statements (three additions) that in my opinion opened the issue from a fresh point of view or are very well formulated. (1) ‘the meaning and the prosody give through modality and precise intonation a strong base to the heart of the

musical expression’; (2) ‘music can express feelings said by the text and make the corresponding spiritual attitude grow in the heart of the singer’; (3) text is the expression of the mind, music is the song of the soul’.

3.2.4.3 ‘If, in your opinion, the logic of the text diverges from the logic of the music, which of the two would you prefer?’ (Q 96)

In this quantitative question the respondents were given four variants: (1) ‘logic of the text, in the first place’; (2) ‘logic of the music, in the first place’; (3) ‘sometimes one, sometimes the other’; (4) ‘in my opinion, in Gregorian chant logic of the text and music never diverge from each other’. Answers to this question open the largely disputed question of relationship between the text and music a bit more. The same issue was discussed when answers to the set of questions 85-95 were analysed. From these analyses, four arguments that the respondents mostly agreed to be important emerged (arguments with high mean and low variance): (1) ‘music and text are inseparable, i.e. they absolutely belong together’;²⁹² (2) ‘music and text are different structures but they exist together in unity, functioning as complementary to each other’;²⁹³ (3) ‘music is only a means of transmitting the text, i.e. the text is what is essential and music only helps to express it’;²⁹⁴ (4) ‘music is included in the prosodic intonation of the text and is brought forward by enhancement’.²⁹⁵ Three of these statements (one, two and four) stress a strong relationship between text and music and one gives music a bit more independent status, though only in the service of the text. In the results to question 96, all these aspects are also represented.

Table 34. Frequency table of results of the question ‘If, in your opinion, the logic of the text diverges from the logic of the music, which of the two would you prefer?’ (Q96).

		Freq	%	Valid %
Valid	Logic of the text, in the first place.	24	18.9	23.3
	Logic of the music, in the first place.	10	7.9	9.7
	Sometimes one, sometimes the other.	39	30.7	37.9
	In my opinion, in Gregorian chant logic of the text and music never diverge from each other.	30	23.6	29.1
	Total	103	81.1	100.0
Missing	System	24	18.9	
Total		127	100,0	

²⁹² Question 85

²⁹³ Question 86

²⁹⁴ Question 87

²⁹⁵ Question 90

These results suggest that there might be a small controversy in the issue of relationship of the text and music. There are 54 (52,4 %) respondents out of 103 who believe the text to be absolutely primary – 24 who follow logic of the text in the first place and 30 who believe that in Gregorian chant logic of the text and music never diverges. On the other side there are 49 (47,6%) respondents who will at least consider the possibility that they follow the logic of the music – 10 who follow logic of the music in the first place and 39 who sometimes follow logic of the text and sometimes logic of the music. The highest evaluations of the relationship between the text and music in the questions 85-95 are given to the arguments that prioritise the text. In the current question, there were very many respondents who, in the situation of diversion of text and music, are willing to compromise. Can this suggest that the commonly understood ‘special relationship’ of text and music is a dogma rather than an understanding? Can it be a result of artistic imagination or religious belief? In the set of questions 85-95, the argument that ‘text and music in Gregorian chant are related as much as in any other vocal repertory’²⁹⁶ had a mean value of 3.95 that suggests that this relationship means at least something to the respondents. For comparison, one can see that the most unimportant argument in this set of questions has a mean of 1.88 – the argument that ‘music has been forced upon the text and earns its merits at the expense of the text’.²⁹⁷ It is true that many possible aspects can question the so-called universal and special relationship of the text and music in Gregorian chant. A large body of the repertoire in Gregorian chant consists of prototype melodies, melodic formulas, and centos. However, on a basic level it is not disputable that the same prototype melody can be used with several texts of a very different character – not to mention melodic formulas used to deliver texts of a wide variety. In qualitative additions to the questions 85-93, several respondents pointed out that there might be different relationships depending on which genre is under consideration. It is quite true that for example in Introits that are considered to be original compositions, the relationship between the text and music is stronger than in pieces in which melodic formulas are used to deliver the text. However, Introits also use standard intonations, formulas, and cadencies.

²⁹⁶ Question 89

²⁹⁷ Question 92

3.2.4.4 A summary of the analyses of the relationship between the text and music

There is no clearly dominant opinion about the relationship between text and music such as there was about the issue ‘what does Gregorian chant mean’ or ‘what is important for a good performance of Gregorian chant’. There is no unanimous understanding of whether text should be preferred to music or vice versa. In the current discussion, it is not intended to suggest that such a special relationship does not exist rather that it is not so much repertoire-specific than performance-specific. The respondents mostly agree on the argument that states the inseparability of text and music but it is not clear what is the nature of this inseparability. The most possible explanation is the connection through prosodic intonation of the text. Most certainly, this subject needs further study.

In the qualitative additions to the question about the relationship of the text and music, a well-founded aspect was added. Several respondents questioned whether the relationship between the text and music is the same among all the genres of Gregorian chant.

3.2.5 Issues of authenticity of the performance

3.2.5.1 Introduction

Issues of authenticity have been an inseparable companion of performance of early repertoires since the movement of ‘early music’ in the twentieth century. Although ‘authenticity’ can be considered in different forms, usually the idea of this phenomenon is tied to historically informed performance (HIP).²⁹⁸ The latter is also the main concern of this subchapter. My intention is not to discuss about values of HIP or join my arguments with either party,²⁹⁹ but to describe the opinion of the respondents on this issue. This subchapter consists of analyses of several sets of questions. In the first subsection, there is a straightforward question, which asks the respondents to evaluate different forms of authenticity. Among three possibilities, there is also a

²⁹⁸ The abbreviation HIP is used by Peter Jeffery in: Jeffery, Peter. *Re-envisioning past musical cultures: ethnomusicology in the study of Gregorian chant*. University of Chicago Press, 1992.

²⁹⁹ There is a massive amount of research done to establish historically authentic performance, the most recent example (and one which carefully reviews the most important arguments to date) is: Butt, John. *Playing with history: the historical approach to musical performance*. Musical performance and reception. Cambridge; New York: Cambridge University Press, 2002. On the other hand, there is also a substantial scholarship which argues for the impossibility and entire lack of need of HIP, of which the best known is Leech-Wilkinson, Daniel. *The modern invention of medieval music: scholarship, ideology, performance*. Musical performance and reception. Cambridge: Cambridge University Press, 2002.

variant about historical authenticity. The purpose of this question is to establish possible predominance of a particular form of authenticity. In the second and third subsection, the question of historical authenticity is analysed through different opinions of the respondents: (1) how precisely is possible to restore historically authentic performance practice; (2) where in the history lies the most valuable knowledge about performance practice of Gregorian chant.

3.2.5.2 ‘Many performers consider authenticity as an essential aspect of performing Gregorian chant. What does “authenticity” mean to you?’ (Q 107-109)

In this rather small set of quantitative scale questions, the respondents were asked to evaluate three statements about authenticity on the eight-point scale. The statements are a paraphrase of four basic forms of authenticity described by William P. Mahrt (Mahrt, 2000: 4-5) in *A Performer's Guide to Medieval Music*.³⁰⁰ In this set of questions, the respondents did not have a chance to add their own additions, because the proposed classification was considered sufficient to describe the subject.

Table 35. Number of responses, mean values and variance of the answers to the questions ‘Many performers consider authenticity as an essential aspect of performing Gregorian chant. What does “authenticity” mean to you?’ (Q 107-109); sorted by mean.

Q	An Argument	N	M	V
107	Authenticity means to me singing exactly the same way as in the time when the music was created.	105	4.09	4.95
109	Authenticity means to me singing in a way that music fits well into the context where it is performed.	105	4.68	4.76
108	Authenticity means to me singing in a way that the music, precisely at the time of performance, sounds honest and genuine.	105	5.01	4.38

Because there are only three arguments in this set of questions and all have relatively similar means and variances, it is not practical to use the method that was applied for previous sets of questions. There is no argument that would clearly stand out as a favourite. Although question 108 has slightly higher mean (5.01) and lower variance (4.38) than the other arguments, the arguments are fairly equal and with similar nominal values. In the set of questions 1-27 the difference between lowest mean and

³⁰⁰ Duffin, Ross, ed. *A Performer's Guide to Medieval Music*. Bloomington and Indianapolis: Indiana University Press, 2000.

highest mean is 5.74, whereas in this set of questions it is only 0.92. Of course, it must be taken into consideration that in the current set of questions there are no arguments that would logically have low means like question 'Gregorian chant, for me, means a boring duty that I need to do routinely'.³⁰¹ That explains the lack of extremely low mean. Nevertheless, in every set of questions, there is always an answer that has a mean of six or higher. Of course, it can be that there was no suitable argument that could have potentially a higher mean, but this possibility is unlikely.

This small set of questions does not give much material for deep analyses. However, it gives a clear idea that none of these three forms of authenticity is clearly predominant. Historical authenticity is in the lowest position, which is an interesting result when observed together with the following analyses of possibilities of restoration of historically informed performance practice.

3.2.5.3 'How precisely, in your opinion, is it possible to restore, on the basis of the information available to us, a historically authentic performance practice of medieval Gregorian chant of the Einsiedeln and St Gallen region? (seventh to sixteenth centuries)' (Q 97-106)

In this set of quantitative questions, the respondents³⁰² were given five variants. For every argument they were able to evaluate a possibility of historically authentic performance practice of a particular century using following variants: (1) 'completely impossible'; (2) 'possible to a small extent'; (3) 'possible to a rather great extent'; (4) 'fully possible to restore'; (5) 'I have no expertise³⁰³ in this'.

In the procedure of analyses of this set of questions, it is not possible to use the same methodology as with quantitative scale questions. In this block of questions, there is a timeline, and it is necessary to observe changes on it in every group of responses.

³⁰¹ Question 27

³⁰² These questions had respondents as follows: Q97 – 102 respondents; Q98 – 102 respondents; Q99 – 102 respondents; Q100 – 104 respondents; Q101 – 103 respondents; Q102 – 102 respondents; Q103 – 102 respondents; Q104 – 103 respondents; Q105 – 101 respondents; Q106 – 101 respondents.

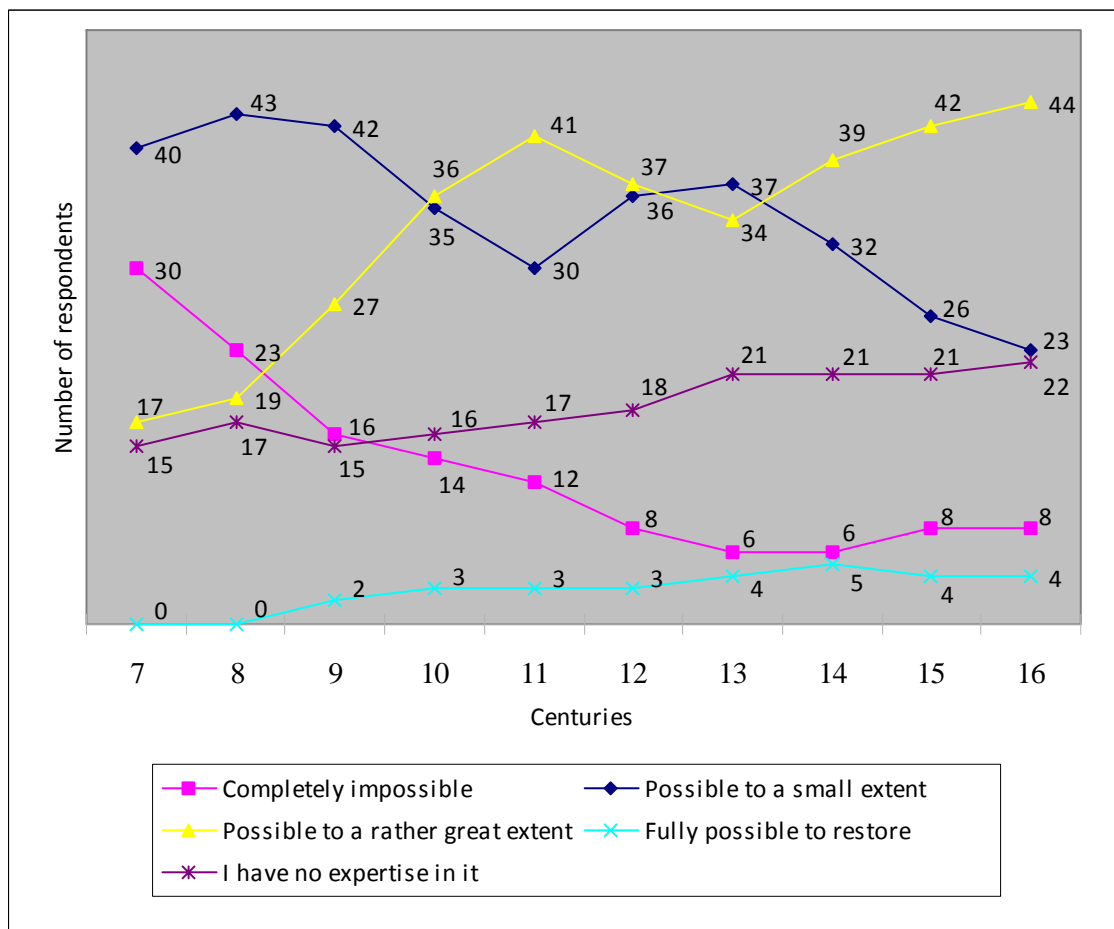
³⁰³ In the original question, the word used for 'expertise' was 'relevance'.

Table 36. Number of responses to the questions 'How precisely, in your opinion, is it possible to restore, on the basis of the information available to us, a historically authentic performance practice of medieval Gregorian chant of the Einsiedeln and St Gallen region? (seventh to sixteenth centuries)' (Q 97-106).

Number of an argument		97	98	99	100	101	102	103	104	105	106
The century		7c.	8c.	9c.	10c.	11c.	12c.	13c.	14c.	15c.	16c.
1	Completely impossible	30	23	16	14	12	8	6	6	8	8
2	Possible to a small extent	40	43	42	35	30	36	37	32	26	23
3	Possible to a rather great extent	17	19	27	36	41	37	34	39	42	44
4	Fully possible to restore	0	0	2	3	3	3	4	5	4	4
5	I have no expertise in it	15	17	15	16	17	18	21	21	21	22
Total		102	102	102	104	103	102	102	103	101	101
Missing		25	25	25	23	24	25	25	24	26	26
Total		127	127	127	127	127	127	127	127	127	127

The dynamics of opinions is better seen if the data is presented graphically.

Figure 14. Evaluations of the respondents on possibilities of restoration of historically authentic performance practice of medieval Gregorian chant. The chart is drawn on the bases of the previous table; please see the figure also as Appendix 20, vol 2, p 503.



None of the lines have straightforward upwards or downwards dynamics. Three more stable lines in this respect are the lines 'fully possible', 'completely impossible' and 'I have no expertise in it'. 'Fully possible' ascends on the axis of centuries until the fourteenth century and then descends by one point. 'Completely impossible' descends on the axis of centuries until the thirteenth century and rises slightly (by two points) on the fifteenth century. 'I have no expertise in it' ascends on the axis of centuries. It makes a slight move downwards on ninth and tenth centuries. This is quite logical because there are so many experts of this period among respondents who do not feel they have expertise in earlier developments but are expressing their opinion about ninth- and tenth-century issues. All of these changes are relatively small, involving only a maximum of two-point deviations. Therefore, it can be said that the number of respondents who believe that restoration is completely impossible decreases on the axis of centuries, and the amount of respondents who have no expertise in any particular century and respondents who believe in possibility of full restoration increases on the axis of time. Lines about 'possible to a small extent' and 'possible at least to rather great extent' have much more variable dynamics. These two develop in a mirror image on the axis of centuries. Apart from seventh to eight centuries, where both lines move up, they move in different directions for all the other centuries.

The smallest group of respondents were these who believe in the possibility of full restoration. It is between two to five respondents and reaches its highest point in the fourteenth century. Although the group is small, it is still significant: a few respondents believe in the possibility of a full restoration of historically authentic performance. In the subchapter of the Introduction – 'Philosophy of sound', I discussed this possibility and I concluded that possibilities of this process rely primarily on the amount of objective information in the notation (see page 49). The amount of objective information increases with centuries and in some notation examples of the twentieth century, there is almost full prescription for performance. However, in the earliest notations there is not even a prescription about how to mark the length of the notes on the axis of time. In the light of this conception, it does not actually make much difference in terms of authentic performance practice whether the discussion is about the tenth or the sixteenth century. Nonetheless, there is still quite a lot of optimism among respondents that the restoration of historically authentic performance is possible. This is understandable, because a large part of the early music

movement was particularly concerned about historically informed performance. Although the idea of historical authenticity in performance of early music was largely abandoned in 1980s (see page 37), the influence of the ideal from previous decades is still reflected into decades to come.

It is also interesting to see how much the respondent used the prescribed variants in total.

Table 37. Use of the variants to the question 'How precisely, in your opinion, is it possible to restore, on the basis of the information available to us, a historically authentic performance practice of medieval Gregorian chant of the Einsiedeln and St Gallen region? (seventh to sixteenth centuries)' (Q 97-106).

1	Completely impossible	131
2	Possible to a small extent	344
3	Possible to a rather great extent	336
4	Fully possible to restore	28
5	I have no expertise in it	183

In this table, all responses are summed up. Every respondent had the option of giving ten evaluations for the period from the seventh to sixteenth centuries. Most frequently used arguments were (2) possible to a small extent and (3) possible to a rather great extent. Fairly many respondents did use variant (1) completely impossible; and not too many were in favour of (4) fully possible to restore. It is interesting to note that there were only six respondents who used only variant '1' and five respondents who used only variants '1' and '2'. Fifteen respondents used only variant '2', seven used only variant '3' and fourteen respondents considered themselves not to have expertise about any of the arguments. The rest of the respondents used combinations of different variants.

If the same variant was not used for all the arguments, most of the answers increased in value on the axis of time. However, some exceptions pointed out the special status occupied by the earliest manuscripts in the restoration of historically authentic performance. In other words, the probability for the restoration of historically authentic performance may also decrease on the axis of time. For example, one respondent evaluates the possibilities for the restoration as follows:

Table 38. One respondent's evaluation of the possibilities of the restoration of historically authentic Gregorian chant.

Century	Possibility of the restoration
7	Possible to a small extent
8	Possible to a rather great extent
9	Fully possible to restore
10	Fully possible to restore
11	Possible to a rather great extent
12	Possible to a small extent
13	Possible to a small extent
14	Possible to a small extent
15	Completely impossible
16	Completely impossible

This example shows that the dynamics of understanding of the possibilities of the restoration of historically authentic performance practice does not always follow a predictable pattern.

3.2.5.4 If you were able to travel back in time to study Gregorian chant performance, and had seven minutes at your disposal, where would you go and how would you spend the seven minutes? (Q117-119)³⁰⁴

The respondents were asked to use their imagination and travel back in time for seven minutes to study Gregorian chant performance. The time limit of seven minutes was decided because it is long enough to get an impression and short enough not to have a chance for visiting several places, and the respondent would reveal the most important time and place for him/her. The answers were of a wide variety from every aspect. There were respondents who left the answer blank or clearly stated the pointlessness of this question: (1) I would not do this. It is pointless and will be useless; (2) I cannot give a serious answer.³⁰⁵ One respondent refused to answer, giving only a metaphysical response: 'Whether the time exists at all'. At the same time, many

³⁰⁴ From 130 respondents there were altogether 91, who reacted to this set of questions. Of these three did not complete the set but added a remark with their reasons. Some respondents only marked the century (if there was a period of two centuries, the later was used); some marked only the place and some only the activity. The following figures are out of 88 – the number of respondents who answered at least to one question from this set. Three respondents marked no century; ten respondents marked no place; 14 respondents marked no activity. In some cases it was possible to derive the century from the activity, for example if a respondent marked that he/she wishes to meet Eugène Cardine, the century has to be the twentieth. If the life of a particular person involved the turn of the century, the later century was marked. Due to the inconsistency of answering the questions, in the following tables the number of respondents is different, depending on which aspect of the answers is used.

³⁰⁵ The answers that consisted of punctuation marks and/or rationally not understandable letter combinations were considered as not answered.

respondents had a very clear idea where to go and what to do. For example, (1) to Rome during Christmas in 680; (2) to Trier in 753 to listen Pope Steven II singing the Mass; (3) to Solesmes Abbey to the Easter Vigil in 1100, listening to 'Gloria in excelsis'. One respondent divided his seven minutes into two and wanted to spend three minutes in the schola rehearsal and four minutes listening to the Mass in St Gallen in the year 950. The distribution on the timeline was also very wide. One respondent wished to go to the Temple of Jerusalem before the year 70 and the other to Finland in the year zero to listen a shaman singing. The first answer was probably a hint that the essence of Gregorian chant lies in the Jewish religious music and/or its mixture with Christian spirituality and the latter suggests that singing Gregorian chant is strongly connected with historical religious endeavour and its musical representation.

Table 39. Frequency table of the results of the question 117-119; centuries into which the respondents would like to travel to study performance of Gregorian chant; in the chronological order of centuries.

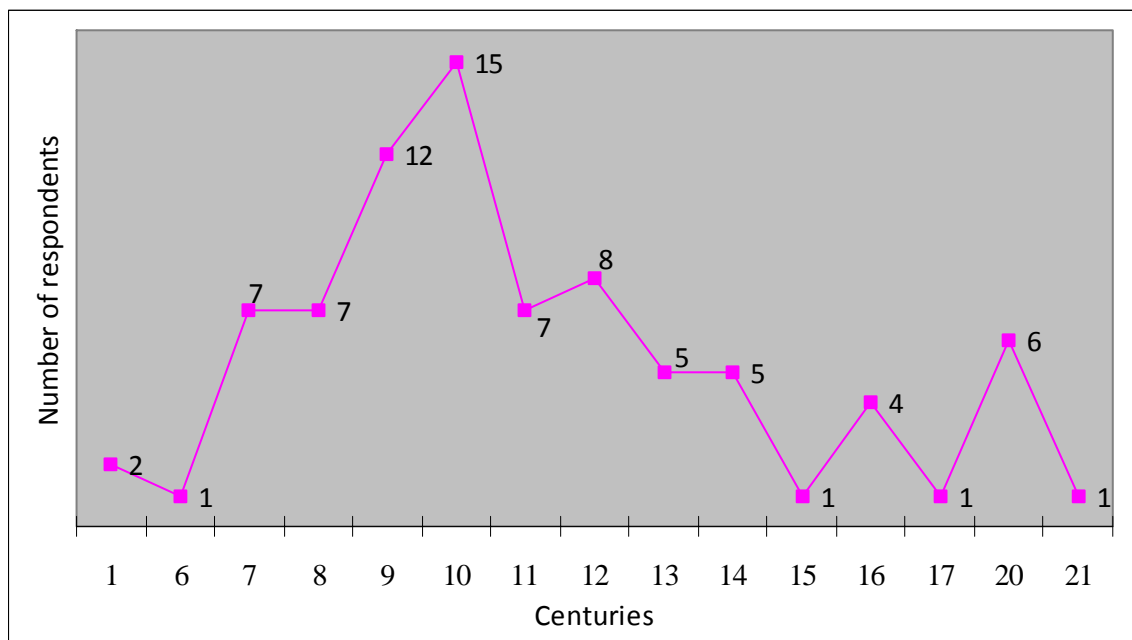
		Freq	%	Valid %
Valid	1 st century	2	1.6	2.4
	6 th century	1	0.8	1.2
	7 th century	8	6.3	9.4
	8 th century	7	5.5	8.2
	9 th century	12	9.4	14.1
	10 th century	15	11.8	17.6
	11 th century	8	6.3	9.4
	12 th century	9	7.1	10.6
	13 th century	5	3.9	5.9
	14 th century	5	3.9	5.9
	15 th century	1	0.8	1.2
	16 th century	4	3.1	4.7
	17 th century	1	0.8	1.2
	20 th century	6	4.7	7.1
	21 st century	1	0.8	1.2
	Total	85	66.9	100.0
Missing	System	42	33.1	
Total		127	100.0	

On the other end of the timeline, there are seven wishes³⁰⁶ to go to (1) Rome in 1904 to meet Pope Pius X; (2) Solesmes in 1955; (3) Rome in 1977 to meet Eugène Cardine; (4) Rome 1980 and participate Eugène Cardine's class; (5) Silos in 1980; (5) to meet Eugène Cardine; (7) St Gallen in 2006. It was also popular among the respondents to imagine meeting a particular person. Most popular among these were Eugène Cardine

³⁰⁶ These wishes are in a chronological order on the timeline.

(3 respondents); Hildegard of Bingen (2 respondents); Pope Pius Xth (1 respondent); Perotinus (1 respondent); Pope Gregory the Great (1 respondent); Hartker (1 respondent). Some meetings were imagined with abstract persons such as a scribe and a choirmaster at a particular community. Particular persons were also mentioned in perspective of listening to their singing, for example listening Hermann der Lahme singing 'Salve Regina'.

Figure 15. A representation of Table 39 – centuries into which the respondents would like to travel to study performance of Gregorian chant.



From 85 respondents who answered this question, 59 wanted to go to a period between the seventh and twelfth centuries. There were only seven respondents who wanted to go to the twentieth or twenty-first centuries. This is indeed quite logical, because after all we are dealing with a medieval repertoire. However, if we compare this result with one of the following subchapters, 'Top ten of key figures of Gregorian chant through out all times and from the beginning of the nineteenth century', we see that on the top of both charts are persons from the nineteenth and twentieth centuries. In the lower positions, there are also medieval key figures of Gregorian chant; but considering the figures who occupy top position, it is interesting that so few respondents would take advantage of the possibility of meeting them. It is of course possible that in some cases a respondent has already met or knows sufficiently about the key figures of the twentieth century and therefore decided to take a 'trip' to a much earlier period.

It was not specified to the respondents whether they had to name a town or a community that they want to visit. Therefore the results were not in the same format – some respondents named a region or a country, for example ‘somewhere in central Europe’ or ‘region of today’s France’; some named a particular monastery; some named an abstract place, for example ‘any community where singing was practised’ or ‘a cathedral in Europe’. These additions appear in the following table as ‘Not specified’. Most respondents named a specific place as a destination of their time travel. Among the places that were preferred the most popular were St Gallen and Rome.

Table 40. Frequency table of results of the question 117-119; destinations and centuries to which the respondents would like to travel to study Gregorian chant; sorted by frequency.

		Freq.	%	Valid %
Valid	Chartres (14 th)	1	0.8	1.1
	Citeaux (13 th)	1	0.8	1.1
	Corbie (9 th)	1	0.8	1.1
	Finland (1 st)	1	0.8	1.1
	Fleury (10 th)	1	0.8	1.1
	Insel Reichenau (11 th)	1	0.8	1.1
	Kempten (10 th)	1	0.8	1.1
	Laon (10 th)	1	0.8	1.1
	Mettlach (10 th)	1	0.8	1.1
	Monte Casino (14 th)	1	0.8	1.1
	Padise, Estonia (16 th)	1	0.8	1.1
	Prague (14 th)	1	0.8	1.1
	Salisbury (14 th)	1	0.8	1.1
	Silos (20 th)	1	0.8	1.1
	St Denis (8 th)	1	0.8	1.1
	Toledo (7 th)	1	0.8	1.1
	Trier (8 th)	1	0.8	1.1
	Vadstena, Sweden (14 th)	1	0.8	1.1
	Aachen (9 th)	2	1.6	2.2
	Jerusalem (1 st and 7 th)	2	1.6	2.2
	Rupertsberg (Bingen) (12 th)	2	1.6	2.2
	Solesmes (12 th and 20 th)	2	1.6	2.2
	York (15 th and 16 th)	2	1.6	2.2
	Einsiedeln (9 th and 10 th ; one unspecified)	3	2.4	3.3
	Non specific (6th, 9th, 11th; one unspecified)	3	2.4	3.3
	Cluny (10 th – 1; 11 th – 2; 12 th – 1)	4	3.1	4.4
	France (9 th , 10 th and 12 th ; one unspecified)	4	3.1	4.4
Metz (8 th – 3; 9 th – 1)	4	3.1	4.4	
Paris (12 th – 2; 13 th – 3; 14 th – 1)	6	4.7	6.6	
Rome (7 th – 5; 8 th – 1; 9 th – 1; 12 th – 1; 20 th – 3)	11	8.7	12.1	
St Gallen (9 th – 5; 10 th – 7; 11 th – 4; 13 th – 1; 21 st – 1)	18	14.2	19.8	
Not answered	10	7.7	11.0	
Total	91	71.8	100.0	
Missing	System	36	28.2	
Total		127	100.0	

The third aspect that was asked of the respondents was what would they do with their seven minutes. 77 respondents answered this question.³⁰⁷ It must be noted that all the types of activities mentioned in coming analyses overlap in one way or another: for example, it is not possible to sing without listening. However, it is interesting to see how different respondents stress one particular activity or which stress a combination of these activities. Most of the activities were concerned with simply listening (33 respondents) and singing (three respondents). Singing together with listening was mentioned four times,³⁰⁸ and singing together with watching, once. A group of respondents (12) would prefer a meeting with somebody. Many respondents (11) wrote that they want to participate, or just mentioned the event that they would be interested in. Four respondents only mentioned a church or a monastery as an activity. It is interesting to note that all these activities were presented in different combinations. Some respondents underlined listening, some singing, and some both. Only two respondents specified an aspect of 'watching' together with listening. Many respondents marked that they would like to participate in a certain event. Participating probably also involves watching, as well as singing, listening, and moving but it is peculiar that only few respondent underlined watching – considering body language and other visual aspects to be an integral part of chanting. Can this suggest Gregorian chant has evolved into somewhat isolated musical issue rather than a complex activity? Only one respondent wished to make notes, and none of the respondents wanted to record the experience for the further analyses.

Some respondents specified what exactly they want to sing or listen to: (1) listening to 'Te Deum' on midnight Mass on Easter; (2) with a choirmaster, singing from Einsiedeln 121; (3) listening to Pope Steven II singing the Mass; (4) listening and singing the Brigittine office 'Cantus Sororum'; (5) to listen to the forgotten office of Saint Lutwinus; (6) listening to the 'Exultet' of the Easter Liturgy; (7) experiencing 'Gloria in Excelsis Deo'; (8) listening to a mass sung by Saint Gregory the Great; (9) listening to the 'machicoti' of Notre-Dame performing an organum for 3 or 4 voices; (10) listening to Hermann der Lahme singing Salve Regina; (11) listening to the Introit of the Easter Sunday; (12) listening to the Christmas Matins; (13) listening to the introit for of the

³⁰⁷ The respondents who refused to answer are excluded from this number.

³⁰⁸ One respondent labelled it as 'experiencing'.

Christmas day; (14) listening to a Gradual or an Offertory; (15) listening to the Gradual and the Alleluia on Easter; (16) listening to psalms at Vespers.

There is no particular piece that would emerge as 'the piece' that everybody would like to hear. Most interest is directed towards music of Easter and Christmas. Both office and Mass are represented. In the music for the Mass, the Proper is clearly preferred to the Ordinary.

The variety in meetings with abstract or particular persons is also large: (1) meeting Pope Pius X; (2) talking to the scribe and choir master; (3) meeting Perotinus; (4) speaking to the author of 'Jesu Dulcis Memoria' and 'In Paradisum' and 'Chorus Angelorum'; (5) looking over Hartker's shoulder; (6) meeting Pope Gregory the Great; (7) asking Hildegard from Bingen how she intended her music to be performed; (8) meeting Eugène Cardine.

The respondents also mentioned some particular events that they would have liked to take part in: for example (1) a liturgy with the participation of Charles the Great or (2) the coronation of Charles the Great.

Amongst answers that were considerably different and/or original, the following should be mentioned: (1) talking to a cantor asking him about his practices of improvisation and composition; (2) listening to a shaman singing; (3) listening to a birth of a piece of the Notre Dame school which is interpolated with Gregorian chant.

On the base of previously analysed material, I can form certain destinations where some of our respondents will 'meet' because of similar wishes for 'time travel'. It would be too much to ask that two 'time travelling' respondents would be at the same place in the same time for seven minutes. However, there is a pattern of importance emerging. A clear favourite in destination is St Gallen. This does not come a surprise – there has been a great deal of focus on St Gallen notation in chant scholarship. The most favoured time among the respondents who would have liked to 'time travel' to St Gall are the ninth, tenth or eleventh centuries.

It is interesting that most wishes for 'time travel' in the questionnaire cluster around the period when oral tradition was turning into written tradition, although it is believed that by the time from which there are fully notated liturgical manuscripts, the repertoire must have undergone significant changes compared to the period of oral tradition (Jeffery, 1992: 9). Therefore, it can be said that the biggest group of respondents consider the period of writing down the repertoire more important than

the period of creation and development. Gregorian chant historiography has been much focused on time and place and local practice. The results of this set of questions support this approach and ask urgently for a clarification in what is actually meant when talking about the repertoire called 'Gregorian chant'. Is it (1) imaginable music of the period of oral tradition; (2) written musical information in earliest manuscripts; (3) contemporary compilation of medieval sources and our vivid imagination about how things could have sounded; (4) a living tradition of musical and/or religious practice that has no ambitions to historical authenticity. In most cases, it is probably the mixture of two or more above described variants and it is probably not possible to establish a universally applicable definition. However, discussion in this field is most welcome. Of course, there are other destinations too in this 'time travel' experiment. Convergence at St Gallen in the ninth and tenth centuries is not universal. However, perhaps the popularity of St Gallen suggests that chant scholarship, and especially extensive studies in paleography and semiology, has created an understanding that the real historical value of Gregorian chant is connected foremost with this place and with this period of writing down the repertoire.

3.2.5.5 A summary on issues of authenticity

The results of questions concerning authenticity suggest that, in the opinion of most the respondents, a substantial amount of knowledge of contemporary performance of Gregorian chant lies in a medieval practice of this repertoire.

None of the three forms of authenticity described in the set of questions 107-109 has a clearly predominant role for the respondents. All three have a relatively equal means, all of which are over the average. Nevertheless, the results established that 'historical authenticity'³⁰⁹ is the least important among the three variants. Authenticity that is understood as 'singing in a way that the music, precisely at the time of performance, sounds honest and genuine'³¹⁰ has slightly higher mean.

The results to the question about possibilities of the restoration of historically authentic performance practice of Gregorian chant shows that most of the respondents believe in a possibility of the restoration of historically authentic performance at least to 'some extent'. There are fairly many who believe that

³⁰⁹ Question 107

³¹⁰ Question 108

restoration is possible to 'a rather great extent'. There are however very few who believe in a possibility of full restoration. One must acknowledge the difference between 'possible to a small extent' and 'possible to a rather great extent'. However, it must be noted that in terms of historical authenticity, if someone considers restoration possible at least to a small extent, then he/she might already be on the other side of the border drawn by musicologists who criticized possibilities of historically authentic performance in the 1980s (see page 37). There is a contradiction emerging here, when three statements of authenticity³¹¹ are observed together with the possibilities of restoration of historically authentic performance. The argument of historical authenticity in questions 107-109 had the lowest mean (4.09). All the means were higher than four, which show that a general question of authenticity is important to the respondents. The contradiction lies in the general belief of the respondents that the restoration of historically authentic performance is possible at least to some extent versus considering historical authenticity as a least important form of authenticity. This contradiction may suggest that the conscious understanding of real possibilities of restoration of historical authenticity is rationally understood to be quite unlikely, and therefore it is not considered as the most important form of authenticity; however, there is an understandable longing for historically authentic performance.

3.2.6 Comparison within sets of data

3.2.6.1 Introduction

In this subchapter of the analyses of the raw data, I will concentrate on concurrencies and correlations within the sets of questions. The sets that will be analysed here are questions 1-27 and questions 42-74. To see a correlation between variables, for example between 'Gregorian chant, for me, means meaningful texts'³¹² and 'Gregorian chant, for me, means a part of my activities as musician',³¹³ a correlation matrix is compiled. This is done with specialist software, in this case SPSS 16.0. The result of the calculation done by the software is a table, which has variables³¹⁴ as the first row and the first column. For example, see Appendix 21, vol 3, pp 680-681, which shows correlations of arguments 1-27. The values that show the correlation between two

³¹¹ Question 107-109

³¹² Question 22

³¹³ Question 25

³¹⁴ Variables also referred to as questions or arguments.

variables are on the crossover of one variable from the first column of the table and one variable from the first row of the table. On the lines, every variable has three sections: (1) Pearson Correlation; (2) significance index; (3) number of respondents.

Pearson Correlation (henceforth also PC) is one of the calculation methods that are used to find out how different variables relate to each other – the higher the value, the higher the correlation between the variables. The highest possible value is '1'. Therefore, in the table, the diagonal from the upper left corner to the lower right corner has only '1' as a value – these are the points where identical variables from the first row and the first column 'meet'. As they are the same variables, the correlation is 100% and the Pearson Correlation equals '1'. Pearson Correlation may have an asterisk (*) or two asterisks (**) at the end. This means that that the correlation is significant on levels 0.05 and 0.01 respectively. If the level is 0.01, it means that the probability of this correlation appearing randomly is less than one in a hundred, and if the level is 0.05, then the probability is less than 5 in a hundred.

The latter-described issue of probability is also expressed by the significance index. If the value of the significance index is 0.05 or less, then the correlation is marked with one asterisk; and if the value is 0.01 or less, the correlation is marked with two asterisks. The significance index shows which correlations are more important within the groups of one and two asterisks. Correlations within one group can have different significance indexes, which means that their importance is different. For example, Pearson Correlation with two asterisks can have a significance index of 0.01 or 0.001. In the first case, a probability of this correlation to appear randomly is less than one in a hundred but in the latter case, it is less than one in a thousand. The third value, marked by 'N', shows how many respondents have answered to a particular question.

Observing a correlation matrix shows which variables tend to belong together. For example, in the correlation matrix of the set of questions 1-27, we can see that there is a high correlation between variables 'meaningful texts'³¹⁵ and 'thematically coherent and textually complete repertory for the whole church year'³¹⁶. Pearson Correlation is 0.603** and it is significant at the 0.01 level. It means that the respondents who consider Gregorian chant as described in the variable 22 also think

³¹⁵ Question 22

³¹⁶ Question 21

that the repertoire has values that are described in the variable 21. The correlation matrix reveals many correlations, including negative ones. For example Pearson Correlation for variables 'a bridge to Pre-Christian cultures and spiritualities'³¹⁷ and 'Roman Catholic liturgical music'³¹⁸ is -0.193* and its significance index is 0.032. This means that respondents who consider Gregorian chant to be as described in the variable 20 do not think that it resembles to the description in the variable 9. Correlation matrix is a very interesting and good tool to determine whether results are logically explicable. That gives insurance to the plausibility of the questionnaire. However, the matrix is far too big to describe the selection of respondents through it. A proper tool for that is called factor analyses. Factor analyses divide variables into components by resemblance. The software analyses the results and finds which questions the respondents have answered similarly. The software user can change the number of factors and method of analyses. Particular parameters that are used for factor analyses are described in subsequent subchapters.

3.2.6.2 Three possible misunderstandings that could occur in counting the 'core values'

The correlation matrix is used in this research to determine whether there are arguments that are 'more correlative' than others. The principle of a correlation matrix is that the means of positively correlating arguments increase together and means of negatively correlating arguments decrease together. The logic behind counting the number of correlations is that if a certain question correlates with more questions, it has a tendency to fit together with more arguments. It was pointed out in the introduction of this chapter that using this rather unorthodox method can lead to several misinterpretations. Thus, these possibilities are explained on the example of the following table.

³¹⁷ Question 20

³¹⁸ Question 9

Table 41. Mean and number of positive correlations ('Corr') that are significant on the level 0.01 between the variables in the set of questions 1-27; sorted by 'Corr'; please see the table also as Appendix 22, vol 2, p 504.

nr	Argument	Mean	Corr
11	[...] liturgical song, to be interpreted according to certain rules.	5.43	17
13	[...] a broad-based domain of musicology and liturgics.	4.90	15
23	[...] an opportunity to introduce interesting music and its underlying spirituality [...].	4.77	14
7	[...] inspiration for my musical activities.	5.35	13
10	[...] an opportunity to investigate medieval notation.	4.45	13
12	[...] a collection of medieval manuscripts and liturgical texts.	4.37	13
2	[...] the foundation of European professional musical culture.	6.15	12
6	[...] beautiful melodies.	5.02	12
4	[...] exciting repertory that can be used to fill concert programmes.	3.67	11
8	[...] an opportunity for career enhancement.	2.49	11
15	[...] sacred text, illuminated by music.	6.25	11
22	[...] meaningful texts.	5.97	11
19	[...] medieval monodic liturgical chant of the Western church [...].	6.12	10
21	[...] thematically coherent and textually complete repertory for the whole church year.	6.14	10
24	[...] a form of teaching about the Word of God and what the teaching expresses.	5.65	10
14	[...] a method of composing liturgical music.	3.80	9
25	[...] a part of my activities as musician.	6.06	9
3	[...] Franco-Roman chant, a part of Latin sacred monody.	6.10	8
16	[...] a way of musical thinking.	5.46	8
18	[...] prayer.	7.14	8
20	[...] a bridge to Pre-Christian cultures and spiritualities.	3.82	7
5	[...] any kind of monodic Latin liturgical chant.	3.69	6
9	[...] Roman Catholic liturgical music.	6.04	5
26	[...] one vocal repertory among many others.	4.23	5
27	[...] a boring duty that I need to do routinely.	1.40	5
1	[...] a way of life.	5.19	4
17	[...] musical text, performed in a theatrical manner.	1.98	4

This table shows that some variables clearly correlate with more variables than others. The highest number of correlations is 17 and the lowest is four. This means, that there are 17 arguments, means of which rise together with the argument 'liturgical song, to be interpreted according to certain rules'.³¹⁹ In other words, the respondents who believe that Gregorian chant is 'liturgical song, to be interpreted according to certain rules' also believe that Gregorian chant has features as described in these 17 arguments. This is the only argument that is in the opinion of the respondents strongly connected to 17 other arguments. On the other end of the table there is the argument 'a way of life',³²⁰ which correlates with only four other arguments. The first possible misunderstanding would be that the arguments that correlate with more arguments are more important. The importance of an argument is measured by its mean. To help

³¹⁹ Question 11

³²⁰ Question 1

the observation, the means are also included into the table. Looking at the means raises a question, how can the argument 'prayer'³²¹ with so high mean correlate only with eight other arguments? This leads to a second possible misunderstanding. Every analysis depends on variables, which are analysed. I tried to map as many features of Gregorian chant into these variables as possible. If I had elaborated the aspect of prayer into multiple variables, it would have shown significantly more correlations. When I compiled the questionnaire, I did not have in mind this particular analysis and I did not try to balance or unbalance different features i.e. religious/spiritual, musicological, aesthetic, creative, and so on. I simply described all possible features that Gregorian chant could mean. When I now look at the variables, it seems to me at least that it is a fairly balanced selection. The same applies also to the set of questions 42-71. It is also suggested by qualitative additions of the respondents to the sets of questions 1-27 and 42-71. The respondents did suggest features that were not in the questionnaire, but they mainly elaborated already-presented aspects. If I were to do the questionnaire again, I would add two or three variables such as 'unity of text and music', 'music that unites masses of people'. This however, is not possible anymore and therefore it is crucial to understand that the 'core values' described are the 'core values' among these variables that are in the questionnaire. On the other hand, one must take into consideration that the most elaborated argument in the set of questions 1-27 was 'prayer' – there were altogether 15 additions (see page 139). This fact implies that the argument 'prayer' should have been more elaborated in the questionnaire.

The most disturbing issue in the analyses of the 'core values' is the fact that results show most of the 'core values' in sets of questions 1-27 and 42-71 to be of musical or musicological nature. At the first glance, it seems controversial, because we want to believe that Gregorian chant rises mainly from religious/spiritual origins. However, this is just one controversy in the line of many that this research shows. Therefore, an important question should be asked: is it theoretically possible that the argument with highest mean 'prayer' appears among the highly correlative arguments? Can it be that it is excluded simply because the other arguments are actually elaborations of each other and religious arguments do not have a chance? Can it be that religious arguments simply do not correlate with arguments of a different

³²¹ Question 18

nature? This question can be answered by looking at the correlations of the argument 'prayer'.³²² Among eight significant positive correlations is also 'liturgical song, to be interpreted according to certain rules',³²³ which is not clearly religion/spirituality related variable. There is also one weaker correlation, types of which were left out from the main analysis (the explanation is at the beginning of the next subchapter, see below). 'Prayer' correlates with 'European professional musical culture',³²⁴ with a Pearson Correlation of 0.223* and a significance index of 0.012. These examples show that 'prayer' can actually correlate with non clearly religious/spiritual variables. There are also other examples of how clearly religious/spiritual arguments correlate with variables of purely musical nature.

The third possible misunderstanding is that variables that are grouped together (coloured groups in Table 41) are strongly related to each other. They may be related, but not necessarily. For example, 'a broad based domain of musicology and liturgics'³²⁵ does not have a significant correlation with 'beautiful melodies'.³²⁶ At the same time, there can be correlations between arguments at top and bottom of the table. The common nominator of the variables in the same group is only the amount of correlations. Therefore, if talking about 'core value' it means a single variable that has earned this position because the number of arguments it belongs together with is significantly higher.

To conclude this subchapter about possible misunderstandings of the analysis of the core values, it must be said that the results of this analysis are of a hypothetical nature, since it is not entirely possible to prove that the arguments in the questionnaire are well balanced.

3.2.6.3 Correlation matrix of the set of questions 'What does Gregorian chant mean for you? (both as a term and as a phenomenon)' (Q 1-27)

In the correlation matrix of this set of questions, many positive correlations are significant on level 0.01 (**). Therefore, in the following analyses, the correlations, which are significant on the level higher than 0.01 are ignored. There are only two

³²² Question 18

³²³ Question 11

³²⁴ Question 2

³²⁵ Question 13

³²⁶ Question 6

significant negative correlations: (1) 'Roman Catholic liturgical music'³²⁷ and 'a bridge to Pre-Christian cultures and spiritualities'³²⁸ have Pearson Correlation -0.193* and significance index 0.032; (2) 'musical text, performed in a theatrical manner'³²⁹ and 'prayer'³³⁰ have Pearson Correlation -0.188* and significance index 0.035.

Table 41 is divided into three segments.³³¹ The first segment with the highest values (17 to 12) consists of arguments that can be considered as 'core values': those that are most strongly related to other variables. Speaking figuratively, it could be said that the first segment forms a canvas that can be used for different paintings. It is interesting to note that none of the arguments with the highest values is very spiritually specific. The closest is the variable 'an opportunity to introduce interesting music and its underlying spirituality to the audience'³³² that could be interpreted as a 'missionary activity'.

The controversial idea that the 'core values' are mainly of a non spiritual and non religious nature begs for additional tests to be set for respondents who consider religion more important for them. For that, I use the correlation matrix in which only these 85 respondents who consider religion more important are included.³³³ This additional analysis will rule out the possibility that those respondents who did not answer the question about religion, or consider religion less important for them, corrupt the data.

³²⁷ Question 9

³²⁸ Question 20

³²⁹ Question 17

³³⁰ Question 18

³³¹ There are 27 variables and equally divided one segment should consist of 9 variables. If the cutting point between two segments was between two variables with same value, then the cutting point was shifted so that all variables with the same value would be in the same segment. The direction of the shift was decided upon the principle that segments should consist as close to 9 segments as possible.

³³² Question 23

³³³ Among 130 respondents, 85 answered to the question '146. How important is religion for you? [...]' with a scale point 6-8 on a 8-point scale.

Table 42. Number of positive correlations that are significant on the level 0.01 between the variables in the set of questions 1-27; 'A' = correlations of all respondents (as in the previous table), column 'B' = correlations of these 85 respondents who consider religion more important for themselves; sorted by column 'B'; please see the table also as Appendix 23, vol 2, p 505.

nr	Argument	A	B
23	[...] an opportunity to introduce interesting music [...] to the audience.	14	13
6	[...] beautiful melodies.	12	13
10	[...] an opportunity to investigate medieval notation.	13	12
8	[...] an opportunity for career enhancement.	11	12
11	[...] liturgical song, to be interpreted according to certain rules.	17	11
7	[...] inspiration for my musical activities.	13	10
12	[...] a collection of medieval manuscripts and liturgical texts.	13	10
19	[...] medieval monodic liturgical chant of the Western church [...].	10	10
14	[...] a method of composing liturgical music.	9	10
13	[...] a broad-based domain of musicology and liturgics.	15	8
15	[...] sacred text, illuminated by music.	11	8
24	[...] a form of teaching about the Word of God [...].	10	8
3	[...] Franco-Roman chant, a part of Latin sacred monody.	8	8
4	[...] exciting repertory that can be used to fill concert programmes.	11	7
25	[...] a part of my activities as musician.	9	7
20	[...] a bridge to Pre-Christian cultures and spiritualities.	7	7
22	[...] meaningful texts.	11	6
21	[...] thematically coherent and textually complete repertory [...].	10	6
16	[...] a way of musical thinking.	8	6
5	[...] any kind of monodic Latin liturgical chant.	6	6
2	[...] the foundation of European professional musical culture.	12	5
9	[...] Roman Catholic liturgical music.	5	5
18	[...] prayer.	8	4
26	[...] one vocal repertory among many others.	5	3
27	[...] a boring duty that I need to do routinely.	5	3
1	[...] a way of life.	4	2
17	[...] musical text, performed in a theatrical manner.	4	2

The second and third columns are highlighted the same way as in Table 41. The first and fourth columns are highlighted according to three segments formed on the base of column 'B'. As it can be seen, there are changes in the 'core values'. Variables 8, 19, and 14 have migrated from the second segment to the first segment. Variable 2 has moved from the first segment to the third segment. There are also variables that have migrated from the third segment to the second. However, religion and spirituality related variables have not migrated to the first segment. The closest variables of this kind are 15 and 24 in the second segment.

3.2.6.4 Factor analyses of the set of questions 'What does Gregorian chant mean for you? (both as a term and as a phenomenon).' (Q 1-27)

There has not been research of this type before and therefore there is no description of different values characteristic of Gregorian chant related people. It is quite understandable, because there is not even a comprehensive taxonomy of different performance practices. The results of the questionnaire give us a chance to describe the selection of the respondents according to two parameters: (1) what Gregorian chant is and (2) what is important for a good performance of Gregorian chant. In the factor analysis, terms such as 'religious performer' and 'knowledgeable performer' are used. It is important to understand that this does not refer to a particular person, or even a group of particular persons in the selection; rather, they are descriptions of an abstract 'performer' who acquires a face through observation of all results of the questionnaire together.

In the final factor analyses of the set of questions 1-27, there are 4 components in a Rotated Component Matrix. The extraction method is Principal Component Analyses and the rotation method is Variamax. The maximum iterations for Convergence is 25. It is a usual practice in the procedure of factor analyses that different numbers of components are tested. I also started with 2 components. All other parameters are the same as with the final factor analyses. Starting with fewer components, it is possible to observe, how division into more components evolves.

Before labelling the components, it must be noted that there are no clear borders between components and that all labels are generalisations. In Table 43, there is a division between two components. Component number one, which through a broad generalisation can be labelled as 'non-Christian approach', consists of variables that does not include Christianity-specific aspects. However, there are some arguments that can be considered not just musical or musicological but religious or spiritual, for example 'an opportunity to introduce interesting music and its underlying spirituality to the audience'³³⁴ and 'a bridge to Pre-Christian cultures and spiritualities'.³³⁵ Component number two, which can be labelled as a 'Christian approach', consists of variables that are mostly associated with Christianity.

³³⁴ Question 23

³³⁵ Question 20

Table 43. Rotated component matrix of questions 1-27 (two components); **N** = variables with a values close to zero or negative; please see the table also as Appendix 24, vol 2, p 506.

Argument	Component	
	1	2
[...] an opportunity for career enhancement.	0.735	-0.103
[...] an opportunity to introduce interesting music and its underlying spirituality [...]	0.656	0.193
[...] beautiful melodies.	0.630	0.059
[...] inspiration for my musical activities.	0.613	0.172
[...] exciting repertory that can be used to fill concert programmes.	0.601	0.013
[...] an opportunity to investigate medieval notation.	0.529	0.204
[...] musical text, performed in a theatrical manner.	0.510	-0.163
[...] a bridge to Pre-Christian cultures and spiritualities.	0.508	-0.027
[...] a part of my activities as musician.	0.502	0.224
[...] a broad-based domain of musicology and liturgics.	0.482	0.301
[...] a method of composing liturgical music.	0.478	0.200
[...] a way of musical thinking.	0.423	0.149
[...] any kind of monodic Latin liturgical chant.	0.422	0.074
[...] one vocal repertory among many others.	0.415	0.063
[...] a collection of medieval manuscripts and liturgical texts.	0.395	0.387
[...] a boring duty that I need to do routinely.	0.377	0.103
[...] medieval monodic liturgical chant of the Western church [...] [of] Roman rite.	0.038	0.765
[...] prayer.	-0.126	0.729
[...] a form of teaching about the Word of God and what the teaching expresses.	0.056	0.687
[...] thematically coherent and textually complete repertory for the whole church year.	0.117	0.659
[...] meaningful texts.	0.185	0.642
[...] liturgical song, to be interpreted according to certain rules.	0.301	0.640
[...] Roman Catholic liturgical music.	-0.032	0.564
[...] Franco-Roman chant, a part of Latin sacred monody.	0.170	0.500
[...] a way of life.	0.004	0.462
[...] sacred text, illuminated by music.	0.249	0.452
[...] the foundation of European professional musical culture.	0.265	0.440

The software was programmed to organise the variables by the size of the factor coefficient. In the table, however, only the part that belongs to a particular component is organised by size. After the break point of two components, the numbers are not in order in both columns, because they are sorted by size of the numbers in the other column. From these cells, which are outside of one of components, there are still variables that have relatively high factor coefficients (henceforth also satellite variables). This suggests that they are also part of the other component – the connection is definitely weaker, but they are influential to the component. In this light, ‘a part of my activities as musician’,³³⁶ ‘a broad-based domain of musicology and

³³⁶ Question 25

liturgics',³³⁷ and 'a collection of medieval manuscripts and liturgical texts'³³⁸ are also a part of 'Christian approach'; 'liturgical song, to be interpreted according to certain rules',³³⁹ 'sacred text, illuminated by music',³⁴⁰ and 'the foundation of European professional musical culture'³⁴¹ are also a part of a 'non-Christian approach'. In the same way, negative values are signalling that a particular variable is definitely not part of this component: for example, 'prayer'³⁴² and 'Roman Catholic liturgical music'³⁴³ are not a part of 'non Christian approach'; 'an opportunity for career enhancement'³⁴⁴ and 'musical text, performed in a theatrical manner'³⁴⁵ are not a part of a 'Christian approach'.

In the introduction of this dissertation, it was proposed that there could be a spiritual approach to Gregorian chant, which comes from a different ethos than Christianity (see page 68). Therefore, classification into two components is not sufficient and the factor analysis with three components was done to find divisions in both components described on the basis of Table 43.

In the table of three components (Table 44), the 'Christian approach' remained almost the same as in the table of two components. One additional variable migrated into this component: 'a collection of medieval manuscripts and liturgical texts'.³⁴⁶ It is not easy to label the two additional components, but it can be said that adding the third component extracted out variables that describe the approach of those respondents for whom Gregorian chant is part of their professional activities but is clearly not their passion (component three). As in the previous table, the variables that have a relatively high factor coefficient (satellite variables), and are therefore considered influential to a particular factor, are also highlighted with relevant colours.

³³⁷ Question 13

³³⁸ Question 12

³³⁹ Question 11

³⁴⁰ Question 15

³⁴¹ Question 2

³⁴² Question 18

³⁴³ Question 9

³⁴⁴ Question 8

³⁴⁵ Question 17

³⁴⁶ Question 12

Table 44. Rotated component matrix of questions 1-27 (three components); **N** = values close to zero or negative; **N** = variables with a positive value only in one component; **N** = variables with positive value in all components; please see the table also as Appendix 25, vol 2, p 507.

Argument	Component		
	1	2	3
[...] medieval monodic liturgical chant of the Western church [...].	0.789	-0.089	0.197
[...] prayer.	0.712	0.073	-0.247
[...] thematically coherent and textually complete repertory [...].	0.662	0.079	0.117
[...] liturgical song, to be interpreted according to certain rules.	0.659	0.086	0.392
[...] a form of teaching about the Word of God [...].	0.648	0.311	-0.248
[...] meaningful texts.	0.626	0.241	0.032
[...] Roman Catholic liturgical music.	0.580	-0.084	0.075
[...] Franco-Roman chant, a part of Latin sacred monody.	0.530	-0.062	0.357
[...] sacred text, illuminated by music.	0.447	0.198	0.172
[...] a way of life.	0.421	0.283	-0.305
[...] the foundation of European professional musical culture.	0.412	0.354	0.012
[...] a collection of medieval manuscripts and liturgical texts.	0.375	0.325	0.245
[...] inspiration for my musical activities.	0.114	0.727	0.100
[...] a way of musical thinking.	0.078	0.694	-0.155
[...] a bridge to Pre-Christian cultures and spiritualities.	-0.080	0.623	0.051
[...] a part of my activities as musician.	0.178	0.588	0.095
[...] an opportunity to introduce interesting music [...]	0.166	0.559	0.363
[...] an opportunity to investigate medieval notation.	0.172	0.518	0.217
[...] exciting repertory that can be used to fill concert programmes.	-0.008	0.480	0.364
[...] a broad-based domain of musicology and liturgics.	0.282	0.414	0.270
[...] a method of composing liturgical music.	0.186	0.375	0.306
[...] beautiful melodies.	0.077	0.255	0.675
[...] one vocal repertory among many others.	0.099	0.013	0.628
[...] any kind of monodic Latin liturgical chant.	0.100	0.082	0.558
[...] an opportunity for career enhancement.	-0.114	0.487	0.556
[...] a boring duty that I need to do routinely.	0.128	0.066	0.508
[...] musical text, performed in a theatrical manner.	-0.167	0.316	0.408

There are no variables that can be classified as belonging to all three factors; however, some variables (marked with **N**) have a fairly high coefficient in all factors: 'sacred text, illuminated by music',³⁴⁷ 'a collection of medieval manuscripts and liturgical texts',³⁴⁸ 'an opportunity to investigate medieval notation',³⁴⁹ 'a broad-based domain of musicology and liturgics',³⁵⁰ 'a method of composing liturgical music',³⁵¹ and 'inspiration for my musical activities'.³⁵² These variables have a factor coefficient in every component of at least 0.100. It is also interesting to note that some variables are

³⁴⁷ Question 15

³⁴⁸ Question 12

³⁴⁹ Question 10

³⁵⁰ Question 13

³⁵¹ Question 14

³⁵² Question 7

clearly only part of one component (marked with ■), for example ‘prayer’³⁵³, and ‘a bridge to Pre-Christian cultures and spiritualities’.³⁵⁴

All components engage satellites from other components. Component one, in other words the ‘Christian approach’, engages some variables from other components: for example, ‘a method of composing liturgical music’.³⁵⁵ Component two, which, generally speaking, can be labelled as a ‘spiritual but non Christian approach’, consists of variables that describe sort of inspirational features that are not specifically Christian but also not just musical-aesthetical. It also has satellites from two other components. The third component, which can be called an ‘approach of a pragmatic performer’, describes Gregorian chant as a repertoire, which is performed by a professional musician who performs a wide variety of repertoires. In this component, there is also a variable describing Gregorian chant as ‘beautiful melodies’³⁵⁶ but also as ‘a boring duty that I need to do routinely’³⁵⁷ and ‘an opportunity for career enhancement’.³⁵⁸

After increasing the number of components to three, I observed that the ‘Christian approach’ remained mostly intact and the ‘non-Christian approach’ divided into two, from which one was clearly more pragmatic (‘approach of a pragmatic performer’) and the other had a somewhat spiritual endeavour (‘spiritual but non Christian approach’). However, in the quest for a component that would describe the latter better, the factor analysis was repeated with four components.

Adding the fourth component (Table 45) gave the expected result and extracted a small component of four variables that also has spirituality-specific but not specifically Christian satellites in the ‘Christian approach’ component. An exception is ‘a form of teaching about the Word of God’³⁵⁹ that is usually understood as part of Christian understanding. There are also some weaker satellites in the component of ‘Christian approach’, which also deserved pointing out and are marked with ■.

³⁵³ Question 18

³⁵⁴ Question 20

³⁵⁵ Question 14

³⁵⁶ Question 6

³⁵⁷ Question 27

³⁵⁸ Question 8

³⁵⁹ Question 24

Table 45. Rotated component matrix of questions 1-27 (four components); **N** = values close to zero or negative; **N** = variables with positive value in all components; please see the table also as Appendix 26, vol 2, p 508.

Argument	Component			
	1	2	3	4
[...] medieval monodic liturgical chant of the Western church [...]	0.774	0.146	0.168	-0.146
[...] prayer.	0.756	-0.191	-0.086	0.243
[...] a form of teaching about the Word of God [...]	0.651	0.087	-0.171	0.358
[...] thematically coherent and textually complete repertory [...]	0.622	0.312	0.031	-0.048
[...] liturgical song, to be interpreted according to certain rules.	0.618	0.323	0.328	-0.062
[...] meaningful texts.	0.602	0.233	0.030	0.182
[...] Roman Catholic liturgical music.	0.588	-0.012	0.107	-0.059
[...] Franco-Roman chant, a part of Latin sacred monody.	0.471	0.393	0.194	-0.273
[...] sacred text, illuminated by music.	0.451	0.057	0.254	0.210
[...] a way of life.	0.443	-0.056	-0.181	0.393
[...] an opportunity to investigate medieval notation.	0.080	0.650	0.053	0.232
[...] a broad-based domain of musicology and liturgics.	0.195	0.619	0.105	0.135
[...] exciting repertory that can be used to fill concert programmes.	-0.089	0.574	0.231	0.212
[...] a collection of medieval manuscripts and liturgical texts.	0.298	0.545	0.098	0.080
[...] an opportunity to introduce interesting music [...]	0.105	0.484	0.319	0.360
[...] the foundation of European professional musical culture.	0.346	0.481	-0.111	0.164
[...] a method of composing liturgical music.	0.147	0.320	0.291	0.245
[...] beautiful melodies.	0.074	0.093	0.776	0.205
[...] any kind of monodic Latin liturgical chant.	0.143	-0.204	0.760	0.178
[...] one vocal repertory among many others.	0.061	0.258	0.556	-0.156
[...] an opportunity for career enhancement.	-0.165	0.396	0.536	0.300
[...] a boring duty that I need to do routinely.	0.111	0.142	0.509	-0.024
[...] musical text, performed in a theatrical manner.	-0.215	0.337	0.347	0.142
[...] inspiration for my musical activities.	0.107	0.185	0.246	0.726
[...] a way of musical thinking.	0.066	0.198	-0.053	0.693
[...] a part of my activities as musician.	0.167	0.184	0.202	0.572
[...] a bridge to Pre-Christian cultures and spiritualities.	-0.110	0.277	0.093	0.549

In the final factor analyses, there are four components, which are labelled as follows:

Component one – ‘Christian approach’

Component two – ‘spiritual approach with Christian tendencies’

Component three – ‘pragmatic approach’

Component four – ‘religious non-Christian approach’

There are **five variables** that positively associate with all four components: ‘a broad-based domain of musicology and liturgics’,³⁶⁰ ‘an opportunity to introduce interesting music and its underlying spirituality to the audience’,³⁶¹ ‘a method of composing liturgical music’,³⁶² ‘inspiration for my musical activities’,³⁶³ and ‘a part of

³⁶⁰ Question 13

³⁶¹ Question 23

³⁶² Question 14

³⁶³ Question 7

my activities as musician'.³⁶⁴ These variables have a factor coefficient more than 0.100. All these variables are not specifically Christian or spiritual, which supports the claim that the 'core values' of the performance of repertoire tend to be musical and musicological rather than spiritual.

In the factor analyses with three components, there were variables that predominantly belonged to one component. In the factor analyses with four components, this phenomenon has diminished, and all variables are positively connected with at least with two components.

Basic characteristics of the first three components were described in factor analyses with two and three components. The fourth component that emerged in the final analysis is particularly interesting and needs some further attention. The small component that consists of only four variables is interesting because it is the first component that has significant positive and negative satellites in the 'Christian approach' component. None of the other components have 'prayer'³⁶⁵ as a significantly positive satellite. The factor coefficient is not very high, but it is the highest so far (0.243). A religious but non-Christian approach is supported by the fact that all directly church-related variables have a negative factor coefficient. Other variables in the 'Christian approach' component act as positive satellites to the 'religious non-Christian approach'. It can also be argued that in fact this component points to a non-Catholic description of Gregorian chant. This, however, is not likely, because not all variables are Catholic specific: for example, 'thematically coherent and textually complete repertory for the whole church year'.³⁶⁶ It is also noteworthy that a variable that describes Gregorian chant as 'liturgical song, to be interpreted according to certain rules'³⁶⁷ has a negative factor coefficient in the 'religious non-Christian approach' component. There is another possibility for interpretation – 'religious non Christian' approach can also refer to performers that have Christian aspirations but for some reason are opposing organised church movement. The results of this research however are not sufficient to reach conclusions in this domain and therefore I have to be satisfied with an empirical understanding that there is a 'Christian approach' that clearly stresses clerical and Christian values, and a 'pragmatic approach' that shows an almost diametrically opposite understanding. In between these two components, there is a grey zone of two components, which describe different spiritual/religious aspirations but are not clearly Christian and/or clerical.

³⁶⁴ Question 25

³⁶⁵ Question 18

³⁶⁶ Question 21

³⁶⁷ Question 11

3.2.6.5 Correlation matrix of the set of questions ‘What do you consider important for a good performance of Gregorian chant?’ (Q 42-74)

As in the previous set of questions in the correlation matrix of questions 42-71, many positive correlations are significant on level 0.01 (**) (please see Appendix 27, vol 3, p 682-683). Therefore, in the following analyses, correlations that are significant on level higher than 0.01 are ignored. There are no significant negative correlations in this set of questions.

Table 46. Mean and number of positive correlations (‘Corr’) that are significant on the level 0.01 between the variables in the set of questions 42-71; sorted by ‘Corr’; please see the table also as Appendix 28, vol 2, p 509.

nr	Argument	M	Corr
67	[...] theoretical knowledge of semiology [...]	4.55	20
48	[...] a personal contribution to the exegesis of text [...]	5.17	19
44	[...] variety of dynamics [...]	4.87	18
49	[...] the knowledge of the historical background [...]	4.65	18
62	[...] semiological precision [...]	5.40	18
66	[...] theoretical knowledge of paleography [...]	4.33	18
68	[...] excellent intonation [...]	6.44	18
50	[...] an idiolectic (personal and original) approach to the music [...]	3.72	17
58	[...] the aim of performing in as authentic manner as possible [...]	4.72	17
43	[...] excellent articulation [...]	6.28	16
60	[...] a rhetorical approach to the music that is performed [...]	4.51	15
61	[...] avoiding a routine interpretation [...]	5.69	15
70	[...] understanding of what the text means [...]	6.90	14
46	[...] excellent diction [...]	6.20	12
52	[...] passive comprehension of the Latin language ([...]) [...]	6.43	12
57	[...] singing from memory [...]	4.37	12
64	[...] an accurate venue for performance [...]	4.16	12
42	[...] agogic variety (subtle changes of tempo related to phrasing) [...]	5.88	11
45	[...] musical phrasing [...]	6.41	11
51	[...] respecting the individualities of the 8 modes [...]	5.40	11
69	[...] following the right style of chant performance [...]	5.14	11
71	[...] animated performance [...]	4.78	11
56	[...] imitation of one's teacher [...]	3.53	10
63	[...] an accurate costume [...]	2.49	10
54	[...] general musicality of the performer [...]	5.99	9
47	[...] excellent vocal quality [...]	5.53	8
59	[...] religious intention [...]	5.68	8
53	[...] singer's belief in the text that is performed [...]	5.39	7
55	[...] liturgical environment [...]	5.63	6
65	[...] textual narrative [...]	4.29	6

The table is divided into three segments.³⁶⁸ In this table the same phenomenon as in the set of questions 1-27 occurred. The 'core values' (variables that have most correlations) that the respondents consider important are mostly of a musical and musicological nature. The religion and spirituality specific variables come only in the second and third segment. It is a bit surprising that the variables 'excellent vocal quality'³⁶⁹ and 'general musicality of the performer'³⁷⁰ ended up in the third segment. This can be explained by a fact that these qualities and some similar kinds in the second segment are a part of compulsory classical musical education, which is not so important as Gregorian chant specific issues such as semiology and paleography. Another surprising result is the placement of 'an idiolectic (personal and original) approach to the music'³⁷¹ in the first, or the core segment.

In the set of questions 1-27, an additional correlation test was completed to see whether the 'core values' among those respondents who consider religion 'more important' is significantly different from the 'core values' of the whole selection. The same procedure was repeated with the set of questions 42-71.

The second and third columns in Table 47 are highlighted the same way as in Table 46. The first and fourth columns are highlighted according to three segments formed on the basis of column 'B'. Variables 45 and 70 have migrated from the second to the first segment, and variable 68 has moved from the first to the second segment. Some variables have changed places between the second and third segments. Similarly, to the set of questions 1-27, there are no signs of religion and spirituality related variables migrating into the first segment.

³⁶⁸ There are 30 variables and one segment should consist of 10 variables. If the cutting point between two segments was between two variables with same value, then the cutting point was shifted so that all variables with the same value would be in the same segment. The direction of the shift was decided upon the principle that segments should consist as close to 9 segments as possible.

³⁶⁹ Question 47

³⁷⁰ Question 54

³⁷¹ Question 50

Table 47. Number of positive correlations that are significant on the level 0.01 between the variables in the set of questions 42-71; 'A' = correlations of all respondents (as in the previous table), column 'B' = correlations of these 85 respondents who consider religion more important for themselves; sorted by column 'B'; please see the table also as Appendix 29, vol x, p 510.

nr	Argument	A	B
49	[...] the knowledge of the historical background [...]	18	17
66	[...] theoretical knowledge of paleography [...]	18	17
67	[...] theoretical knowledge of semiology [...]	20	17
50	[...] an idiolectic (personal and original) approach to the music [...]	17	16
62	[...] semiological precision [...]	18	16
44	[...] variety of dynamics [...]	18	15
48	[...] a personal contribution to the exegesis of text [...]	19	14
58	[...] the aim of performing in as authentic manner as possible [...]	17	14
43	[...] excellent articulation [...]	16	13
45	[...] musical phrasing [...]	11	13
70	[...] understanding of what the text means [...]	14	13
42	[...] agogic variety (subtle changes of tempo related to phrasing) [...]	11	12
46	[...] excellent diction [...]	12	12
61	[...] avoiding a routine interpretation [...]	15	12
64	[...] an accurate venue for performance [...]	12	12
68	[...] excellent intonation [...]	18	12
47	[...] excellent vocal quality [...]	8	11
51	[...] respecting the individualities of the 8 modes [...]	11	10
54	[...] general musicality of the performer [...]	9	10
69	[...] following the right style of chant performance [...]	11	10
52	[...] passive comprehension of the Latin language ([...]) [...]	12	9
60	[...] a rhetorical approach to the music that is performed [...]	15	9
57	[...] singing from memory [...]	12	8
63	[...] an accurate costume [...]	10	6
65	[...] textual narrative [...]	6	6
53	[...] singer's belief in the text that is performed [...]	7	5
71	[...] animated performance [...]	11	5
56	[...] imitation of one's teacher [...]	10	3
59	[...] religious intention [...]	8	3
55	[...] liturgical environment [...]	6	2

3.2.6.6 Factor analyses of the set of questions ‘What do you consider important for a good performance of Gregorian chant?’ (Q 42-71)

A factor analysis of this set of questions is done by using the same parameters as in the set of questions 1-27 (see page 180).

Table 48. Rotated component matrix of questions 42-71 (two components); N = variables with a values close to zero or negative; please see the table also as Appendix 30, vol 2, p 511.

Argument	Component	
	1	2
[...] theoretical knowledge of paleography [...]	0.715	0.162
[...] theoretical knowledge of semiology [...]	0.704	0.231
[...] excellent intonation [...]	0.674	-0.194
[...] semiological precision [...]	0.656	0.323
[...] the knowledge of the historical background [...]	0.654	0.163
[...] a rhetorical approach to the music that is performed [...]	0.595	0.114
[...] excellent articulation [...]	0.581	0.249
[...] an idiolectic (personal and original) approach to the music [...]	0.577	0.124
[...] avoiding a routine interpretation [...]	0.547	0.195
[...] musical phrasing [...]	0.547	-0.012
[...] general musicality of the performer [...]	0.546	-0.323
[...] respecting the individualities of the 8 modes [...]	0.539	0.041
[...] understanding of what the text means [...]	0.504	0.215
[...] the aim of performing in as authentic manner as possible [...]	0.503	0.361
[...] passive comprehension of the Latin language ([...]) [...]	0.498	0.026
[...] excellent diction [...]	0.490	0.174
[...] excellent vocal quality [...]	0.479	-0.059
[...] agogic variety (subtle changes of tempo related to phrasing) [...]	0.472	0.066
[...] following the right style of chant performance [...]	0.446	0.263
[...] animated performance [...]	0.357	0.182
[...] an accurate venue for performance [...]	0.355	0.324
[...] religious intention [...]	-0.030	0.845
[...] singer’s belief in the text that is performed [...]	-0.036	0.764
[...] liturgical environment [...]	0.007	0.702
[...] an accurate costume [...]	0.034	0.625
[...] imitation of one’s teacher [...]	0.078	0.564
[...] a personal contribution to the exegesis of text [...]	0.399	0.539
[...] variety of dynamics [...]	0.431	0.440
[...] singing from memory [...]	0.333	0.406
[...] textual narrative [...]	0.262	0.386

In this factor analysis, component one represents a ‘knowledgeable performer’ and component two represents a ‘religious performer’. This division does not mean that the ‘knowledgeable performer’ is definitely not religious. A ‘religious performer’ can also be knowledgeable; but he/she thinks that religion-related issues are more

important for a good performance of Gregorian chant. As in previous factor analyses, both components have positive and negative satellites.

The 'religious performer' has far fewer variables than the 'knowledgeable performer'. The software places one interesting variable, which according to logic should be in the 'knowledgeable performer' component, in the 'religious performer' component – 'variety of dynamics'.³⁷² In fact, this variable clearly belongs to both components, as its factor coefficient is 0.431 in the component 'knowledgeable performer'. The 'knowledgeable performer' component has three additional positive satellites in the other component. Therefore, the component 'knowledgeable performer' excludes definitely only five variables: 'religious intention',³⁷³ 'singer's belief in the text that is performed',³⁷⁴ 'liturgical environment',³⁷⁵ 'an accurate costume',³⁷⁶ and 'imitation of one's teacher'.³⁷⁷

'Religious performer' also engages many satellites from the other component, for example 'the aim of performing in as authentic manner as possible'³⁷⁸ and 'an accurate venue for performance'.³⁷⁹ Interestingly, the component of 'religious performer' excludes³⁸⁰ variables as 'excellent intonation',³⁸¹ 'musical phrasing',³⁸² 'general musicality of the performer',³⁸³ 'respecting the individualities of the eight modes',³⁸⁴ 'passive comprehension of the Latin language',³⁸⁵ 'excellent vocal quality',³⁸⁶ and 'agogic variety'.³⁸⁷ It is important to point out that two of these variables – 'general musicality of the performer'³⁸⁸ and 'excellent intonation'³⁸⁹ – have a high negative factor coefficient, suggesting that these variables are definitely not connected with the component of 'religious performer'. Another interesting variable in this component is

³⁷² Question 44

³⁷³ Question 59

³⁷⁴ Question 53

³⁷⁵ Question 55

³⁷⁶ Question 63

³⁷⁷ Question 56

³⁷⁸ Question 58

³⁷⁹ Question 64

³⁸⁰ All following variables have factor coefficient close to zero or negative.

³⁸¹ Question 68

³⁸² Question 45

³⁸³ Question 54

³⁸⁴ Question 51

³⁸⁵ Question 52

³⁸⁶ Question 47

³⁸⁷ Question 42

³⁸⁸ Question 54

³⁸⁹ Question 68

'imitation of one's teacher',³⁹⁰ which has a value close to zero in another component. Can this be a hint that a 'more religious' performance practice teaches obedience and following a lead that is set by a performer's teacher, leaving a personal creativity to be of secondary importance? By this, it is tempting to imagine a chain of teachers that reaches back many centuries, and important religious knowledge and/or experience that has its roots in the past being preserved uncontaminated.

Table 49. Rotated component matrix of questions 42-71 (three components); **N** = variables with a values close to zero or negative; **N** = variables with a positive value only in one component; **N** = variables with positive value in all components; please see the table also as Appendix 31, vol 2, p 512.

Argument	Component		
	1	2	3
[...] a rhetorical approach to the music that is performed [...]	0.610	0.199	0.161
[...] excellent intonation [...]	0.607	0.319	-0.178
[...] an idiolectic (personal and original) approach to the music [...]	0.595	0.190	0.172
[...] an accurate venue for performance [...]	0.583	-0.139	0.439
[...] general musicality of the performer [...]	0.544	0.190	-0.295
[...] the knowledge of the historical background [...]	0.537	0.381	0.167
[...] excellent vocal quality [...]	0.522	0.118	-0.013
[...] theoretical knowledge of paleography [...]	0.510	0.510	0.137
[...] respecting the individualities of the 8 modes [...]	0.472	0.276	0.052
[...] the aim of performing in as authentic manner as possible [...]	0.459	0.245	0.386
[...] agogic variety (subtle changes of tempo related to phrasing) [...]	0.365	0.302	0.059
[...] understanding of what the text means [...]	0.040	0.748	0.081
[...] excellent articulation [...]	0.215	0.658	0.158
[...] passive comprehension of the Latin language ([...]) [...]	0.133	0.620	-0.075
[...] semiological precision [...]	0.349	0.616	0.260
[...] excellent diction [...]	0.148	0.595	0.084
[...] theoretical knowledge of semiology [...]	0.490	0.519	0.204
[...] musical phrasing [...]	0.347	0.439	-0.050
[...] avoiding a routine interpretation [...]	0.356	0.433	0.165
[...] animated performance [...]	0.156	0.377	0.135
[...] following the right style of chant performance [...]	0.291	0.355	0.241
[...] religious intention [...]	-0.250	0.279	0.781
[...] an accurate costume [...]	0.219	-0.193	0.709
[...] singer's belief in the text that is performed [...]	-0.322	0.354	0.673
[...] liturgical environment [...]	-0.147	0.210	0.661
[...] imitation of one's teacher [...]	0.129	-0.018	0.601
[...] a personal contribution to the exegesis of text [...]	0.196	0.404	0.502
[...] textual narrative [...]	0.343	0.008	0.442
[...] variety of dynamics [...]	0.333	0.286	0.442
[...] singing from memory [...]	0.282	0.193	0.418

³⁹⁰ Question 56

Adding a third component to the factor analysis made some corrections in divisions. The component 'religious performer' (in this table component number three) remained intact as in the previous table. The component 'knowledgeable performer' divided into two (in this table components one and two). At the first sight, it is not possible to see any difference between components one and two. They both comprise of basic musical and musicological features. The explanation lies in the observation of the satellite variables. Component one has negative satellites for 'religious intention',³⁹¹ 'singer's belief in the text that is performed',³⁹² and 'liturgical environment',³⁹³ but component two has positive satellites for the same variables. This gives us two kinds of 'knowledgeable performer' – those in component one who have tendencies towards religion and those in component two who do not consider religious features important.

Running the factor analyses with four components gives clearer distinction between components. As a result, there are four components:

Component one – 'a highly knowledgeable performer'. This component has most variables. It also has the most satellites of positive value – only three satellites have a value close to zero. The only features that this component definitely excludes as necessary qualities for a good performance of Gregorian chant are 'an accurate costume',³⁹⁴ 'imitation of one's teacher',³⁹⁵ and 'liturgical environment'.³⁹⁶ The latter sounds a bit surprising, because this component has all other religion-specific features as positive satellites. This component might describe a performer or possibly a conductor who works a lot with Gregorian chant. Because of that, he/she has learned to appreciate the necessity of so many features for a good performance. In this continuous studying, practising and researching, he/she has the experience of good performance of Gregorian chant outside of a liturgical context, for example singing in rehearsal or solo performing for personal pleasure. The 'highly knowledgeable performer' is religious, but the wellspring of his/her performance is in semiology and paleography rather than in religious revelation. From musical features, the most

³⁹¹ Question 59

³⁹² Question 53

³⁹³ Question 55

³⁹⁴ Question 63

³⁹⁵ Question 56

³⁹⁶ Question 55

important ones are 'general musicality',³⁹⁷ 'excellent intonation',³⁹⁸ and 'agogic variety',³⁹⁹ but other musical qualities are important as well.

Table 50. Rotated component matrix of questions 42-71 (four components); **N** = variables with a values close to zero or negative; **B** = variables with positive value in all components; please see the table also as Appendix 32, vol 2, p 513.

Argument	Component			
	1	2	3	4
[...] theoretical knowledge of semiology [...]	0.821	0.190	0.043	0.029
[...] theoretical knowledge of paleography [...]	0.789	0.169	0.085	-0.039
[...] semiological precision [...]	0.731	0.133	0.210	0.171
[...] avoiding a routine interpretation [...]	0.595	0.141	0.121	0.044
[...] understanding of what the text means [...]	0.584	-0.205	0.356	0.258
[...] an idiolectic (personal and original) approach to the music [...]	0.551	0.378	0.005	-0.168
[...] a personal contribution to the exegesis of text [...]	0.548	0.275	0.039	0.383
[...] passive comprehension of the Latin language ([...]) [...]	0.534	-0.209	0.295	0.051
[...] the knowledge of the historical background [...]	0.514	0.309	0.303	-0.099
[...] a rhetorical approach to the music that is performed [...]	0.509	0.392	0.089	-0.189
[...] excellent intonation [...]	0.426	0.155	0.362	-0.420
[...] animated performance [...]	0.426	0.027	0.110	0.124
[...] respecting the individualities of the 8 modes [...]	0.415	0.226	0.220	-0.172
[...] agogic variety (subtle changes of tempo related to phrasing) [...]	0.367	0.160	0.242	-0.096
[...] following the right style of chant performance [...]	0.353	0.226	0.298	0.093
[...] an accurate venue for performance [...]	0.183	0.716	0.035	-0.083
[...] an accurate costume [...]	-0.018	0.698	-0.037	0.321
[...] imitation of one's teacher [...]	-0.093	0.547	0.256	0.328
[...] textual narrative [...]	0.224	0.502	0.006	0.117
[...] the aim of performing in as authentic manner as possible [...]	0.309	0.485	0.338	0.056
[...] variety of dynamics [...]	0.218	0.448	0.434	0.177
[...] singing from memory [...]	0.283	0.390	0.155	0.186
[...] excellent diction [...]	0.123	0.033	0.866	0.093
[...] excellent articulation [...]	0.325	0.068	0.736	0.141
[...] musical phrasing [...]	0.153	0.106	0.733	-0.166
[...] excellent vocal quality [...]	0.176	0.312	0.354	-0.318
[...] religious intention [...]	0.202	0.255	-0.002	0.814
[...] singer's belief in the text that is performed [...]	0.218	0.109	0.025	0.803
[...] liturgical environment [...]	0.015	0.312	0.231	0.619
[...] general musicality of the performer [...]	0.401	0.055	0.140	-0.490

³⁹⁷ Question 54

³⁹⁸ Question 68

³⁹⁹ Question 42

Component two – ‘a knowledgeable performer’ – is in many respects similar to component one. It has fewer variables than component one, but more variables than components three and four; only five satellites are negative or have a positive value close to zero. This component discards some musical features like ‘general musicality of the performer’⁴⁰⁰ and ‘excellent articulation’⁴⁰¹ but considers important ‘an accurate venue for performance’⁴⁰² and ‘accurate costume’.⁴⁰³ A performer who is described in this component also has religious aspirations and considers ‘liturgical environment’⁴⁰⁴ important for a good performance of Gregorian chant. The latter differentiates this component from the previous one. This suggests that component two describes a performer who has his/her experience of performance of Gregorian chant in a liturgical environment. He/she thinks that the ‘singer’s belief in the text that is performed’⁴⁰⁵ is important but ‘understanding of what the text means’⁴⁰⁶ and ‘passive comprehension of the Latin language’⁴⁰⁷ are not necessary. ‘Singing from memory’⁴⁰⁸ is important but ‘animated performance’⁴⁰⁹ does not add much to the result.

Component three – ‘a pragmatic performer’ – is a purely musical component that stresses all the basic musical values. The performer must have ‘excellent vocal quality’⁴¹⁰ and he/she must do good ‘musical phrasing’⁴¹¹ with ‘excellent articulation’⁴¹² and ‘excellent diction’.⁴¹³ The performer must have ‘understanding of what the text means’⁴¹⁴ and he/she must try to ‘performing in as authentic manner as possible’.⁴¹⁵ All musical features are very important – for example, ‘variety of dynamics’.⁴¹⁶ ‘Liturgical environment’⁴¹⁷ would be good but ‘religious intention’⁴¹⁸ and ‘singer’s belief in the

⁴⁰⁰ Question 52

⁴⁰¹ Question 43

⁴⁰² Question 64

⁴⁰³ Question 63

⁴⁰⁴ Question 55

⁴⁰⁵ Question 53

⁴⁰⁶ Question 70

⁴⁰⁷ Question 52

⁴⁰⁸ Question 57

⁴⁰⁹ Question 71

⁴¹⁰ Question 47

⁴¹¹ Question 45

⁴¹² Question 43

⁴¹³ Question 46

⁴¹⁴ Question 70

⁴¹⁵ Question 58

⁴¹⁶ Question 44

⁴¹⁷ Question 55

⁴¹⁸ Question 59

text that is performed'⁴¹⁹ is not necessary. In this component, it can be observed again, how 'semiological precision'⁴²⁰ (a positive satellite) is important without theoretical knowledge in semiology (see also on page 148). Semiological precision is probably believed to arise from some other feature or combination of features – for example, 'imitation of one's teacher'.⁴²¹ The next component, 'religious performer', is in this respect similar.

Component four – 'a religious performer' – describes a purely religious attitude. There are a few musical features as satellites, but the three main variables and satellites with higher factor coefficient are religion-specific or consider text rather than music. This component has fewest variables – only three. The number of positive satellites is also low, and consequently the number of satellites with a value close to zero or of negative value is the highest (17). Among negative satellites, 'general musicality of the performer',⁴²² 'excellent intonation'⁴²³, and 'excellent vocal quality'⁴²⁴ have high negative factor coefficient. The component 'religious performer' has 'semiological precision'⁴²⁵ as a satellite of low positive value, but 'theoretical knowledge of semiology',⁴²⁶ and 'theoretical knowledge of paleography'⁴²⁷ as satellites with a value close to zero. This performance does not need to be aesthetically unpleasant or musically weak because it also involves 'imitation of one's teacher'.⁴²⁸ If the teacher is a good singer and the pupil is musical, the result can also be musically enjoyable. The very specific difference in this component is that the performance rises from 'religious intention'⁴²⁹ in the 'liturgical environment'⁴³⁰ through the 'singer's belief in the text that is performed'.⁴³¹

⁴¹⁹ Question 53

⁴²⁰ Question 62

⁴²¹ Question 56

⁴²² Question 54

⁴²³ Question 68

⁴²⁴ Question 47

⁴²⁵ Question 62

⁴²⁶ Question 67

⁴²⁷ Question 66

⁴²⁸ Question 56

⁴²⁹ Question 59

⁴³⁰ Question 55

⁴³¹ Question 53

3.2.6.7 A summary of comparisons within the sets of data questions 1-27 and 42-71

The respondents of this questionnaire consider religion and spirituality very important in understanding the nature of Gregorian chant. It is also believed to be very important in the performance of this repertoire. However, religious and spiritual characteristics do not form the 'core values' for understanding either the repertoire or performances of it as it was described in the arguments of the questionnaire.

According to the analysis of 'core values' of questions 1-27, it might be suggested that religious/spiritual understanding follows a basic musical understanding what Gregorian chant is, not the other way round, as it is often believed to be. It gives a fascinating idea to ponder: that people are spiritual because they sing this music rather than that they sing this music because they are religious/spiritual. This suggestion raises a very interesting question about Gregorian chant as an archetype. Can it be that Gregorian chant leads to spirituality rather than simply being a practice of spirituality? Can it be that in this repertoire there is not only the archetype of Western notation but also a substantial part of an archetype of Western spirituality?

The factor analyses of the answers to the questions 1-27 gave four components: 'Christian approach', 'spiritual approach with Christian tendencies', 'pragmatic approach', and 'religious non-Christian approach'.

The analysis of the 'core value' of the results to the question 42-71 showed similar characteristics to the set of questions 1-27. The 'core values' are mostly of musical and musicological nature, and it also applies to respondents who consider themselves religious.

In the factor analyses of the same set of questions, four components were described: 'a highly knowledgeable performer', 'a knowledgeable performer', 'a pragmatic performer', and 'a religious performer'.

3.2.7 'Top ten' of the key figures of Gregorian chant

3.2.7.1 Introduction

This set of qualitative questions was designed with the presumption that the respondents' evaluation of the key figures of Gregorian chant would help to describe their attitude towards the repertoire and its interpretation. The respondents were asked: 'Please name in the order of importance up to 10 persons that, for you, appear as key figures in Gregorian chant such as singers, musicologists, clergy, Church

politicians'.⁴³² The question was asked in two instalments: (1) ten key figures of all times and (2) ten key figures from the beginning of the nineteenth century.

Although the nature of the question is qualitative, the analysis of the results is quantitative. There are many possibilities of analysing these kinds of results. In this research, there were two analytic options under consideration: (1) weighted scores and (2) raw scores. It must be noted that the difference in results between the two methods was not dramatic, and the results not significantly different among the first eight key figures. After that, however, there were names who were mentioned many fewer times but appeared considerably higher on the chart than those who were mentioned more times. The problem arose from the fact that not all respondents named ten persons. It was not possible to detect the motives of those who named fewer than ten persons. It could have been that for some respondents there are only two or three key figures in Gregorian chant. It could also be that the respondent wrote only the most important key figures and ignored the less important persons. In the first case, the weighted score should be applied. In this approach, if there are fewer key figures named, they are ranked higher.

Table 51. Weighted scores for the top ten of key figures of Gregorian chant.

	10	9	8	7	6	5	4	3	2	1
1 st	10	10.2	10.6	11.2	12.2	13.8	16.2	20.4	28.9	55.0
2 nd	9	9.2	9.5	10.1	11.0	12.4	14.6	18.3	26.1	
3 rd	8	8.1	8.5	9.0	9.8	11.0	12.9	16.3		
4 th	7	7.1	7.4	7.9	8.6	9.6	11.3			
5 th	6	6.1	6.3	6.7	7.3	8.3				
6 th	5	5.1	5.3	5.6	6.1					
7 th	4	4.1	4.2	4.5						
8 th	3	3.1	3.2							
9 th	2	2.0								
10 th	1									
	55	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Weight	1	1.02	1.06	1.12	1.22	1.38	1.62	2.04	2.89	5.50
Sum	55	54.00	52.00	49.00	45.00	40.00	34.00	27.00	19.00	10.00

The first row represents the number of key figures named. The first column represents the ranks for key figures. In the last row there is a sum of points, if the key figures were to be ranked the same way as in column '10', notwithstanding how many entries are made.

⁴³² Questions 32-41

If all ten key figures are named, then the first position gets ten points, the second gets nine, and so on. The total of points for all ten key figures is 55. Therefore, if only nine key figures are mentioned and it is presumed that there are no more important persons for this particular respondent, then 55 points should be distributed among these nine names. The table represents how 55 points are distributed in different cases.⁴³³

However, it was not entirely certain whether those respondents who named fewer than ten names did consider them as the only important key figures for them. As a matter of fact, in many cases it looked as if they named only the most important one(s). It became especially problematic when only one or two names were mentioned. If only one name was mentioned, it got 55 points. There are names that are mentioned only once and are in the first position without any other names following. Because of that, there was an inconsistency. For example, one person is in the twenty-sixth position with 55 points (mentioned only once) and another person is in the thirtieth position with 50.4 points (mentioned six times) Therefore, the other method was considered.

Table 52. Raw scores for the top ten of key figures of Gregorian chant.

	10	9	8	7	6	5	4	3	2	1
1 st	10	10	10	10	10	10	10	10	10	10
2 nd	9	9	9	9	9	9	9	9	9	
3 rd	8	8	8	8	8	8	8	8		
4 th	7	7	7	7	7	7	7			
5 th	6	6	6	6	6	6				
6 th	5	5	5	5	5					
7 th	4	4	4	4						
8 th	3	3	3							
9 th	2	2								
10 th	1									

According to this method, all names get the same number of points for a particular rank notwithstanding how many additional names were mentioned together with it. Using the method described in the latter table, the situation normalised. There are still

⁴³³ The procedure of the calculation is following: the weight equals the ratio of the sum of all ranks from one to ten (55) to a sum of ranks in a particular case. For example, if three key figures are named the sum would be $10+9+8=27$. Therefore, the weight for those cases where only three key persons are named is $55:27=2.04$. Weighted ranks in the table are a product of weight and a rank in the column '10'. For example, if eight key figures are named, then the sixth rank is $1.06*6=6.1$ or if only one person is named, then $5.50*10=55$.

inconsistencies but they are not so big. Therefore, I decided to use this method for the analyses.

Some respondents also preferred to name groups of people, for example 'monks of Solesmes' or 'medieval communities, gathering theological knowledge through interpreting words of the Bible'. Some groups resembled each other and were therefore combined. For example, 'the unknown composers of the chant', 'anonymous Christian communities' and other similar entries were combined together into 'medieval communities the members of which composed and copied chant'. Some respondents did not answer the question at all, writing for example 'I choose not to answer' or 'I have not considered persons to be important in this matter' or stating some other way that they did not want to contribute.

Some problems arose with the spelling of names. It often happens that in the Internet a correct use of language is not customary. Many names were misspelled. Most of the misspelled names were possible to correct and confirm from different sources. However, in some cases, it was not possible to trace the right spelling. All these names appear in the second half of the chart. The focus of the analyses in this set of questions was concentrated on the first third of the chart and it would have been too time consuming to deal with every problematic name in the last two thirds. Therefore, there may be some spelling mistakes in the charts.

3.2.7.2 'Top ten' through all times

In the questions 32-41 it was asked: 'Please name in the order of importance up to ten persons that, for you, appear as key figures in Gregorian chant through all the centuries, such as singers, musicologists, clergy, Church politicians'.

There were altogether 106 respondents, who answered this set of questions. They made altogether 189 different entries (175 persons and 14 groups of people). For the full list of entries, please see Appendix 33, vol 2, pp 514-517). The respondents made entries as follows:

Table 53. Number of entries respondents made in the set of questions 32-41.

Number of entries	Respondents
10	26
9	1
8	4
7	7
6	11
5	11
4	14
3	15
2	6
1	11
Total	106

The pattern of answers was different among the respondents. Some followed a chronological principle and clearly tried to fill in as many historical periods as possible. Some had one or two entries from the middle ages and the rest from the contemporary period and some had only contemporary persons. Only a few respondents went back as far as the time of apostles. One respondent named Jesus Christ and one Saint Peter. Only one respondent mentioned the Holy Spirit as a key figure of Gregorian chant. Several popes were named and as one might expect, the two most popular were Saint Gregory the Great and Saint Pius X.

Table 54. Top ten of the key figures of Gregorian chant through all the centuries according to the opinion of 105 respondents.

Name	Frequency	Points
1. Eugène Cardine	49	358
2. Gregory I the Great, pope, saint	29	272
3. Prosper Guéranger	30	233
4. André Mocquereau	26	172
5. Joseph Pothier	24	172
6. Charles the Great	21	167
7. Pius X, pope, saint	22	137
8. Medieval communities the members of which composed and copied chant	9	79
9. Godehard Joppich	12	76
10. Dominique Vellard	12	75

The most surprising feature of this chart is that there are only three entries not from the nineteenth to twenty-first century. The closest key figures from earlier periods are Alcuin of York in eleventh position and Guido of Arezzo in fourteenth position. Saint Ambrose, Bishop of Milan is in eighteenth position and Monk Hartker comes

nineteenth. The first place belongs to Eugène Cardine and he leads by quite a safe distance over the person from whom Gregorian chant got its name – Gregory the Great. Gregory the Great has fewer points than Cardine, but if we take into consideration the frequency of nominations to the first position, then Gregory ‘beats’ Cardine with 22 to 10 (see Appendix 33, vol 2, p 514). Saint Gregory is followed by establisher of the Solesmes Abbey in 1833 Prosper Guéranger and after him two main characters of the Gregorian chat restoration in the beginning of the twentieth century, André Mocquereau and Joseph Pothier. These two rivals are ironically in a friendly tie, with Mocquereau one step higher because he is mentioned twice more than Pothier. After that comes Charles the Great who is believed to have played an important role in history of Gregorian chant. In seventh position is Pius X who was highly influential in re-establishing the restored Gregorian chant as the liturgical music of Roman Catholic Church. In eighth place is a combination of all entries that mentioned composers, copiers and developers of Gregorian chant in the middle ages. The top ten is closed by two very popular persons who are still among us – one of the authors of famous ‘Gregorian Semiology’, Godehard Joppich and a famous performer from the Marie-Noel Colette school, Dominique Vellard. If we go further in this list in the Appendix 33 we see that there are more entries from the nineteenth to twenty-first centuries than from the centuries before that. For chant historians it would be interesting to analyse this from a point of view ‘who is missing’ from the list.

3.2.7.3 ‘Top ten’ from the beginning of the nineteenth century

In the questions 75-84 it was asked ‘Please name in the order of importance up to ten persons that, for you, are key figures in Gregorian chant from the beginning of the nineteenth century, such as singers, musicologists, clergy, Church politicians. The same names that appeared in the list above can be repeated.’

There were altogether 94 respondents, who answered this set of questions. They made 107 different entries (100 persons and seven groups of people). For the full list of entries, please see Appendix 34, vol 2, pp 518-521). The respondents made entries as follows:

Table 55. Number of entries respondents made in the set of questions 32-41.

Number of entries	Respondents
10	20
9	5
8	2
7	6
6	4
5	15
4	14
3	13
2	3
1	12
Total	94

Table 56. Top ten of the key figures of Gregorian chant from the beginning of the nineteenth century according to the opinion of 94 respondents.

Name	Frequency	Points
1. Eugène Cardine	54	422
2. André Mocquereau	34	279
3. Prosper Guéranger	29	268
4. Joseph Pothier	26	235
5. Pius X, pope, saint	26	192
6. Jean Claire	20	115
7. Daniel Saulnier	15	92
8. Joseph Gajard	13	92
9. Peter Wagner	13	84
10. Abbey of Solesmes	9	79

Compared to the first five names in the chart of the key figures of all times the only difference in consistency is that Gregory the Great is replaced by Pius X, who also appeared in the previous chart in seventh position. André Mocquereau is at a safe distance from Joseph Pothier in this chart, while in the previous chart they had the same number of points. He has also surpassed Prosper Guéranger who in the previous chart came only after Mocquereau. Cardine still overwhelmingly leads. In this chart, Prosper Guéranger is the only one who can challenge him, not with points but with nominations for first place. Both were nominated to first position 19 times (see Appendix 34, vol 2, page 518) Positions six to ten are filled with new nominations. In sixth position is Jean Claire who was a monk of Solesmes and contemporary of Cardine. In the previous chart, Jean Claire occupied twelfth position. In seventh position is a monk of Solesmes, Daniel Saulnier, who is now one of the leading figures in Gregorian chant developments at Solesmes. He is currently a Professor in the Pontifical Institute

of Sacred Music in Rome, in the position that was once held by Eugène Cardine. Daniel Saulnier's speciality in scholarship is modal theory. He is followed by another monk of Solesmes, Joseph Gajard, who had an important role in popularising André Mocquereau's method and in publishing various Gregorian chant materials. In the previous chart, he was in fifteenth position. Another new entry is in ninth position – co-worker of Joseph Pothier, German musicologist Peter Wagner, who played an important role in the restoration of melodic material that we know today as Gregorian chant. In tenth position is the Abbey of Solesmes, which, there is no doubt, deserves a place in this chart.

In addition to this entry, this chart consists largely of persons who were/are closely connected to the Abbey of Solesmes. Only two persons, Pius X and Peter Wagner, do not resemble the rest. The connectivity with the work of Solesmes is also different with Joseph Pothier who was in opposition to Mocquereau. In some respects we can also give a different status to Eugène Cardine who worked in Rome for a period of 30 years and whose relationship with the principles of the Solesmes line is not entirely clear.

3.2.7.4 A summary of charts of key figures of Gregorian chant

The most surprising feature in the chart of key figures of all times is that there are only three entries not from the nineteenth to twenty-first century. This feature shows that in many respects, the term 'all times' in Gregorian chant performance can with some reservations be bordered with beginning of the nineteenth century. It cannot be denied that there are some sentimental connections to the Middle Ages, like Gregory the Great, Charles the Great and medieval communities the members of which composed and copied chant. However, the tops of both charts are very similar.

These charts show that there is a wide consensus about main key figures of Gregorian chant. However, many persons who are important to the respondents were mentioned only once or twice. Among these are the respondent's teachers, priests, or friends as well as composers and interpreters. It means that apart from the main pioneers of Gregorian chant, there are many examples who have influenced performers, and adds another explanation to the variety of understandings and performance practices of Gregorian chant.

Both charts showed the high importance of the Abbey of Solesmes in the contemporary performance practice of Gregorian chant. In the 'top ten' of all times, there are four persons who are closely connected to Solesmes Abbey. In the 'top ten' from the beginning of the nineteenth century, there are only two who are not closely connected with Solesmes Abbey. However, at the top of both charts there is a person who in many respects differs from performance practice of Solesmes and who had students and followers who have initiated many different performance practises – Eugène Cardine. What makes Cardine so important that the respondents ranked him higher than Gregory the Great, Prosper Guéranger, André Mocquereau, Joseph Pothier, Charles the Great, Pius X and 'medieval communities the members of which composed and copied chant'? Can it be his scholarly work and instituting Gregorian semiology? This seems plausible, because one of the authors, Godehard Joppich – Cardine's co-worker and co-author – is highly ranked in both charts.⁴³⁴ But what is the secret of semiology to make its founder and champion so outstandingly important? My suggestion is that Cardine's work was the first plausible scholarly study in which a personal contribution and personal creativity of the performer played a significant role. The question is not only about musical creativity but a complex set of creativities, including religious creativity. That is why semiology is highly appreciated by so many performers and why its application gives such wonderfully different and creative results. Of course, not all diversity in the performance practice of Gregorian chant is a result of semiological treatment of this repertoire, but most certainly, semiology has a role in showing that drastically different performance practices are possible. Cardine pointed out a common denominator in Gregorian chant – to go beyond the sign (Cardine, 1984: xxxi). That is where semiology leads – and if you have this destination sincerely in mind, then the way the music sounds becomes secondary in importance.

There is a strange phenomenon in Gregorian chant performance. The representatives of so called 'special performance practices' have said that they consulted with Cardine and that he approved their approach. There are opinions from both sides about it. Some say that he approved of different performance practices and some say that he definitely disapproved them. This question however, is not the issue in this research and I do not think that there is enough public material about

⁴³⁴ Joppich was in the ninth position in the chart of 'all times' and in the fifteenth position in the chart of 'from the beginning of the nineteenth century (Appendices 33, vol 2, p 514 and 34, vol 2, p 519).

Cardine's work with his multiple students and performers who consulted with him to form any kind of definitive statement. I believe that through his work, Cardine actually instituted tolerance in Gregorian chant performance. This tolerance is however only instituted, not yet legislated. One must study the notation, the text, paleography, and semiology, but always aim beyond the sign. That is where the tolerance and reconciliation lies – beyond the sign. I suggest that one of the conditions necessary to get beyond the sign is to love and respect those who are on the same path as you.

3.2.8 A 'family tree' of Gregorian chant performers.

In the question 113 it was asked: 'Please name your Gregorian chant teachers.' The results to the question 113 turned out to be a fascinating graphical representation of another complex understanding of Gregorian chant. Based on the answers, a 'family tree' of performers was created (Appendix 35, vol 3, p 684-685). For that purpose, I used the software Graphviz 2.22, which draws a schema according to a script written by the user. In the following example, please see an example of the script.

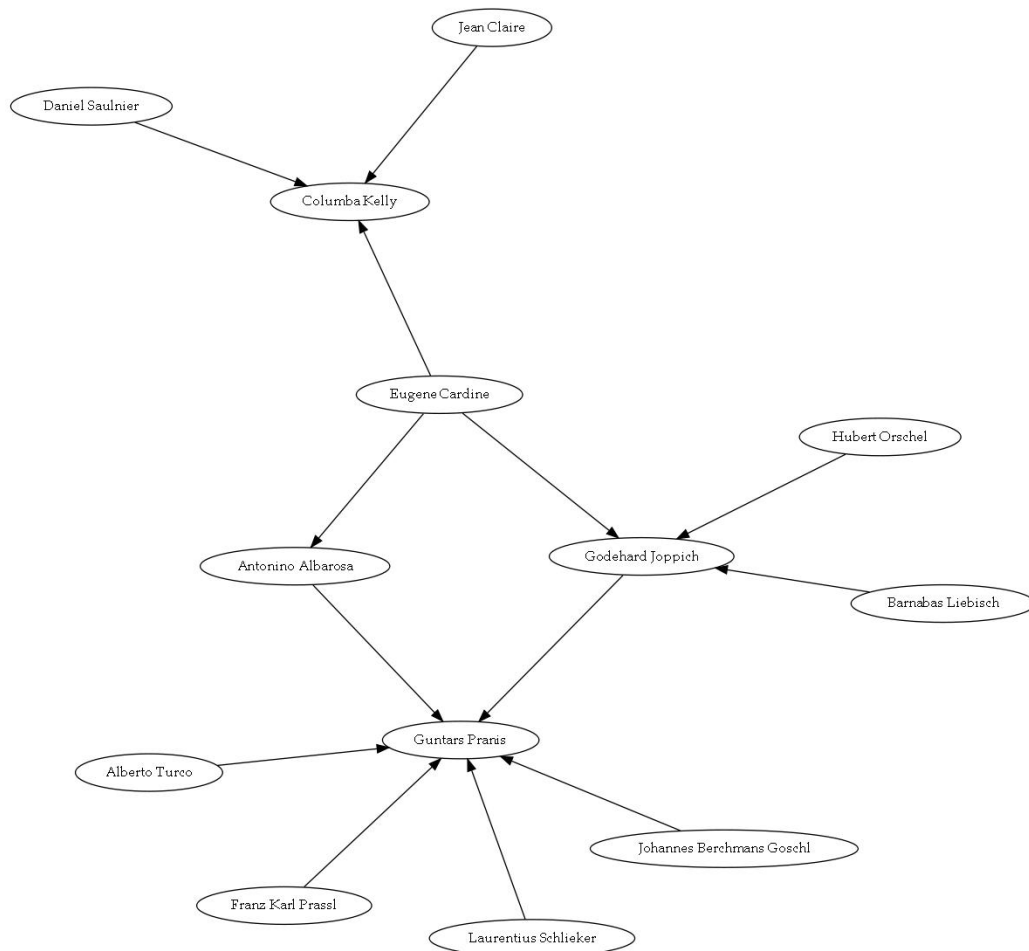
```
"Eugène Cardine" -> "Columba Kelly"
"Jean Claire" -> "Columba Kelly"
"Daniel Saulnier" -> "Columba Kelly"

"Hubert Orschel" -> "Godehard Joppich"
"Barnabas Liebisch" -> "Godehard Joppich"
"Eugène Cardine" -> "Godehard Joppich"

"Laurentius Schlieker" -> "Guntars Pranis"
"Franz Karl Prassl" -> "Guntars Pranis"
"Godehard Joppich" -> "Guntars Pranis"
"Johannes Berchmans Goschl" -> "Guntars Pranis"
"Antonino Albarosa" -> "Guntars Pranis"
"Alberto Turco" -> "Guntars Pranis"
"Eugène Cardine" -> "Antonino Albarosa"
```

In the first column, there are teachers, and in the second, students. On the schema, students and teachers are connected with lines. The arrow always points towards the student. On the following example, the preceding script is drawn as a schema.

Figure 16. Fragment from a 'family tree' of Gregorian chant performers.



As it can be seen, the schema is far from final even on the basis of this tiny example. For example, it is known that Alberto Turco studied with Eugène Cardine, but as I do not have Turco's statement that he considers Cardine his teacher I cannot add this connection. The same applies to Saulnier and Göschl. In that respect, the pedigree can be improved in coming studies. The software Graphviz does not support some letters, for example 'ö' and is reluctant to use several symbols like 'é'. Therefore, some names are misspelled in the schema, for which I apologise.

For the respondents who had specific Gregorian chant teacher(s), it was easy to answer this question. However, respondents who have not had a formal pupil-teacher relationship in studying chanting came up with interesting answers. They described recordings and books as their teachers or wrote that they have not had a specific teacher. In his interview for this study, Godehard Joppich said that Cardine considered manuscripts as his teachers (Joppich, 2005, interview transcript: 7).

For the respondents who for some reason have an experience of self-studying in this field, the task cannot have been easy. For them the question actually was – ‘what does my Gregorian chant performance consist of’ or ‘where have I got the knowledge from to perform Gregorian chant’?

The persons mentioned as the teachers are mostly Gregorian chant performance specialists, but there are also scholars, singing teachers, musicians of other specialities, and clergy. The understanding of what a ‘teacher’ means is not unanimous. Some respondents have only one teacher but the others describe many persons that they have worked with as their teachers.

Another interesting phenomenon that arose from this question was that not every respondent who according to my knowledge has had a formal pupil-teacher relationship wanted to consider a particular person as his/her teacher. There were also signals of opposite thinking. During this research, I compiled a ‘family tree’ of Estonian performers. It was published with the article ‘A Glimpse of the Recent History of Gregorian Chant Interpretation in Estonia’.⁴³⁵ As a response, some performers complained that their colleagues have described somebody as their teacher although they had hardly worked together. It was interpreted as a sort of vanity, to show famous performers as their teachers. This fact shows that one person cannot quite clearly understand the pupil-teacher relationship of another person. For some, having a teacher-pupil relationship means years of systematic work, but for others it can be something very valuable passed from a teacher to a pupil in a relatively short time. It can be a sort of revelation, and although a pupil may have met his/her teacher only once, this might make a big difference to his/her understanding.

Therefore, it is very important to understand that the schema based on answers to the question 113 does not represent results of a historical study of teacher-student relationships. This is merely another understanding of Gregorian chant – who considers whom his/her teacher in Gregorian chant.

In the compiled ‘family tree’, there are pupil-teacher relationships of 103 respondents. With an exception of four, the results come from the questionnaire. The rest are from personal contacts with respondents.

⁴³⁵ Jõks, Eerik. 'Põgus pilguheit gregooriuse laulu interpretatsiooni lähiminevikku Eestis'. *Teater. Muusika. Kino* 12/2006 (2006), 64-71.

Table 57. Number of entries the respondents made when answering the question 113.

Entries	Respondents
1	27
1	8*
2	17
3	21
4	17
5	4
6	6
7	1
8	1
10	1
Total	103

From 35 respondents who made only one entry, eight respondents claimed not to have a specific teacher(s) (in the previous table marked with *). Among those is the well-known performer Marcel Pérès. In the turn, five respondents claim Marcel Pérès to be their teacher. Therefore, this ‘family tree’ cannot give definitive answers about where the interpretational knowledge of every performer comes from. Rather it gives in most cases a suggestions of direction from which this knowledge has come from. More than half of the respondents made from one to two entries. These respondents represent musicians who have a clear idea of where their knowledge for Gregorian chant is from. For example, Richard Crocker marks Albert Fuller as his teacher and Tim Pehta marks Mary Berry and Elizabeth Paterson as his teachers. At the same time, 51 respondents made three to ten entries, and for them, knowledge of Gregorian chant performance comes from a much wider group of people. For example, Benedict Hardy describes Jerome Roche, Daniel Saulnier, Mary Berry, Gabriel Bestonniere Oco, Jaan-Eik Tulve, Bernadette Byne, and Peter McChrystal as his teachers in Gregorian chant. Thus, we have performers who have their performance education from a clearly framed ‘school of performance’ and others who have summed up principles from several understandings. The latter, however, can become another ‘school of performance’ and have its own disciples.

Speaking in generalised terms, we can say that all contemporary performance practices have their roots in Solesmes. André Mocquereau and Joseph Pothier, did disagree about many things, but their musical practice on the example of 1904 recordings from the Gregorian congress in Rome are fairly similar. However, Mary Berry points out many small differences and concludes ‘It is remarkable to hear so many differences of style in choirs singing from the same Solesmes editions’ (Berry,

1979a: 202). When talking about performance conducted by Mocquereau she writes that ‘The note before the *quilisma* is sometimes lengthened, but no special treatment is given to the *salicus*’ (Berry, 1979a: 202). It is true that one can find little differences in performances conducted by Pothier and Mocquereau but basically they represent the same style. This performance style forms the basis on which all other studies and styles have risen. Although already in the 1930s there are recorded examples of very different performance practices, we can talk about different schools starting from the work of Eugène Cardine whose work is also rooted in the tradition of Solesmes. Many performers have marked Eugène Cardine as their teacher, but still they cannot be treated as performers of one school because their interpretations are so different. In the subchapter ‘Top ten of the key figures of Gregorian chant’, we saw how important Cardine is for the respondents of this questionnaire. 47 respondents out of 105 mentioned him as a key figure of Gregorian chant through all the centuries and 54 respondents out of 94 marked him as a key figure of Gregorian chant starting from the beginning of the nineteenth century. Therefore, in the future, it would be just to classify different performance practices through him. There is no ready to use terminology for this classification and there is a need for more research to create this terminology properly. To describe different schools in the future I propose two large divisions: pre-Cardine and post-Cardine. In the pre-Cardine division, there should be developments until 1970s, when Cardine’s work started to have wider influence because of the publication of ‘Gregorian Semiology’; in the post Cardine division, there should be all styles that were inspired by his work. I think that the classification performance practices in the division of post Cardine should describe additions to this inspiration. For example (1) Cardine + Solesmes historical performance practice, together with all other chant related disciplines that are cultivated in Solesmes; (2) Cardine + special concentration on study of semiology⁴³⁶; (3) Cardine + fantasy and artistic creativity and so on. Of course, it must be noted that the borders of these classifications can never be sharp.

In this ‘family tree’, 12 performers have named Cardine as their teacher, but there are more of his students in the schema who are not connected because of the methodology of compiling this ‘family tree’. If we add to this all performers who have

⁴³⁶ I presume here that dealing with semiology also includes knowledge of paleography.

studied with students of Cardine, the reason why he is in the top ten of both charts in the subchapter 'Top ten' of the key figures of Gregorian chant can be seen.

Although the answers to the question 113 in the questionnaire show us the complexity of the world of performance practice of Gregorian chant, it is not enough to go into deeper analyses of the performance history of Gregorian chant in the nineteenth to twenty-first centuries. We have seen from the 'top ten' questions how important the respondents consider Cardine and therefore it is only logical that he is in the centre of the 'family tree'. However, it is not known for sure who Cardine considered as his teachers, apart from what we understand as a formal pupil-teacher relationship. The same applies for many other persons in the pedigree. Thus, the line in the family tree breaks in many places and we will not be able to fix it on the same principles as the whole pedigree was compiled.

The answers to this question in the questionnaire show another diversity in opinion – how performance of Gregorian chant is learned. It shows how very different principles about Gregorian chant are distributed very widely and explains once again the reasons behind different performance practices. Last but not least, it gives us an idea of the complexity that is involved in the process of development of these practices.

3.3 Comparison of selected different sets of data

3.3.1 Introduction

In this subchapter, results to the sets of questions about what Gregorian chant means for the respondents and what is important in Gregorian chant performance are compared with a selection of questions⁴³⁷ most of which are presented in the subchapter 'About the respondents'. Henceforth, these questions will also be referred to as comparison variables, comparison arguments, or comparison questions. It is not within the scope of this research to propose suggestions and/or explain all the reasons between the preferences shown by different groups of respondents. The purpose is rather to show the factors that influence evaluations about what Gregorian chant is and that shape interpretational preferences. For that purpose, a method of 'comparison of means' is applied. In this method, SPSS analyses whether there is a significant difference in opinion in a particular part of the selection – for example, those who consider themselves less religious and those who consider themselves more religious. For example, if the latter described groups are compared with the question 'Gregorian chant for me means prayer'⁴³⁸ the results are following:

⁴³⁷ 110. What is your musical education?; 111.2 When (what year) did you start your activities concerning Gregorian chant?; 121. When singing, we deliver notes of different durations. Assuming, that the increased value of duration can arise from either extending the duration of an individual note/individual notes, or slowing down the tempo, which of the two options do you use in Gregorian chant performance?; 127. Do you sing more at concerts or at church services?; 130.1 How often do you sing, conduct, or study Gregorian chant?; 131. Do you sing/conduct or study music other than Gregorian chant?; 145.1 How often do you attend church services, i.e. the mass, liturgy, prayer services, meditations, adorations or other forms of organized worship?; 146.1 How important is religion for you? The term "religion" is here taken as meaning the relationship with God.; 147.1 Other than at church services, how often do you pray?; 148.1 How often do you read the Scriptures?; 149. Do you belong to a parish or congregation?; 150. Which church/denomination do you belong? (150.2 Monastic and non monastic respondents); 150. Which church/denomination do you belong? (150.3 Catholics and other respondents); 151.1 What is your age?; 152. What is your nationality? (152.1 European and non European respondents); 152. What is your nationality? (152.2 Estonian, American, German and British respondents); 153. Are you male or female?

⁴³⁸ Question 18

Table 58. Comparison of means of 'Gregorian chant, for me, means prayer' (Q18) with 'How important is religion for you? The term "religion" is here taken as meaning the relationship with God' (q146.1⁴³⁹).

	Mean	N
Respondents who consider religion less important for themselves	4.57	14
Respondents who consider religion more important for themselves	7.54	84
Total	7.11	98

From this table, it can be seen that altogether 98 respondents answered both questions (column 'N'), and that the means of the two groups differ from each other. In this particular case, the result is quite predictable – it is logical that respondents who consider religion more important for themselves understand Gregorian chant more as a prayer than the rest of the respondents. In situations where it is not so self-evident, the significance index shows whether the difference in means is significant. The same principle was used in correlation analyses. If the significance index is 0.01, it means that a probability of this kind of result appearing randomly is 1 in 100 (for more explanation see page 173). For example:

Table 59. Comparison of means of 'Gregorian chant, for me, means the foundation of European professional musical culture' (Q2) with 'What is your nationality?' (q 152.2).

	Mean	N
Estonians	6.76	21
Americans	5.16	19
German	7.21	14
British	5.77	13
Total	6.21	67

The significance index in the ANOVA⁴⁴⁰ table for this comparison is 0.000. Therefore, the difference between the means of the groups involves significant difference. It is very important to understand that if there are more than two groups, the ANOVA significance index shows significant difference between two of these groups; but not between all the groups. This can be well observed in Table 59. The difference between Americans (5.16) and British (5.77) is clearly not the significant difference that ANOVA shows. Significant difference is most likely between Americans (5.16) and Germans

⁴³⁹ If the number of the question has a subsection number after a full stop, it means that the results of this question are regrouped. Another attribute that refers to regrouping is a regular 'q' at the beginning of the number of the question instead of capital 'Q'. For the explanation about regrouping, see the subchapter 'About the respondents'. For the report about ungrouped results, see Appendix 9, vol x, pp 446-488.

⁴⁴⁰ Analysis of variance.

(7.21). The probability of this kind of result appearing randomly is less than 1 in 10,000. Therefore, it can be said that among the respondents, Germans consider Gregorian chant more as the foundation of European professional musical culture than do Americans and most likely also British. However, one cannot say that the significance index 0.000 applies also to the difference between British and Americans.

3.3.2 Comparison of means of ‘What does Gregorian chant mean for you?’ (Q 1-27) with a selection of comparison variables.

In the following analyses, the results to the set of questions 1-27 ‘What does Gregorian chant mean for you?’ were compared to the answers to selected questions (please see Appendix 36, vol 3, pp 686-688). Among the questions about what Gregorian chant means, the arguments that are most influenced by comparing variables are ‘prayer’⁴⁴¹ and ‘a form of teaching about the Word of God’.⁴⁴²

Table 60. Amount of influencing comparison variables in the set of questions 1-27; please see the table also as Appendix 37, vol 2, p 522.

Argument	
Q18 [...] prayer.	9
Q24 [...] a form of teaching about the Word of God [...].	9
Q1 [...] a way of life.	8
Q19 [...] medieval monodic liturgical chant of the Western church [...].	7
Q4 [...] exciting repertory that can be used to fill concert programmes.	5
Q8 [...] an opportunity for career enhancement.	5
Q14 [...] a method of composing liturgical music.	4
Q17 [...] musical text, performed in a theatrical manner.	4
Q2 [...] the foundation of European professional musical culture.	4
Q11 [...] liturgical song, to be interpreted according to certain rules.	3
Q3 [...] Franco-Roman chant, a part of Latin sacred monody.	3
Q6 [...] beautiful melodies.	3
Q10 [...] an opportunity to investigate medieval notation.	2
Q15 [...] sacred text, illuminated by music.	2
Q21 [...] thematically coherent and textually complete repertory [...].	2
Q22 [...] meaningful texts.	2
Q12 [...] a collection of medieval manuscripts and liturgical texts.	1
Q13 [...] a broad-based domain of musicology and liturgics.	1
Q23 [...] an opportunity to introduce interesting music [...] to the audience.	1
Q25 [...] a part of my activities as musician.	1
Q26 [...] one vocal repertory among many others.	1
Q27 [...] a boring duty that I need to do routinely.	1
Q5 [...] any kind of monodic Latin liturgical chant.	1
Q9 [...] Roman Catholic liturgical music.	1
Q16 [...] a way of musical thinking.	0
Q20 [...] a bridge to Pre-Christian cultures and spiritualities.	0
Q7 [...] inspiration for my musical activities.	0

⁴⁴¹ Question 18

⁴⁴² Question 24

Both arguments have nine comparison questions that have significant influence. At the other end, there are questions, which had no influence from comparison variables: ‘inspiration for my musical activities’,⁴⁴³ ‘a bridge to Pre-Christian cultures and spiritualities’,⁴⁴⁴ and ‘a way of musical thinking’.⁴⁴⁵

On the other axis of the same appendix, I can count which comparison variables have influenced most arguments in the set of questions 1-27. As in the previous table, at the top are religion-related arguments ‘Other than at church services, how often do you pray?’⁴⁴⁶ and ‘Do you belong to a parish or congregation?’.⁴⁴⁷ At the bottom of the chart are questions ‘Are you male or female?’⁴⁴⁸ and ‘What is your age?’.⁴⁴⁹

Table 61. Amount of variables in the set of questions 1-27 that are influenced by a particular comparison question; please see the table also as Appendix 38, vol 2, p 523.

Argument	
q147.1 Other than at church services, how often do you pray?	9
Q149 Do you belong to a parish or congregation?	9
Q127 Do you sing more a concerts or at church services?	8
q146.1 How important is religion for you? [...]	8
q150.3 Catholics and other respondents	8
q148.1 How often do you read the Scriptures?	6
q150.2 Monastic and non-monastic respondents.	6
q145.1 How often do you attend church services?	5
q152.2 Estonian, American, German and British respondents.	5
q152.1 European or non European respondents.	4
q111.2 When [...] did you start your activities concerning Gregorian chant?	2
q130.1 How often do you sing, conduct or study Gregorian chant?	2
Q131 Do you sing/conduct or study music other than Gregorian chant?	2
Q110 What is your musical education?	2
Q121 [...] [...] the increased value of duration can arise from [...] extending the duration [...], or slowing down the tempo, which [...] do you use [...]?	1
q151.1 What is your age?	1
Q153 Are you male or female?	1

Surprisingly there is only one significant difference in the partition of the sexes. This is ‘a way of life’⁴⁵⁰ in favour of female respondents 6.13/4.98. The next closest argument is scarcely above the significance level.⁴⁵¹ It is ‘inspiration for my musical activities’⁴⁵²

⁴⁴³ Question 7

⁴⁴⁴ Question 20

⁴⁴⁵ Question 16

⁴⁴⁶ Question 147.1

⁴⁴⁷ Question 149

⁴⁴⁸ Question 153

⁴⁴⁹ Question 151.1

⁴⁵⁰ Question 1

⁴⁵¹ Highest allowed significance level is 0.05.

with significance index of 0.051 and means in the favour of male respondents 5.51/4.65. It is possible of course, that the lack of significant differences in the partition of the sexes is due to quite unbalanced groups of male (81.3%) and female (18.7%).

In the partition of age, there is also only one significant difference – ‘a way of life’. Respondents older than 60 consider Gregorian chant more as a way of life than their younger colleagues. The means are as follows: under 40 – 4.79; 41-60 – 4.74; over 60 – 6.36. The question ‘When (what year) did you start your activities concerning Gregorian chant?’⁴⁵³ has slightly more significant counterparts. It appears that the respondents who started their activities earlier consider Gregorian chant more as ‘Franco-Roman chant, a part of Latin sacred monody’.⁴⁵⁴ The means are as follows: started before 1970 – 6.71; started from 1971 to 1985 – 6.16; started after 1985 – 5.48. The respondent who started his/her activities after 1985 consider ‘Gregorian’ chant least as ‘Franco-Roman’ chant. Almost the same phenomenon appears with understanding Gregorian chant as ‘medieval monodic liturgical chant of the Western church based on Roman rite’.⁴⁵⁵ The means are as follows: started before 1970 – 6.93; started from 1971 to 1985 – 6.09; started after 1985 – 5.73. In this variable is a big difference between the respondents who started their activities before 1970 and after 1985. The respondents who started from 1971-1985 are in fact close to both groups.

One of the comparison questions that influenced only one variable was particularly significant. ‘When singing, we deliver notes of different durations. Assuming that the increased value of duration can arise from either extending the duration of an individual note/individual notes or slowing down the tempo, which of the two options do you use in Gregorian chant performance?’⁴⁵⁶ The results to this question in comparison with questions 1-27 showed that preferences about lengthening the notes influence the respondents’ understanding about Gregorian chant as ‘a method of composing liturgical music’.⁴⁵⁷ The mean was considerably higher for those respondents who answered ‘In the middle of the phrase, I extend the duration of the note, at the end of the phrase I slow down the tempo’ (5.67) and ‘It

⁴⁵² Question 7

⁴⁵³ Question 111.2

⁴⁵⁴ Question 3

⁴⁵⁵ Question 19

⁴⁵⁶ Question 121

⁴⁵⁷ Question 14

depends' (4.19) than for those who answered 'I extend the duration of the note' (2.90) and 'I slow down the tempo' (2.25).

The musical education of the respondents influenced two variables: 'an opportunity to investigate medieval notation'⁴⁵⁸ and 'a collection of medieval manuscripts and liturgical texts'.⁴⁵⁹ In the first question, the mean of the respondents with a higher musical education (5.56) and with masters or doctoral degree (4.45) is higher than of those who have an elementary musical education (3.88) or have no special musical education (3.78). In the second question, the respondents with higher musical education (5.18) are closer to the respondents with elementary musical education (4.29). Interestingly, the respondents with no musical education and the respondents with masters or doctoral degree have the same mean 3.78, which is significantly lower than the mean of the respondents with higher musical education.

The question 'How often do you sing, conduct or study Gregorian chant?'⁴⁶⁰ has influenced the results of two variables. (1) Firstly, for those respondents who sing, conduct, or study Gregorian chant more frequently, it is more 'prayer'⁴⁶¹ (7.39) than for those who are less frequent in their activities (6.69). However, the difference between the means is not big. It is understandable, because the question 'prayer'⁴⁶² was, without any competition, most popular among the respondents having the mean of 7.14. (2) Secondly, for those who are less frequent users (4.72), Gregorian chant is more 'one vocal repertoire among the others'⁴⁶³ than for more frequent users (3.90).

There were fascinating influences of comparison questions concerning nationality. In the partition of 'European or non-European respondents'⁴⁶⁴ there were four influenced variables. It appeared that for European respondents (6.41), Gregorian chant means significantly more 'the foundation of European professional musical culture'⁴⁶⁵ than for non-Europeans (4.91). This phenomenon sounds quite predictable, but the following does not: non-European respondents (5.73) consider Gregorian chant more to be 'beautiful melodies'⁴⁶⁶ than European respondents (4.65). At the same time, European respondents understand Gregorian chant more as 'thematically

⁴⁵⁸ Question 10

⁴⁵⁹ Question 12

⁴⁶⁰ Question 130.1

⁴⁶¹ Question 18

⁴⁶² Question 18

⁴⁶³ Question 26

⁴⁶⁴ Question 152.1

⁴⁶⁵ Question 2

⁴⁶⁶ Question 3

coherent and textually complete repertory for the whole church year⁴⁶⁷ (6.28) and ‘a form of teaching about the Word of God [...]’⁴⁶⁸ (5.95). The corresponding means for non-European respondents are 5.41 and 4.55.

The situation gets even more interesting when we look at the five influences that are made by the partition ‘Estonian, American, German and British respondents’.⁴⁶⁹ It was already shown that non-Europeans are not so keen on identifying Gregorian chant as ‘the foundation of European professional musical culture’. From this partition, it appears that the German respondents rank this quality of Gregorian chant most highly (7.21) and Americans most lowly (5.16). Corresponding means for the others are Estonians 6.76 and British 5.77. The already-observed question of ‘beautiful melodies’⁴⁷⁰ finds confirmation here. The American respondents have the highest mean (5.95), which is followed by British (5.31), Germans (4.34), and Estonians (3.52). It seems that the German respondents have a tendency generally to rate variables higher. In the questions ‘Franco-Roman chant, a part of Latin sacred monody’,⁴⁷¹ again the German respondents have highest mean (6.86), but the difference between following British respondents (6.31) is quite small. The German respondents also have significantly higher mean for the question ‘liturgical song, to be interpreted according to certain rules’⁴⁷² (6.57). Here again, Estonian respondents have a significantly low mean (3.67). These low means of Estonian respondents are balanced in the question ‘a form of teaching about the Word of God’⁴⁷³ where their mean (6.05) comes closely after the German respondents (6.64).

All comparison questions that have influenced six or more variables are related to religious allegiance or religious practices. The only exception is ‘Do you sing more at concerts or at church services?’⁴⁷⁴ which is not directly religion-related. This comparison question influences eight variables. Here also a predictable pattern applies. The respondents who sing more at concerts consider Gregorian chant more as ‘exciting repertory that can be used to fill concert programmes’,⁴⁷⁵ ‘an opportunity for career enhancement’,⁴⁷⁶ and ‘an opportunity to introduce interesting music [...] to the

⁴⁶⁷ Question 21

⁴⁶⁸ Question 24

⁴⁶⁹ Question 152.2

⁴⁷⁰ Question 6

⁴⁷¹ Question 3

⁴⁷² Question 11

⁴⁷³ Question 24

⁴⁷⁴ Question 127

⁴⁷⁵ Question 4

⁴⁷⁶ Question 8

audience'.⁴⁷⁷ The respondents who sing more at church services, on the other hand, understand Gregorian chant more as 'prayer'⁴⁷⁸ and 'medieval monodic liturgical chant of the Western church'.⁴⁷⁹ It is interesting to point out that 'an opportunity to investigate medieval notation'⁴⁸⁰ and 'a broad-based domain of musicology and liturgics'⁴⁸¹ are in favour of those who sing more at concerts. The question 'a method of composing liturgical music'⁴⁸² is also interestingly influenced by 'Do you sing more a concerts or at church services?'.⁴⁸³ This variable is in favour of those who sing more or less equally at concerts and at church services (5.00). The respondents who sing more at concerts (3.38) or more at church services (3.63) have much lower means.

Most of the religion-related comparison questions follow a logically predictable pattern, and will therefore not be individually addressed. For example, those respondents who pray more frequently consider Gregorian chant more as 'sacred text, illuminated by music'⁴⁸⁴ less as 'musical text, performed in a theatrical manner'⁴⁸⁵ and the more the respondent is praying, the more he/she considers Gregorian chant as 'prayer'. Some interesting features in religion-related comparison questions however need a special attention. In the following table it is shown how three text-related variables are influenced by 'Other than at church services, how often do you pray?'.⁴⁸⁶

Table 62. Comparison of means of questions 'sacred text, illuminated by music' (Q15); 'meaningful texts' (Q22); 'a form of teaching about the Word of God' with 'Other than at church services, how often do you pray?' (q147.1); please see the table also as Appendix 39, vol 2, p 524.

q147.1 Other than at church services, how often do you pray?		Q15	Q22	Q24
	Sig.	0.014	0.042	0
More frequently praying respondents	Mean	6.40	6.04	5.97
	N	67	67	68
Less frequently praying respondents	Mean	5.33	5.78	6.11
	N	9	9	9
Respondents who do not pray at all	Mean	4.29	4.29	1.57
	N	7	7	7
Respondents who preferred not to answer to this question.	Mean	6.53	6.33	5.53
	N	15	15	15
Total	Mean	6.17	5.94	5.61
	N	98	98	99

⁴⁷⁷ Question 23

⁴⁷⁸ Question 18

⁴⁷⁹ Question 19

⁴⁸⁰ Question 10

⁴⁸¹ Question 13

⁴⁸² Question 14

⁴⁸³ Question 127

⁴⁸⁴ Question 15

⁴⁸⁵ Question 17

⁴⁸⁶ Question 147.1

It is interesting to observe that the respondents who do not pray at all have significantly lower mean for 'a form of teaching about the Word of God' (Q24) than 'sacred text, illuminated by music' (Q15) and 'meaningful texts' (Q22). This suggests again a presence of a spirituality or religiousness that is not clearly connected to Christianity but becomes actual through Gregorian chant. Respondents who do not pray at all do not consider Gregorian chant as a form of teaching about the Word of God, which is directly a Christian quality. However, they do rate more highly the possibility that Gregorian chant means 'sacred text', and that these texts are meaningful for them.

From the comparison question, 'How often do you attend church services?'⁴⁸⁷ it is interesting to point out that more frequent attendees (3.77) consider Gregorian chant more as 'any kind of monodic Latin liturgical chant'⁴⁸⁸ than less frequent attendees (2.57). This is the only comparison question than has significantly influenced the variable 'any kind of monodic Latin liturgical chant'. The comparison question 'How important is religion for you? [...]'⁴⁸⁹ shows that the respondents who consider religion more important for them (6.24), understand Gregorian chant more as 'the foundation of European professional musical culture'⁴⁹⁰ than the rest of the respondents (5.21). As expected, the respondents who belong to a congregation (1.19) think that Gregorian chant is 'a boring duty that I need to do routinely'⁴⁹¹ slightly less than the respondents who have no denominational allegiance (1.65).

In the partition of 'Catholic and non-catholic respondents',⁴⁹² a notional difference in means needs to be pointed out. Means for the variable 'Roman Catholic liturgical music'⁴⁹³ are following: Roman Catholic – 6.81; other denominations 4.20; not belonging – 5.48. An interesting phenomenon here is how the respondents who do not belong to a congregation have higher mean in understanding Gregorian chant as Roman Catholic liturgical music than the respondents who are members of other denominations. That shows how other denominations might have a slight problem in naming Gregorian chant Roman Catholic liturgical music, as they probably understand

⁴⁸⁷ Question 145.1

⁴⁸⁸ Question 5

⁴⁸⁹ Question 146.1

⁴⁹⁰ Question 2

⁴⁹¹ Question 27

⁴⁹² Question 150.3

⁴⁹³ Question 9

this repertoire to be a liturgical music of other denominations as well. The respondents who have no denominational allegiance do not have this problem, and therefore their mean for understanding Gregorian chant as a liturgical music of just one denomination is higher. In the partition of ‘monastic and non-monastic respondents’,⁴⁹⁴ most of the means that concern religious and church-related issues are in favour of the monastic respondents and vice-verse. The mean for the variable ‘prayer’⁴⁹⁵ is very high – 7.90, reaching almost the maximum of eight.

3.3.3 Comparison of means of ‘What is important for a good performance of Gregorian chant?’ with a selection of comparison variables

This subchapter is methodologically similar to the previous one. The comparison questions are also the same. As in the previous subchapter, I will begin with statistical observation of (1) how many comparison questions have influenced a particular variable in the set of questions 42-71 and (2) how many influences have every comparison argument made (Appendix 40, vol 3, pp 688-690).

Most influenced arguments among the set of questions 42-71 are ‘liturgical environment’,⁴⁹⁶ ‘religious intention’,⁴⁹⁷ ‘singer’s belief in the text that is performed’,⁴⁹⁸ and ‘variety of dynamics’.⁴⁹⁹ Arguments that are not sensitive to the comparison questions at all are ‘excellent vocal quality’,⁵⁰⁰ ‘passive comprehension of the Latin language’,⁵⁰¹ and ‘avoiding routine interpretation’.⁵⁰²

⁴⁹⁴ Question 150.2

⁴⁹⁵ Question 18

⁴⁹⁶ Question 55

⁴⁹⁷ Question 59

⁴⁹⁸ Question 53

⁴⁹⁹ Question 44

⁵⁰⁰ Question 47

⁵⁰¹ Question 52

⁵⁰² Question 61

Table 63. Amount of influencing comparison arguments in the set of questions 42-71; please see the table also as Appendix 41, vol 2, p 525.

Argument	
Q55 [...] liturgical environment [...]	9
Q59 [...] religious intention [...]	9
Q53 [...] singer's belief in the text that is performed [...]	8
Q44 [...] variety of dynamics [...]	7
Q45 [...] musical phrasing [...]	5
Q48 [...] a personal contribution to the exegesis of text [...]	4
Q50 [...] an idiolectic (personal and original) approach to the music [...]	4
Q62 [...] semiological precision [...]	4
Q42 [...] agogic variety (subtle changes of tempo related to phrasing) [...]	3
Q58 [...] the aim of performing in as authentic manner as possible [...]	3
Q63 [...] an accurate costume [...]	3
Q67 [...] theoretical knowledge of semiology [...]	3
Q68 [...] excellent intonation [...]	3
Q54 [...] general musicality of the performer [...]	2
Q56 [...] imitation of one's teacher [...]	2
Q57 [...] singing from memory [...]	2
Q64 [...] an accurate venue for performance [...]	2
Q65 [...] textual narrative [...]	2
Q66 [...] theoretical knowledge of paleography [...]	2
Q69 [...] following the right style of chant performance [...]	2
Q70 [...] understanding of what the text means [...]	2
Q71 [...] animated performance [...]	2
Q43 [...] excellent articulation [...]	1
Q46 [...] excellent diction [...]	1
Q49 [...] the knowledge of the historical background [...]	1
Q51 [...] respecting the individualities of the 8 modes [...]	1
Q60 [...] a rhetorical approach to the music that is performed [...]	1
Q47 [...] excellent vocal quality [...]	0
Q52 [...] passive comprehension of the Latin language [...]	0
Q61 [...] avoiding a routine interpretation [...]	0

On the other axis of the same appendix, an interesting result points out how nationality can be an influencing factor in understanding what is important for a good performance of Gregorian chant. The comparison question 'Estonian, American, German and British respondents'⁵⁰³ that shows differences between the opinions of the respondents of these nationalities have significant influence on 13 arguments. One factor, the importance of which was already observed 'How important is religion for you?',⁵⁰⁴ comes in second position, with only eight significant influences. At the other end of the table are comparison arguments that asked about lengthening the notes

⁵⁰³ Question 152.2

⁵⁰⁴ Question 146.1

during the performance of Gregorian chant⁵⁰⁵ and question that asked ‘Do you sing/conduct or study music other than Gregorian chant?’.⁵⁰⁶

Table 64. Amount of variables in the set of questions 42-71 that are influenced by a particular comparison question; please see the table also as Appendix 42, vol 2, p 526.

Argument	Amount of variables
Q152.2 Estonian, American, German and British respondents.	13
Q146.1 How important is religion for you? [...]	8
Q127 Do you sing more a concerts or at church services?	7
Q111.2 When [...] did you start your activities concerning Gregorian chant?	7
Q152.1 European or non-European respondents.	6
Q150.2 Monastic and non-monastic respondents.	6
Q130.1 How often do you sing, conduct or study Gregorian chant?	6
Q148.1 How often do you read the Scriptures?	5
Q147.1 Other than at church services, how often do you pray?	5
Q151.1 What is your age?	4
Q150.3 Catholics and other respondents.	4
Q149 Do you belong to a parish or congregation?	4
Q110 What is your musical education?	3
Q153 Are you male or female?	3
Q145.1 How often do you attend church services?	3
Q131 Do you sing/conduct or study music other than Gregorian chant?	2
Q121 [...] [...] the increased value of duration can arise from either extending the duration [...], or slowing down the tempo, which [...] do you use [...]?	2

Comparison question 121 influences two variables: (1) How the respondents assess the importance of ‘variety of dynamics’⁵⁰⁸ and (2) ‘theoretical knowledge of semiology’.⁵⁰⁹ When the comparison question 121 is observed it must be noted that the groups formed on the bases of this question are fairly unequal. (1) The respondents who think that the increased value of the note arises from extending the duration consider the variety of dynamics significantly less important (3.95) than those who slow down the tempo (6.00) and those who ‘in the middle of the phrase, extend the duration and at the end of the phrase slow down the tempo’ (6.11). The mean of those respondents who stated that ‘it depends’ is 4.95.

(2) The second variable that comparison question 121 influences is ‘theoretical knowledge of semiology’.⁵¹⁰ Those respondents who ‘extend the duration of the note’

⁵⁰⁵ Question 121

⁵⁰⁶ Question 131

⁵⁰⁷ Question 121

⁵⁰⁸ Question 44

⁵⁰⁹ Question 67

⁵¹⁰ Question 67

(4.10) consider ‘theoretical knowledge of semiology’⁵¹¹ more important than those who ‘slow down the tempo’ (2.25) and those who ‘in the middle of the phrase, extend the duration and at the end of the phrase slow down the tempo’ (3.89). The highest mean belongs to the respondents who stated that ‘it depends’ (5.26) and who probably believe that the increased value of the note is a combination of extending the duration and slowing down the tempo. This combination describes the famous term in Gregorian chant performance that is called ‘movement’. It is still quite surprising that the respondents who extend the duration of the note consider semiology so important. This suggests again that there are multiple understandings about semiological principles.

The comparison variable ‘Do you sing/conduct or study music other than Gregorian chant’⁵¹² has influenced two arguments: ‘semiological precision’⁵¹³ and ‘an accurate costume’.⁵¹⁴ In the first, the respondents who do not sing/conduct or study music other than Gregorian chant consider ‘semiological precision’⁵¹⁵ more important (6.78) and in the second the same group thinks that ‘accurate costume’⁵¹⁶ is more essential for a good performance of Gregorian chant (4.12). The corresponding means for those who do sing/conduct or study other music are respectively 5.35 and 2.25.

The comparison question ‘How often do you attend church services?’⁵¹⁷ offers some interesting results. It does not need much explaining that the respondents who are more frequent attendees (5.83) consider ‘liturgical environment’⁵¹⁸ more meaningful than the less frequent attendees (4.71). However, if the more frequent attendees (6.65) consider ‘musical phrasing’⁵¹⁹ more relevant than less frequent attendees (5.71), it definitely raises a question of interpretation of these results. In the variable ‘an idiolectic approach to the music’⁵²⁰ more frequent attendees score lower (3.48) than less frequent attendees (4.52). This can be explained by the fact that organised worship leaves less room for personal and original treatment of liturgical

⁵¹¹ Question 67

⁵¹² Question 131

⁵¹³ Question 62

⁵¹⁴ Question 63

⁵¹⁵ Question 62

⁵¹⁶ Question 63

⁵¹⁷ Question 145.1

⁵¹⁸ Question 55

⁵¹⁹ Question 45

⁵²⁰ Question 50

music and a more proper quality is obedience to the order and tradition of the worship.

In the set of questions about what Gregorian chant means for the respondents, the comparison question 'Are you male or female?'⁵²¹ influenced only one variable. In this set of questions, this amount is slightly bigger – three variables. Female respondents score higher in the variables 'an idiolectic approach to the music'⁵²² (4.45) and 'respecting the individualities of the eight modes'⁵²³ (6.30). The corresponding means for male respondents are 3.48 and 5.18. Male respondents in their turn consider 'liturgical environment'⁵²⁴ more important (5.85) than female respondents.

The musical education of the respondents also influences three variables. Consideration of the importance of 'the knowledge of the historical background'⁵²⁵ increases with the level of musical education. For those with 'no special musical education', the mean is 3.33, and for the respondents with 'higher musical education', it is 5.16. The mean decreases slightly for those respondents who have 'a masters or a doctoral degree in music' (4.78), but the difference is not that big. In fact, it can be said that the only big difference is between the respondents with no special musical education and the rest of the respondents.

There is an interesting dynamic in the results for the variable 'agogic variety'.⁵²⁶ Here, the respondents with 'elementary musical education' have significantly a lower mean than all the others. The means are following: 'no special musical education' – 6.00; 'elementary musical education' – 4.88; 'higher musical education' – 6.34; 'masters or doctoral degree in music' – 6.06. It appears that the respondents with elementary musical education have least an appreciation for agogics. An interesting feature here is that the respondents without any special musical education appreciate this feature on the same level as those who have higher musical education and/or a degree in music. It is also interesting to see the dynamics for the variable 'an accurate costume'.⁵²⁷ The respondents with 'a masters or doctoral degree' consider this feature

⁵²¹ Question 153

⁵²² Question 50

⁵²³ Question 51

⁵²⁴ Question 55

⁵²⁵ Question 49

⁵²⁶ Question 42

⁵²⁷ Question 63

least important (1.94). The highest mean in this variable belongs to the respondents with 'elementary musical education' (3.29).

The comparison questions that are related to religion or practicing religion are also in this set of questions giving predictable results. For example, the respondents who answered 'yes' to the question 'Do you belong to a parish or congregation',⁵²⁸ scored higher for variables 'singer's belief in the text that is performed',⁵²⁹ 'liturgical environment',⁵³⁰ 'religious intention',⁵³¹ and 'an accurate venue for performance'.⁵³² The examples of this kind of predictability are not all included in the detailed analyses. In the differences caused by the comparison question, 'Catholics and other respondents',⁵³³ it is interesting to observe that for some reason, the Catholic respondents (5.43) appreciate 'variety of dynamics'⁵³⁴ more than the respondents from the other denominations (4.08). In fact, there is no big difference between the latter and the respondents who have no denominational allegiance (4.09). The same feature applies to variable 'liturgical environment'.⁵³⁵ The means are as follows: Roman Catholic – 6.40; other denominations – 4.92; not belonging – 4.61.

The age of the respondent seems to have some influence on interpretational preferences. In the variables 'variety of dynamics',⁵³⁶ 'musical phrasing',⁵³⁷ and 'the aim of performing in as authentic manner as possible',⁵³⁸ the appreciation of particular qualities increases with age. For the variable 'textual narrative',⁵³⁹ there is a different dynamic involved: respondents under 40 – 5.07, respondents 41-60 – 3.78, respondents over 60 – 4.30. This variable is the only interpretational preference that shows significant decrease on the axis of time.

In the results of the comparison question 'how often do you attend church services',⁵⁴⁰ it was observed that less frequent attendees scored higher on 'an idiolectic

⁵²⁸ Question 149

⁵²⁹ Question 53

⁵³⁰ Question 55

⁵³¹ Question 59

⁵³² Question 64

⁵³³ Question 150.3

⁵³⁴ Question 44

⁵³⁵ Question 55

⁵³⁶ Question 44

⁵³⁷ Question 45

⁵³⁸ Question 58

⁵³⁹ Question 65

⁵⁴⁰ Question 145.1

(personal and original) approach to the music'.⁵⁴¹ The same phenomenon applies to 'Do you sing more at concerts or at church services?'.⁵⁴² The respondents who sing more at church services (3.17) score lower 'an idiolectic (personal and original) approach to the music'. Corresponding mean for those who perform more at concerts is 4.76 and those who perform more or less equally at concerts and church services 4.21. The respondents, who also pray outside the church services,⁵⁴³ score higher on 'imitation of one's teacher'⁵⁴⁴ than the respondents, who do not pray at all (2.00). It was expected that more-frequently-praying respondents (6.07) consider 'liturgical environment'⁵⁴⁵ more important than the less-praying respondents (4.44).

The aspect of 'How often do you read Holy Scriptures'⁵⁴⁶ influences the respondents' opinion on the importance of 'variety of dynamics'.⁵⁴⁷ More frequent readers (5.13) rate the importance of 'variety of dynamics' higher than less frequent readers (3.89). As we would have expected, in the variable 'singer's belief in the text that is performed',⁵⁴⁸ the mean for more frequent readers (6.43) is considerably higher than for less frequent readers (4.13).

The comparison question 'How often do you sing, conduct or study Gregorian chant?'⁵⁴⁹ influences six variables. The results of first three are quite as expected. The respondents who are more frequent users of Gregorian chant evaluate 'theoretical knowledge of paleography and semiology'⁵⁵⁰ and 'semiological precision'⁵⁵¹ more as important features for performance of Gregorian chant. Somewhat interesting are three variables that are not Gregorian chant specific but have still higher means for frequent users of this repertoire. These are 'animated performance' (5.48/3.97),⁵⁵² 'variety of dynamics' (5.31/4.03),⁵⁵³ and 'musical phrasing' (6.72/6.08).⁵⁵⁴

⁵⁴¹ Question 50

⁵⁴² Question 127

⁵⁴³ More frequently praying respondents (3.43) and less frequently praying respondents (3.56).

⁵⁴⁴ Question 56

⁵⁴⁵ Question 55

⁵⁴⁶ Question 148.1

⁵⁴⁷ Question 44

⁵⁴⁸ Question 53

⁵⁴⁹ Question 130.1

⁵⁵⁰ Questions 66-67

⁵⁵¹ Question 62

⁵⁵² Question 71

⁵⁵³ Question 44

⁵⁵⁴ Question 45

In the partition of 'monastic and non-monastic respondents',⁵⁵⁵ six variables are sensitive to this comparison question. There are three groups in this partition: (1) not belonging to any congregation; (2) monastic; (3) non-monastic. In comparison with non-monastic Christians, the monastic respondents score higher on 'singer's belief in the text that is performed' (6.44/5.51)⁵⁵⁶ and 'liturgical environment' (6.36/5.81)⁵⁵⁷ but evaluate lower 'general musicality of the performer' (5.20/6.20).⁵⁵⁸ Monastic respondents consider 'religious intention'⁵⁵⁹ more important (6.80/5.77) but non-monastic respondents score higher on 'an accurate venue for performance'.⁵⁶⁰ In this partition, there is again an influence on 'variety of dynamics'.⁵⁶¹ In this variable, monastic respondents score 5.92, non-monastic 4.67, and not belonging to any congregation 4.20. As can be seen, the difference between the latter two is not very big. However, the monastic respondents evaluate the importance of variety of dynamics considerably higher.

The comparison variable 'European or non-European respondents'⁵⁶² influences six arguments: 'a personal contribution to the exegesis of text',⁵⁶³ 'religious intention',⁵⁶⁴ 'semiological precision',⁵⁶⁵ 'an accurate costume',⁵⁶⁶ 'textual narrative',⁵⁶⁷ and 'excellent intonation'.⁵⁶⁸ In the first five, the European respondents score higher and only in the last variable non-Europeans have a higher mean.

In previously analysed comparison questions, I observed that age of the respondent influences four arguments. The comparison question that is strongly linked to it is 'When (what year) did you start your activities concerning Gregorian chant?',⁵⁶⁹ which has seven influences among the set of questions 42-71. Many of the variables that are influenced by both comparison questions correspond logically. The current comparison question shows the same tendencies as the comparison question about

⁵⁵⁵ Question 150.2

⁵⁵⁶ Question 53

⁵⁵⁷ Question 55

⁵⁵⁸ Question 54

⁵⁵⁹ Question 59

⁵⁶⁰ Question 64

⁵⁶¹ Question 44

⁵⁶² Question 152.1

⁵⁶³ Question 48

⁵⁶⁴ Question 59

⁵⁶⁵ Question 62

⁵⁶⁶ Question 63

⁵⁶⁷ Question 65

⁵⁶⁸ Question 68

⁵⁶⁹ Question 111.2

age – evaluations on most variables decrease on the axis of time, in other words, the respondents who started their activities later evaluate most variables lower. For example, ‘animated performance’⁵⁷⁰ is evaluated as follows: respondents who started before 1970 – 5.46, respondents who started 1971-1985 – 5.22, respondents who started after 1985 – 4.20. The same dynamics applies to ‘imitation of one's teacher’,⁵⁷¹ ‘excellent diction’,⁵⁷² ‘musical phrasing’,⁵⁷³ ‘variety of dynamics’,⁵⁷⁴ and ‘agogic variety’.⁵⁷⁵ The only exception is ‘singing from memory’⁵⁷⁶ which has slightly different dynamic: 5.11/3.87/4.32. There is a small rise on the axis of time – respondents who started their activities in Gregorian chant after 1985 evaluate this quality slightly higher than respondents who started 1971-1985. Looking at the changes of the interpretational preferences on the axis of time can lead us astray in conclusions. If all these important qualities diminish on the axis of time, how does it affect the performance? Is there something that compensates these diminishments? In Table 28 in the subchapter ‘Analyses of the raw data’, most of the variables that diminish on the axis of time still have quite high means and are therefore still very important for the respondents. The diminishment of these qualities on the axis of time can suggest very different developments. For example, it is possible that these qualities are just levelling up other important features of performance that have been ignored in the past and are not considered in this questionnaire. It can as well mean that appreciation of these qualities rises with experience.

The comparison question ‘Do you sing more a concerts or at church services?’⁵⁷⁷ includes three variants: (1) more at concerts; (2) more at church services; (3) more or less equally. From seven variables that are influenced by this comparison question, three have the highest mean among these respondents who sing equally at concerts and church services: ‘musical phrasing’,⁵⁷⁸ ‘general musicality of the performer’,⁵⁷⁹ and ‘excellent intonation’.⁵⁸⁰ For the variable ‘musical phrasing’,⁵⁸¹ the respondents who

⁵⁷⁰ Question 71

⁵⁷¹ Question 56

⁵⁷² Question 46

⁵⁷³ Question 45

⁵⁷⁴ Question 44

⁵⁷⁵ Question 42

⁵⁷⁶ Question 57

⁵⁷⁷ Question 127

⁵⁷⁸ Question 45

⁵⁷⁹ Question 54

⁵⁸⁰ Question 68

sing more at concerts (6.27) and more at church services (6.31) score almost equally. For 'general musicality of the performer'⁵⁸² (5.62) and 'excellent intonation'⁵⁸³ (6.17), however, the respondents who perform more at church services score lower. The corresponding means for respondents who perform more at concerts are: 'general musicality' – 6.57 and 'excellent intonation' – 6.91. Variables 'singer's belief in the text that is performed',⁵⁸⁴ 'liturgical environment',⁵⁸⁵ and 'religious intention'⁵⁸⁶ are obviously most highly appreciated by respondents who perform more at church services. For 'liturgical environment',⁵⁸⁷ the mean for the respondents who sing equally at concerts and at church services (5.16) is higher than for those who sing more at concerts (4.14). For variables 'singer's belief in the text that is performed'⁵⁸⁸ and 'religious intention',⁵⁸⁹ the means of two lower scoring groups do not differ significantly. An already observed phenomenon that 'an idiolectic (personal and original) approach to the music'⁵⁹⁰ is held in less esteem in the liturgical context finds another confirmation – the respondents who perform more at church services rate this quality at 3.17. The respondents who perform more at concerts evaluate it at 4.76 and those who perform equally in both contexts have a mean of 4.21.

With eight influenced variables, 'How important is religion for you?'⁵⁹¹ is in second highest position among all comparison questions. For most variables, this comparison question repeats already-detected and in many respects predictable patterns. It needs to be pointed out that in some of these variables, the difference between the means reaches extremes.⁵⁹² For example, 'religious intention',⁵⁹² the means are 6.05 to 3.14 in favour of the respondents who consider themselves more religious or 'singer's belief in the text that is performed'⁵⁹³ with means respectively 5.74 to 3.07. Among the other expected variables that are influenced by this comparison question

⁵⁸¹ Question 45

⁵⁸² Question 54

⁵⁸³ Question 68

⁵⁸⁴ Question 53

⁵⁸⁵ Question 55

⁵⁸⁶ Question 59

⁵⁸⁷ Question 55

⁵⁸⁸ Question 53

⁵⁸⁹ Question 59

⁵⁹⁰ Question 50

⁵⁹¹ Question 146.1

⁵⁹² Question 59

⁵⁹³ Question 53

are ‘liturgical environment’⁵⁹⁴ (5.86/4.00), and ‘understanding of what the text means’ (7.07/5.93).⁵⁹⁵ Respondents who consider religion more important for them also score higher on ‘a personal contribution to the exegesis of text’⁵⁹⁶ (5.49/4.07), ‘singing from memory’⁵⁹⁷ (4.54/3.07), ‘the aim of performing in as authentic manner as possible’,⁵⁹⁸ (4.88/3.57) and ‘following the right style of chant performance’⁵⁹⁹ (5.34/4.14).

The biggest surprise among the comparison questions was definitely ‘What is your nationality?’⁶⁰⁰ After regrouping the results into four groups: Estonian, American, German, and British this comparison question influenced thirteen variables in the set of questions 42-71.

Table 65. Comparison of means of the comparison questions with the partition of selected nationalities (Q152); please see the table also as Appendix 43, vol 2, p 527.

		Q42	Q43	Q48	Q50	Q53	Q58	Q59	Q60	Q62	Q66	Q67	Q68	Q70
	Sig.	0.000	0.049	0.000	0.045	0.002	0.004	0.019	0.000	0.000	0.000	0.000	0.041	0.016
Estonian	Mean	4.68	5.53	6.00	3.11	6.53	3.21	6.37	3.42	5.05	3.37	3.89	5.89	6.79
	N	19	19	19	19	19	19	19	19	19	19	19	19	19
American	Mean	6.00	6.17	3.83	3.11	4.67	4.89	4.72	4.56	4.44	3.83	3.56	7.11	6.78
	N	18	18	18	18	18	18	18	18	18	18	18	18	18
German	Mean	7.43	6.79	6.71	4.71	6.21	5.36	6.50	6.43	6.93	5.93	6.29	6.71	7.64
	N	14	14	14	14	14	14	14	14	14	14	14	14	14
British	Mean	5.50	5.67	3.58	3.08	4.17	3.75	4.83	3.17	4.00	2.67	3.17	6.08	6.25
	N	12	12	12	12	12	12	12	12	12	12	12	12	12
Total	Mean	5.83	6.02	5.08	3.46	5.48	4.27	5.63	4.37	5.10	3.94	4.19	6.46	6.87
	N	63	63	63	63	63	63	63	63	63	63	63	63	63

German respondents have a tendency to rate most features in this table higher than other nationalities (questions 42, 50, 60, 62, 66, 67). There are variables in which there is a clear leader, but in some cases, nationalities form groups. These groups can be made of two or three nationalities. Groups are highlighted with colours. For example, in the variable ‘agogic variety’ (Q42), German respondents form the first group, British and American respondents the second, and Estonian respondents the third. Most nationalities belong in some variable in the same group. The only ‘alliance’ that is missing is German-British. In this fascinating table the variables ‘an idiolectic approach

⁵⁹⁴ Question 55

⁵⁹⁵ Question 70

⁵⁹⁶ Question 48

⁵⁹⁷ Question 57

⁵⁹⁸ Question 58

⁵⁹⁹ Question 69

⁶⁰⁰ Question 152

to the music' (Q50), 'a rhetorical approach to the music that is performed' (Q60), 'theoretical knowledge of paleography' (Q66), and 'theoretical knowledge of semiology' (Q67) are scored significantly higher by the German respondents. They isolate the respondents of other nationalities with their significantly lower means into a separate group. In variables 'agogic variety' (Q42) and 'semiological precision' (Q62), the German respondents again have the highest mean, but there are two distinguishable groups formed from respondents with lower means. In the first, the German respondents (7.43) consider 'agogic variety' (Q42) massively more important than the Estonian respondents (4.68), but American (6.00) and British (5.50) respondents form another group between German and Estonian respondents. In the second, again the German respondents (6.93) evaluate the importance of 'semiological precision' (Q62) significantly higher than the others, but Estonian respondents (5.05) are much closer to German respondents than American (4.44) and British (4.00) respondents. In the rest of the variables, different alliances oppose. In 'a personal contribution to the exegesis of text' (Q48), 'singers' belief in the text that is performed' (Q53), and 'religious intention' (Q59), Estonian and German respondents form an alliance against American and British respondents. The former two nationalities evaluate these qualities higher than the latter two. In the variables 'excellent articulation' (Q43), 'the aim of performing in as authentic manner as possible' (Q58), and 'excellent intonation' (Q68), American and German respondents show higher appreciation than their Estonian and British colleagues. In the variable 'understanding of what the text means' (Q70), all groups have relatively high means. German respondents (7.64) evaluate this feature higher than British respondents (6.25), and Estonian (6.79) and American (6.78) respondents are in-between these two. The tendency in this variable is that Germans, Americans, and Estonians form a separate group.

3.3.4 A summary of comparison of selected different sets of data

The set of questions 1-27 and 42-71 compared with comparison variables offered some significant results. Most influential factors on the understanding of what Gregorian chant means (1-27) are religion related, and the least sensitive comparison variables are the age and the sex. The situation is different when talking about interpretational preferences, where the most sensitive comparison variable is

nationality. On the other side of the chart is a comparison variable that asks about preferences regarding lengthening the notes in the performance of Gregorian chant.

In the comparison of means, there were many interesting differences drawn out between different groups. One of the most interesting in the set of questions 1-27 was the relationship of the comparison variable 'When singing, we deliver notes of different durations. Assuming, that the increased value of duration can arise from either extending the duration of an individual note/individual notes, or slowing down the tempo, which of the two options do you use in Gregorian chant performance?'⁶⁰¹ with the argument 'Gregorian chant for me means a method of composing liturgical music'.⁶⁰² The respondents who answered that they extend the duration of the note or slow down the tempo considered Gregorian chant significantly less as a method of composing liturgical music than the respondents who had a more varied understanding of lengthening the notes during the performance.

It was interesting to see that the use of comparison questions gave good results for comparison of means. There were many predictable results, but also something new. For example, Non-European respondents consider Gregorian chant more as 'beautiful melodies'⁶⁰³ than European respondents. There were also some suggestions that support the idea that Gregorian chant has a role in non-Christian religious/spiritual practices.

In the set of questions 42-71, the most interesting feature was the difference in the role of personal contribution of the performer between the respondents who practise religion more often and the ones who do not. The creativity of those respondents who are more attached to religious practices seems to appear differently. One main feature is that the respondents who practice religion more actively do not consider the personal and original approach to the music of the performer to be so important. They also appreciate more imitation of one's teacher, through which they might value the tradition of musical and religious understandings.

Some quite unexpected results in the comparison of means will hopefully give rise to further discussions: for example, the aspect of how often the respondents read Holy Scriptures influences their opinion on the importance of variety of dynamics. More frequent readers rate the importance of variety of dynamics higher than less

⁶⁰¹ Question 121

⁶⁰² Question 14

⁶⁰³ Question 3

frequent readers. The issue of dynamics is connected to other aspects of religiosity as well.

The most sensitive comparison question in this set of questions was the nationality of the respondents. This fact that so many aspects of performance are nationality-sensitive is a good reason for further studies in this field. It might also be a new lead in the study of different dialects of medieval sacred Latin monody.

3.4 A summary of 'Observations on the results of the questionnaire'

In this chapter, it was possible to see the results of the questionnaire operating on many levels when analysed with different methodologies. It is crucially important to understand that different methodologies show the results from a different perspective and therefore the results are not always compatible.

From the preliminary observation that involved the analyses of means and variances of the sets of questions 1-27 and 42-71, we observed that religious and spiritual aspects are most important for the performers. However, the analyses of 'core values' showed us that the 'core values' of understanding what Gregorian chant is and forming interpretational preferences may actually be more of musical and musicological value.

Evaluations about Gregorian chant are so deep and diverse that it is perfectly understandable to have different understandings of the subject. The deepest differences emerged from qualitative additions. If only a qualitative addition of one respondent who wrote that Gregorian chant for him/her means 'sacred musical incarnation of liturgical prayer' is observed, it can be seen how complicated the understanding of this repertoire can be and how interesting it would be to continue studying the repertoire through this kind of personal assessment.

From the first two sets of questions, the affiliation of the respondents towards the text emerged clearly. Interestingly, the direction was more towards understanding the text rather than believing the text.

The factor analyses helped to describe the selection of the respondents according to understanding of Gregorian chant and interpretational preferences. In this description, it appeared that besides knowledgeable scholarly, musical-aesthetical and Christian approaches might be another spiritual-religious understanding that do not have the same characteristics as the Christian approach.

It was observed that there is no unanimous understanding about the relationship between the text and music in Gregorian chant. We saw from the first two sets of questions that in some questions the respondents can be surprisingly unanimous. In the case of the relationship of the text and music, this predominance did not, however, emerge. The reason might be that this relationship is not the same in different genres of Gregorian chant and therefore is not adequately describable in such simple terms. However, during the analyses, a suspicion arose that the special relationship between

the text and music in Gregorian chant may well be overestimated, and some examples of this special relationship are projected to the whole repertoire.

When studying aspects of authenticity, I learned that there is a controversy over this issue. The idea of historically authentic performance practice was, largely speaking, abandoned in 1980s. The respondents acknowledge that, and do not consider historical authenticity as the most important form of authenticity. At the same time, the longing towards historically authentic performance is still clearly understandable in the answers, and many believe that this kind of restoration is actually possible.

The 'top ten' of the key figures of Gregorian chant through all centuries and from the beginning of the nineteenth century showed us that in many respects the thinking of 'all times' is limited to the past two centuries. There were only three nominations among the top ten of all times who were not from the nineteenth and twentieth centuries. The importance of Eugène Cardine was clearly delineated with this question as he was in first position in both charts. It was interesting to note how many different individuals the respondents mentioned. Among the world-renowned chant specialists were also respondent's personal teachers, family, friends, colleagues, and clergy.

Observing the 'family tree' of Gregorian chant performers, we saw how wide the circle is, from which different performers have obtained their knowledge for performance of Gregorian chant. We also understood that what it means to have a teacher-pupil relationship is not straightforward. For some, it means years of formal working together, and for others, it can be one meeting, which gave a revelation that influenced this person's understanding of performance of Gregorian chant forever.

Comparison of means gave us ideas about what are the factors that tend to influence our understanding of Gregorian chant and interpretational preferences in performance of this repertoire. In the case of understanding what Gregorian chant is, the most important aspects are religion-related, and in the case of interpretational preferences, nationality plays the most important role.

As an overall conclusion, it can be said that the results of the questionnaire demonstrated certain patterns in opinion of the respondents. However, the common features are fairly simplistic, for example that Gregorian chant means 'prayer' or that the melody is not 'forced upon the text' in Gregorian chant. When the two latter

aspects were elaborated in the qualitative additions, it became clear that even inside the common opinion there could be deep and sometimes diverse understandings.

The results of the questionnaire showed that in the opinion of the respondents the contemporary Gregorian chant performance is on the 'conscious level' mainly based in the nineteenth and twentieth centuries. On the 'subconscious level' however, the performers have an inherited connection with the period in the history from which the music supposedly has emerged.

From two aspects, (1) 'what Gregorian chant is' and (2) 'what is important for a good performance of Gregorian chant' the first had clearly more consensus than the latter. However, the diverse responses to the question 'what Gregorian chant is' showed how complicated it actually is to define Gregorian chant comprehensively and adequately. Gregorian chant has so far been defined through historical understanding of the repertoire. Should we not try to define this matter through contemporary understanding rather than hypothesis of historical study? There is still so much left for the realm of music history, for example study of earliest musical manuscripts that still can reveal to us interesting information about this repertoire. Surely, not all possibilities in contemporary musicology are exhausted – for example, in the study of musical paleography and semiology by using computer technology. I believe that to define Gregorian chant successfully there is a need to draw a clear line between Gregorian chant as a notional repertoire and as a sounding music.

In the aspect of interpretational preferences, the variety of opinion was even wider. The results showed that when talking about Gregorian chant performance we are in many respects talking about a mainly contemporary phenomenon. The most interesting question dealing with medieval repertoire of liturgical chant seems to be, what is a contemporary performers' role in taking this ancient information and making it audible in contemporary time? What is the proportion of 'me' in the performance of Gregorian chant? The analysis of the results of the questionnaire demonstrated that these questions do not have a straightforward answer. There is richness in diversity and diversity in richness. If we only focus on richness, we might lose some of it. If we study diversity in richness, then we have much bigger chance to see the fullness of the subject. This questionnaire has shown utter richness in understanding Gregorian chant and its interpretational preferences and yet this is only a fragment of the whole picture. Putting the picture together is not merely a scholarly ambition. I would say

that this is just another way of studying. The difference lies in the size of a paradigm into which we wish to situate ourselves. This questionnaire has shown borders of a fairly wide paradigm and widening it up even more would surely be a fascinating task that would multiply the possibilities of understanding the repertoire.

4 A study of temporal structure and some other features of performance of MSLM, using, as examples, 35 solo performances of the Gradual *Haec dies*

4.1 Introduction

The purpose of this chapter is to analyse 35 solo recordings of the responsory of the Gradual *Haec dies*.⁶⁰⁴ After explaining the methodology for analysis, I will describe and classify the recordings according to temporal structure and other selected features. The term ‘temporal structure’ is to be understood in this research as lengths of each individual note of a particular performance. In the Introduction of this dissertation, it was observed that medieval sacred Latin monody (hereafter also MSLM) reaches us in many different forms of reception: (1) reception through musical performance or reception through interpretation; (2) reception through evaluation; (3) reception through adaptation; (4) reception through scholarship; (5) reception through criticism; (6) reception through composition; (7) reception through contemporary Western notation; (8) reception through imitation (see page 70). Among these different forms, the preference in this research is given to the reception through musical interpretation or performance⁶⁰⁵ because (1) it is the most ‘visible’ and commonly known form of reception of MSLM; (2) there are adequate systematic resources of material available for the study; (3) it is least studied aspect of MSLM. As an important resource, there is a substantial international community of enthusiastic and cooperative chant performers and, as further reference material, a large variety of commercial recordings from a period of over a century, which reveal different styles of performance.⁶⁰⁶

The other reason for privileging performance in this study is that MSLM was a sung medium before it was written down. MSLM as a written down repertoire is more than 1000 years old; the oral repertoire is believed to be much older. Ironically, although it began as an oral tradition, it is the study of the written sources of MSLM,

⁶⁰⁴ In the following text, the term ‘Gradual *Haec dies*’ refers only to the responsory of the Gradual. If the verse is in the consideration, it is mentioned specially.

⁶⁰⁵ The term ‘musical interpretation’ and/or ‘performance’ is to be understood as performing chant vocally *a cappella* or with accompaniment. Accompanied chant in which the singing does not have a leading role rather than forms a ‘meditative entity’ together with accompaniment is not considered a performance of MSLM in this dissertation. These compositions and instrumental settings of MSLM should rather be considered as reception through composition or reception through imitation.

⁶⁰⁶ There is probably no other repertoire in Western music that has such a variety of different performances whereby behind different practices there are not single persons but entire schools of performance.

that has led to the performance situation that we have today. Therefore, one should not underestimate the role of the study of the written sources that has given us a chance to look beyond what we can hear. However, the study of recordings can reveal aspects of a repertoire that opens new possibilities for understanding the subject. There is a huge amount of chant scholarship on written sources and this paradigm is thoroughly studied.⁶⁰⁷ This study plays an important role in shaping our understanding of it; however, it is timely to balance this with a study of performance. If we compare the amount of scholarship on written sources and work done on recordings of MSLM, the score is by a wide margin in favour of written sources. Studies of written sources and of recordings are by no means competitive entities, but rather different streams of scholarship that can function as two complementary sides of chant scholarship. For obvious reasons it is not possible to study historical performance of MSLM through recordings beyond the beginning of the twentieth century. Therefore, if someone wants to study the repertoire through performance, the closest possibility is to use the commercial recordings of the twentieth and twenty-first centuries and specially made examples of contemporary performers. This also fits well with the purpose of this study, which is a research of contemporary understanding of MSLM, not medieval historical performance practices.

The materials used for this chapter are recordings of the Gradual of Easter Sunday *Haec dies* with the verse *Confitemini Domino*.⁶⁰⁸ There are 35 solo performances, of which 34 were specially made for this research, and 20 commercial recordings from 1904-2005. To help explain some aspects of interpretational preferences, a selection of the earliest Franco-Roman chant manuscripts and some contemporary liturgical books are used.

To study the solo recordings I used three methods: (1) digital measuring of the temporal structure; (2) perception experiment; (3) analyses of musical phrasing. Using the first method, 35 solo performances of the Gradual *Haec dies* are segmented into single notes and measured in order to classify the recordings according to three

⁶⁰⁷ A brief overview about different streams of chant scholarship is in the introduction to this dissertation on page 30.

⁶⁰⁸ It is believed that the Gradual was originally sung between the reading of Old Testament and Epistle. When Old Testament reading dropped out from the order of mass in 4th century, the Gradual was attached to the Alleluia and both were sung in sequence between the Epistle and the Gospel. *Haec dies* is a part of huge body of second mode Graduals. It is a so-called prototype melody, which means that many different texts are adapted to this melody.

features: (1) rhythm; (2) tempo; (3) agogical variety. For that purpose, only the responsory of the Gradual is used. (1) In the category of rhythm, I use the analyses of basic note value (henceforth also BNV), which is a note category that is used most frequently by the performer. The term 'note category' in this study always means the length of a performed note on a recording. (2) To classify performances according to tempo, the length of the performance is used. (3) Grouping according to agogical variety is done by counting the number of different note categories (henceforth also DNC).

Using the method of perception experiment, I observe differences between the performers' subjective description of the lengths of the notes in the beginning of the Gradual *Haec dies* and the objective or the actual temporal structure of the performance. The subjective description is taken from the results of Question 120 of the questionnaire.⁶⁰⁹ In the analysis of musical phrasing, I observe certain patterns in phrasing and discuss possible reason behind these patterns. For that analysis also, the verse of the Gradual *Confitemini Domino* is used.

After 'A summary of the analysis of the recordings', this chapter is concluded with a heuristic experiment that is dedicated to finding connections between the results of the questionnaire (conceptualisation) and measuring of the solo recordings (practice).

⁶⁰⁹ 'Please have a look at the two beginning words of gradual *Haec dies*. When performing this song, which notes do you perceive as having equal durations? Please build up to 4 groups of these notes, marking the notes with equal durations. For example, notes 4 and 5 have an equal duration or notes 3, 4, 5, 10 and 12 have an equal duration' (Q120).

4.2 Representational quality of a sound recording

Using sound recordings⁶¹⁰ to analyse musical interpretation is considered a problematic issue because there is no consensus of opinion about what a recording represents. The opinions range from an understanding that recording is a replication of a musical event to treating recording as documented analysis of the performed piece. A substantial community of scholars is engaged with study of performance and more particularly with study of performance through recordings.⁶¹¹ Even so, some believe that ‘academic study of recordings is in its infancy’ (Plack, 2008: xxiv).

The representational quality of a recording is often tied to specific assumptions. For example, one can assume that a recording represents a style of a particular performer or a sound-copy of a musical work. In any case, the understanding of what a recording represents is heavily dependent on the understanding of what a performance represents. That in turn is linked to the understanding of musical work and whether or not performance represents it. It can be said that most studies of performance are orientated to classical music, but as was observed in the Introduction of this dissertation, the tools for analysis of the classical music are not always usable for the analysis of MSLM. The difference lies in the lack of proof that segments of information⁶¹² of MSLM can be considered as musical works (see page 46). Rather, it can be called an amount of information that may become a musical work through performance. In other words, the amount of objectivity in the notation of MSLM is in many respects drastically smaller than in classical Western notation (see page 49). It means that there is no possibility of comparing the performance with the score and proving whether or not the performer is following the prescription of the score in terms of rhythm, tempo, agogics, and dynamics. We can distinguish two types of notation: (1) descriptive and (2) prescriptive. Early notation of MSLM is believed to be descriptive – although it can be said that there are certain prescriptive elements. The latter can be considered the number of the notes per syllable and the direction of melody, which is in most cases clearly detectable even in the earliest notations. Another difference is a lack of metrical framework. The metrical framework is however, an important aspect that in many ways contributes to digital measuring of

⁶¹⁰ Henceforth the term ‘recording’ refers only to ‘sound recording’.

⁶¹¹ For example, Centre for the History and Analysis of Recorded Music (CHARM) has a comprehensive website (<http://www.charm.rhul.ac.uk>) with a vast quantity of material on recordings and different approaches to the analysis of recording.

⁶¹² To be understood as ‘pieces of music’ in the repertory of MSLM.

recorded music, because the attack at the beginning of a metrical period gives a good starting point for measuring.

One can analyse recordings by evaluating them aesthetically or measuring certain aspects of the sound. The second method is, in scientific terms, more reliable – but only if the recording itself can be considered as an adequate representation of a performance or a performer. It is also possible to combine these two – for example, as Daniel Leech-Wilkinson says, ‘combining subjective descriptions of recordings with spectrographic measurements that provide visual evidence of vocal effects’ (Plack, 2008: xxiv). In the context of this research, the subjective assessment of recording is combined with digital measuring of temporal structure of the recorded performance.

To conclude the discussion about the representational quality of sound recording, it has to be admitted that there is no consensus among scholars over this issue, and the question needs addressing anew in every research case. The representational quality of a recording depends on the expectations associated with it. I expect these recordings to represent a reception of a particular person of this piece of music through this particular performance. If we assume that ‘the sung notes would correspond to the voiced segments of the sound signal’ (Ross, 1989: 64), the representational quality of the solo recordings used is sufficient for this research.⁶¹³

⁶¹³ It is highly probable that if we record the same performers again, we might get different results. Performance is a dynamic issue and is subject to change. These changes can be studied if a repeated recording and subsequent measuring is done; however, this is beyond the scope of this research.

4.3 Analysed aspects of the recordings

Digital measuring of recordings has become a recognised sub-discipline in musicology since the rapid development of computers and relevant software. Experiments that were not imaginable in the 1950s became possible on personal computers. Since then, many musicologists have engaged this sub-discipline of cognitive musicology in their work. Digital measuring offered an objective alternative to the mainly subjective domain of assessing performance. The current research is not an exception. Using digital measuring of recordings in this project was reasoned by a desperate need for some kind of objectivity to balance the overwhelming ‘humanitarian subjectivity’ that is usually characteristic of evaluating performance of MSLM.⁶¹⁴ There are some examples of using computer technology to analyse performances of MSLM, for example, the spectrographic study of interpretation of *oriscus* by Karl-Leo Heller.⁶¹⁵ In most cases, however the performance practice of MSLM has usually been discussed through subjective aesthetical parameters⁶¹⁶ and by discussing overall technical and musical characteristics of a performance. To provide an alternative framework for evaluation, an objective parameter was needed.

Many objective parameters are measurable in sound: for example, fundamental frequency, intensity, and formants. It is customary to concentrate on one or two of these aspects in studies of recordings (Sapp, 2007). This is quite understandable, because most of the digital measuring, at least for vocal music, has to be done manually, and is very time consuming. In terms of MSLM, the temporal structure seemed obviously the most proper parameter to measure because of the long-standing discussions over the rhythm of performance of MSLM and because of the work of Jaan Ross and Ilse Lehiste, which provides comparative material in the form of temporal structure of performance of another monodic *a cappella* vocal repertory – Estonian runic song.

⁶¹⁴ Giulio Cattin in his *Music of the Middle Ages I* refers to some analytic work on performance of Gregorian chant that has been done ‘by electronic devices such as oscillograph’ (Cattin, 1984: 100) but there is no reference to the actual work. My e-mail enquiries to the author on this issue remained unanswered.

⁶¹⁵ Heller, Karl-Leo. ‘Hinweise zum Stimmklang in gregorianischen Handschriften. Überlegungen zu einer klanglichen Interpretation der Oriscus-Graphien’. *Beiträge zur Gregorianik* 45 (2008), 57-68.

⁶¹⁶ For example Mary Berry writes: ‘By contrast with the ease and flow of this record [Decca 7545], the dutiful plodding of the Clairvaux monks sounds unrelievedly monotonous’ (Berry, 1973: 986). J.N. writes: ‘The singing is seraphic throughout ...’ (J.N., 1956: 154).

The commonly used classification of performance styles of MSLM is based on rhythm. This arose from the well-known theory of mensuralist and equalist or accentualist style.⁶¹⁷ This classification of course includes only the performances that are considered 'worthy' to be labelled as 'Gregorian chant' and excludes so-called 'special interpretations', for example those of Igor Reznikoff and Marcel Pérès and their followers. There are many rhythmic systems for interpreting MSLM, but generally speaking, two main categories can be identified: (1) mensuralist, and (2) equalist or accentualist. Even in the mensuralist category alone, there are at least eight different theories. In the other category, there are possibly even more. Analysing temporal structure in this research is not done with the purpose of determining whether the performers represent one or another main division of commonly used temporal families. There are two reasons for this: the first is that there is no reason to claim that any theory is realised in actual performance, and the second is that it is not possible to categorise the performers who have participated in this research as either mensuralist or equalist. I could have asked in the questionnaire: 'Do you consider yourself a 'mensuralist' or an 'equalist'; however, I do not believe that this would have given serious results, because I have not heard performers classifying themselves in these theoretical terms. The actual terms 'equalist' and 'mensuralist' are not frequently used among performers but the issue of temporal structure is nevertheless the main characteristic for classification or in some instances for the separation of 'right performance' from 'wrong performance'. It is understandable because temporal issue is something that can most easily be used for classification. One can say that one performance is slower in tempo or the other has much shorter ornamental notes. This classification however can be deceptive, because two performances that are quite similar in temporal parameters can differ substantially in other respects – for example, in articulation. This draws our attention away from temporal issues and we will not actually be able to classify the performance according to rhythmical parameters. One must observe that inside the issue of temporal questions there are different subcategories: (1) rhythm; (2) tempo; (3) agogics. It is possible that the temporal arrangement of two performances is in principle similar but the tempo is different. It

⁶¹⁷ Equalist and mensuralist styles are briefly described in the Introduction of the dissertation (see page 97).

can also be the other way round – the length of two performances is the same, but the principle of temporal arrangement is different, due for example to agogic differences.

Rhythm research in music has a substantial pedigree and the whole issue of temporality of music is thoroughly studied.⁶¹⁸ I was not able to go as deeply as I wished into the issues presented here. For example, it would have been interesting to discuss the results of the measuring in the light of the research that studies theories of rubato and expressive variation. According to my knowledge, my research represents the first attempt to measure digitally the temporal structure of performance of MSLM. Therefore, I have to be satisfied with preliminary observations about what these particular recordings show in terms of basic note value, variety in agogics, and tempo.

Apart from analysing the temporal structure, a basic structural analysis of all the recordings was undertaken. I observed the places in the verse of the Gradual *Haec dies* where almost all performers breathe, notwithstanding whether these breaths have a textual, palaeographical or semiological justification. To analyse this issue I transcribed a fragment of the verse *Confitemini Domino* from seven different medieval manuscripts and selected nineteenth- and twentieth-century liturgical books.

⁶¹⁸ For an overview about research in rhythm and timing, please see Eric Clarke: 'Rhythm and Timing in Music', in *The Psychology of Music*, ed. Diana Deutsch. 2 ed.; San Diego [etc]: Academic Press, 1999.

4.4 The recordings used for this research

4.4.1 Specially made recordings

I selected the performers for this research from performers among the musical and religious communities. Many respondents I reached through the Internet, having not known them previously. I asked altogether 90 performers to participate, hoping for a positive response from one third. The only criterion for selecting the performer was that he/she is able to perform the Gradual *Haec dies* without supervision. Due to this criterion, the respondents represent a wide area of performers from choir members and monks/nuns as well as experienced outstanding performers, conductors and chant scholars. The selection of performers is in many ways random. This however is inevitable, because even if one constructs a 'perfect selection', which represents all possible performance practices, it is never guaranteed that these performers would agree to participate. The selection does not represent adequately all performance styles of MSLM. The balance between different 'families' is not perfect; for example, there are too few performers from the Marie-Noël Colette school. Unfortunately, not all performers are willing to let their performances be analysed, and even fewer if the analysis is done in circumstances in which they usually do not perform. In the process of collecting the material, there were performers who promised to participate but changed their mind after reading the instruction more carefully and understanding more precisely, how I was planning to analyse their recordings. There are also no examples that can be straightforwardly related to 'mensuralist' style. This unfortunately makes it impossible to examine the hypothesis of note ratios in 'mensuralist' style of performance proposed by several scholars (see page 97). However, the admitted shortcoming does not diminish the representational quality of the material. It is not the purpose of this research to map all different performance practices, but to study contemporary understanding of MSLM through the examples of whichever respondents were willing to co-operate.

In the course of collecting material, I was criticized by some performers for attempting to compare performers with such a different knowledge about performed material. However, it would have been a conflict with the basic idea of this research to select respondents according to their knowledge about performed chant. In this way, I would have got only the points of view of a small part of those who perform chant in a

'knowledgeable way'. Furthermore, it is not possible to determine what knowledge is required to perform chant effectively – that is exactly what this research is about. Although some would like a certain performance practice – usually their own – to be considered as a mainstream style of performance, there is no objective reason to identify any style as 'more knowledgeable'. Therefore, the only criterion for selecting performers was that they actually practised chanting in some form.

I asked performers to perform the Gradual of Easter Sunday *Haec dies*. This piece was selected because it is (1) complicated enough to show whether the respondent is actually a chant performer; (2) a well-known piece from the chant repertory that every performer knows and that did not therefore require extra learning just for this project. When I asked the performers to record for my research I did not know how much response I would get. Therefore, I asked them to record other material too.⁶¹⁹ This was for insurance in case fewer performers were willing to cooperate. If this had happened, I would have had more material from those who participated. However, the participation was so active that I needed only the Gradual *Haec dies* and some aspects from the verse *Confitemini Domino*. The rest of the material is well organised and is a possible resource for the further research.

I described the recording task to the respondents in a letter in which, among other things, I asked that their solo recordings be made in a non-reverberant room so as to be able to hear the performers' personal attitude properly and ensure better possibilities for digital measuring: 'May I ask you, please, to make this solo recording in a non-reverberant room to as high a standard of quality as your present recording possibilities allow' (Appendix 44, vol 2, p 528).⁶²⁰ Performers sent the material to me using different sound carriers. Most popular was CD but there were also recordings on MD, MC, and VC. Some recordings were sent by e-mail or via FTP.⁶²¹ The technical format of the recording was not prescribed deliberately. 'If possible, please send the result to me on CD but any other carrier would do as well' (Appendix 44, vol 2, p 528).

⁶¹⁹ 'There are two recording tasks I would ask you to fulfil: (1) Please sing the Gradual *Haec Dies* with the verse *Confitemini* (Resp. + Verse + Resp.); please say the text of the responsory in Latin before or after the singing. (2) Please sing first verse of the Hymn *Veni Creator Spiritus* in Latin and if the translation is also available in your own language; please sing first three verses from Psalm 95. (*Cantate Domino*) 'recto tono' in Latin and in your own language' (Appendix 44, vol 2, p 528).

⁶²⁰ All the texts of e-mails to performers are available in the appendix. Because of a substantial part of performers were from Estonia the correspondents is also in Estonian.

⁶²¹ File Transport Protocol

That would have excluded many performers who do not have access to professional recording equipment.

To have more opportunities for the comparison of different performances, I asked performers to use Vatican or Solesmes Editions. 'In the interests of comparison may I ask you to use Vatican or Solesmes editions as a source for melodies but if you want to use any other source, you are free to do that' (Appendix 44, vol 2, p 528). Some performers decided to use a different source for performance. With one exception, they were still comparable with others, as the changes included alteration of few notes. Marcel Pérès kindly recorded three different versions of the piece⁶²² but none of them were even close to the other performances as the melodic material was drastically different. Pérès has a unique and very elaborate performance style. In his performances, the number of notes per syllable and the direction of the melody were far from that of Vatican and Solesmes Editions. All three versions are very interesting material to listen to, and most definitely illustrate the richness of possibilities that MSLM provides. However, as they are melodically not comparable with other recordings within the methodology that is used for this research, I had to exclude them.

In effect, I got recordings from 33 performers. To these I added Richard Crocker's recording from his massive project to record the whole proper of Gregorian chant.⁶²³ It was a solo recording and made in a non-reverberant and therefore it qualified for analysis. Finally, I added myself and I got total of 35 recordings for digital analyses.

⁶²² Some performers also decided to record several versions of *Haec dies*: Lydia Stritzl, Iegor Reznikoff and Columba Kelly. Lydia Stritzl made several takes of the same interpretation and let me decide which I would like to use; Iegor Reznikoff is usually performing in very reverberant rooms and he added me two versions – one was his usual and the other was the same performance in a non-reverberant room; Columba Kelly added kindly a very interesting version of *Haec dies*, which was sung in English.

⁶²³ Crocker, Richard. *A Gregorian Archive*. Emeritus Press, 2001.

Table 66. Selection of performers and their nationalities; sorted by 'nationality'.

Name	Nationality
Gereon van Boeschoten	Belgium
Dominique Minier	Canada
Martin Quesnel	Canada
Eerik Jõks	Estonia
Eve Kopli	Estonia
Indrek Laos	Estonia
Jaan-Eik Tulve	Estonia
Kadri Hunt	Estonia
Lauri Jõelet	Estonia
Lilian Langsepp	Estonia
Maile Nairis	Estonia
Maria Staak	Estonia
Peeter Perens	Estonia
Riho Ridbek	Estonia
Taivo Niitvägi	Estonia
Toivo Tulev	Estonia
Tõnis Kaumann	Estonia
Hilkka-Liisa Vuori	Finland
Marja Korkala	Finland
Igor Reznikoff	France
Jean-Pascal Ollivry	France
Godehard Joppich	Germany
Lydia Stritzl	Germany
Ulrike Heider	Germany
Andrew Smith	Great Britain
John Rowlands-Pritchard	Great Britain
Mike Forbster	Great Britain
Guntars Pranis	Latvia
Chris Helfrich	USA
Columba Kelly	USA
John Alsdatt	USA
Kerry McCarthy	USA
Richard Crocker	USA
Richard Rice	USA
Tim Pehta	USA

4.4.2 Commercial recordings

There is a considerable number of commercial recordings of Latin chant. Some items, for example chants for Christmas and Easter, have more than 40 different versions published over the twentieth century. The Gradual *Haec dies* is published on a commercial recording in 47 different versions over the period 1904-1989 (Weber, 1990: 200-02).⁶²⁴ Material is surprisingly homogenous, covering equally the whole twentieth century. There are many recordings of *Haec dies* made after 1989 but as there is no discography of the recordings after 1989, it is not easy to say how many

⁶²⁴ For this research, I managed to find 19 commercial recordings from 1904, 1929, 1930, 1955, 1972, 1972-1973, 1977, 1981, 1983 and 1987, 1986, 1990, 1992, 1995, 1997 (2), 1998 (2), 2000, 2001, and 2005. For the details of these recordings, please see 'Primary sources' on page 365.

different versions have been published. Initially the plan was to use only commercial recordings for this research. In the course of work, however it became clear that it was not possible to achieve the task with commercial recordings.

4.4.3 Differences between commercial and specially made recordings

It is well known to every musician that even though it is not explainable in scientific or scholarly senses, there is a very personal relationship between the performer and the repertoire. It is also known that this personal relationship cannot entirely be projected on a group of people – to a schola. Even if the conductor teaches a schola to express his/her personal relationship to the performed chant, it may be lost into the relationship of the singers to the performed repertoire. It means that schola performances cannot represent in detail the conductors' actual interpretation or personal judgement. There are also many solo performances among the commercial recordings. This is much closer to a personal relationship. However, most of these solo performances are very likely done under the supervision of the conductor, which again, diminishes the personality of the performance. We should not forget that whenever a microphone is involved and somebody other than the performer is in control of it, there is always more than one performer. Two performers is a bit too crowded for a solo performance – something that is quite true about solo recordings of chant as well.

Another problem with commercial recordings is, that apart from performance, a lot of other intermediation is involved – the music is usually 'acoustically clothed' by the performance arena, sound engineer, producer and the mastering engineer. The result may be an 'ideal performance' but the personal contribution of the performer might be somewhat lost in the 'noise' of intermediation. From that we can see why the analysis of the performance practice of sacred Latin monody cannot be done solely through commercial recordings. This may also be a reason why the classification of performances is so one-track, concerning mainly rhythmical issues – many commercial recordings sound rather similar and impersonal. The only parameters on which it is possible to get a clear grip are the rhythm and some aspects of phraseology and articulation. The basic source for existing analyses of the performance practice of MSLM is a selection of commercial recordings (see page 31). It might easily be that instead of different performances of MSLM, the analyses done based on commercial

recordings actually scrutinizes understandings of different schola masters, which inevitably cannot be very well heard through the above described 'noise' of intermediation.

There is always an intermediation in recorded music – but in case of recordings that were made for this research, I tried to diminish this factor to minimum. That is why I asked chant performers to do a solo recording in a non-reverberant room for my research. I wanted to get recordings of 'naked chant' – a personal relationship of a performer to the performed piece. I wanted to avoid the unnecessary noise of intermediation of compulsory aesthetical evaluations of how chant 'should' acoustically sound. In this matter, I succeeded. All the performances sound alarmingly not as one expects a Gregorian chant recording to sound. There is no ambience, no long echo, no silk-smooth male schola sound – just the performer and the music. It can be argued that the aspect of how the chant sounds acoustically plays an important role in shaping a personal relationship of the performer to the repertoire. However, it would have been complicated to measure and compare different performances, which all have very different acoustical clothing. Therefore, a non-reverberant room was preferred and most of performers followed the advice exactly, bringing out something extraordinary personal – something about which I had not previously been aware in this music.

4.5 Description of the methods for the analyses of the recordings in this research

In this subchapter, methods used for analysis of the recordings in this research are described. First is the methodology used for the digital measuring of the recordings, which engages the vast majority of this subchapter. This description concerns only the actual digital measuring. The methods of the classification of the recordings according to the results are discussed in the subchapter 'Analysis of the results'. While describing the methodology of digital measuring, many examples from the analysed solo performances are presented. These also serve as examples of different possibilities in the interpretation of MSLM. This is especially interesting about the treatment of repercussive neumes and other situations of successive notes prescribed to be performed on the vowel on the same pitch (henceforth also 'successive notes on the same pitch' or SNOP). Secondly, there comes the description how question 120⁶²⁵ of the questionnaire was compiled and analysed. Thirdly, the relatively brief and simple methodology for analysing the phrasing of the responsory and verse *Confitemini Domino of Haec dies* is described.

4.5.1 The methodology of digital measuring the recordings

4.5.1.1 Possibilities for measuring a recording of a musical performance

There are two basic methods for measuring the temporal structure of a recording. The first is so called 'taping'. The principle of this method is to mark with specialist software certain points on the axis of time. As a result, we get a row of values that divide a recording into segments. The length of every segment is then easily calculable by subtracting the length of previous segments from a particular value on the axis of time. This method is well suited for measuring music with metre or other more or less predictable temporal constructions. For example, it is very easy with this method to measure the lengths of bars by marking the first beat on the axis of time. It is even possible to suggest the length of every beat by dividing the length of the bar by the number of beats in that bar and using the same method calculate the duration of smaller segments of the bar. To avoid possible mistakes, the same material is

⁶²⁵ 'Please have a look at the two beginning words of gradual *Haec dies*. When performing this song, which notes do you perceive as having equal durations? Please build up to 4 groups of these notes, marking the notes with equal durations. For example, notes 4 and 5 have an equal duration or notes 3, 4, 5, 10 and 12 have an equal duration' (Q120).

measured several times and then an arithmetical average of all attempts is calculated and used as a result. Of course, with this method one must take into a consideration agogic changes within the bar. However, this method it is not satisfactory for precise measuring of the length of every note, especially in MSLM type music where sudden agogic changes make it very complicated to mark the points on the axis of the time with sufficient accuracy. It is also impossible to measure ornamental notes – that sometimes are as short as 90 msec – with satisfactory precision.

Therefore, another much more time-consuming method is used. Using this method means segmenting every single note of the recording with specialist software and digitally measuring it. This methodology was used by Jaan Ross in his study of the temporal structure of Estonian runic songs (Ross, 1989) and by Ross and Ilse Lehiste (Ross et al., 2001). The current research applies aspects of this existing methodology to the temporal structure of another monodic vocal genre .

4.5.1.2 Problems of segmentation

How to measure the temporal structure of musical performance with the latter method is a disputed question. The main problem lies in the principles of the segmentation of notes in the process of measuring. Ross and Lehiste describe the measuring principles of musical performance that are used in contemporary musicology and conclude that by applying these methods ‘to Estonian runic song performance, one is confronted with methodological problems for which clear and unique solutions may not be available’ (Ross et al., 2001: 65). Lot of study on the temporal structure of music is done by using piano performance in which ‘the pitch is not subject to control by the interpreter’ (Ross et al., 2001: 64). Therefore, the boundaries between successive notes are fairly simple to detect on basis of the moment of attack (Ross et al., 2001: 65). It is quite different in the performance of vocal music where the change from one note to the other is glide-like. It means that between two notes there can be so called ‘grey zone’ where it is not possible unambiguously to mark the moment of the change from one note to the other.

There might be help from the intensity curve that suggests the beginning of the next note. 'As one can see, sharp SPL⁶²⁶ decays are usually suggestive of boundaries between successive notes' (Ross, 1989: 63).

Figure 17. Extract from Minier; 5.22-8.48⁶²⁷; notes 3-9; the green curve = SPL and the blue curve = F_0 ⁶²⁸ the vertical lines mark segmentation points between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).

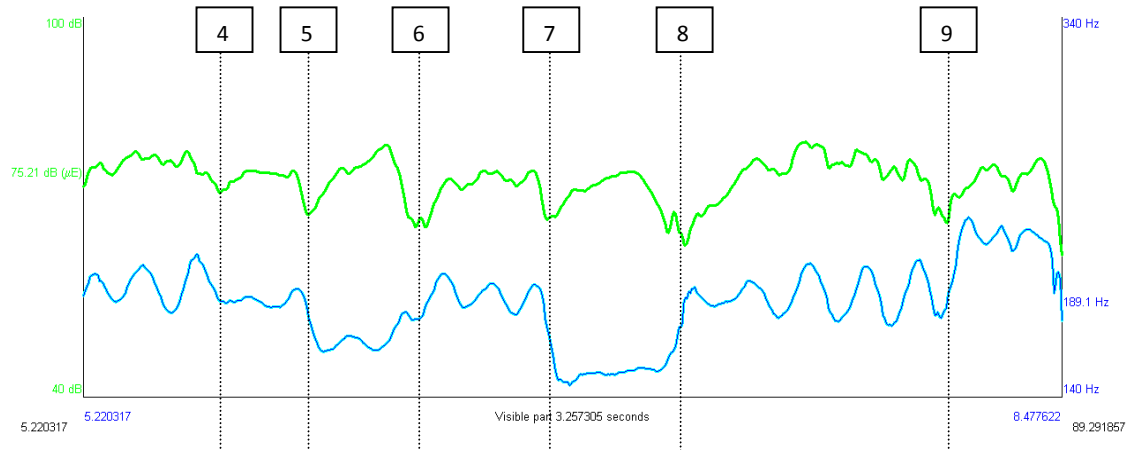


Figure 18. Transcription of the Gradual *Haec dies*; numeration of notes is added by the transcriber; please see the figure also as Appendix 46, vol 2, p 532.

Graduale Triplex
pp 196-197
1979

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Haec di - - - es, * quam fe - cit

32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67

Dó - mi - nus: ex - sul - té - - - - -

68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98

mus, et lac - té - - - - mur

99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135

in e - a.

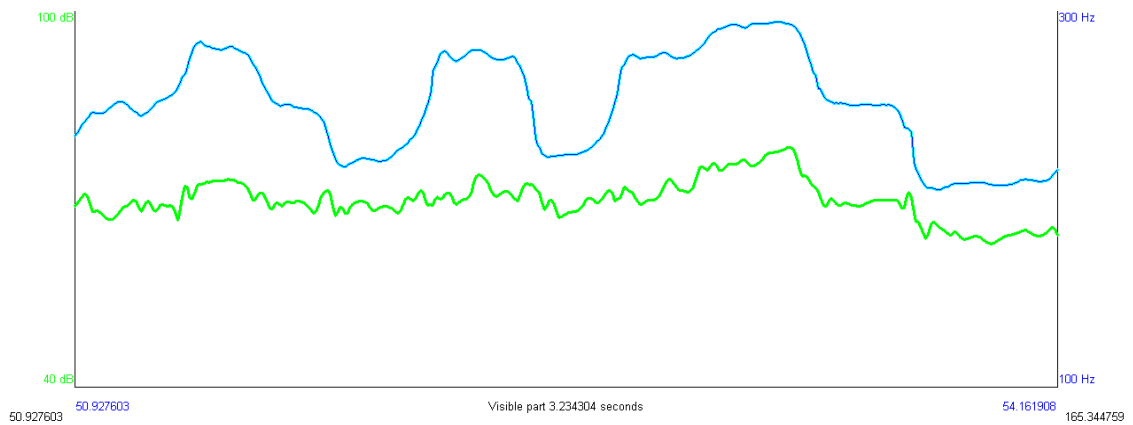
⁶²⁶ Sound pressure level

⁶²⁷ These numbers represent the coordinates on the axis of time of the particular recording.

⁶²⁸ Fundamental frequency

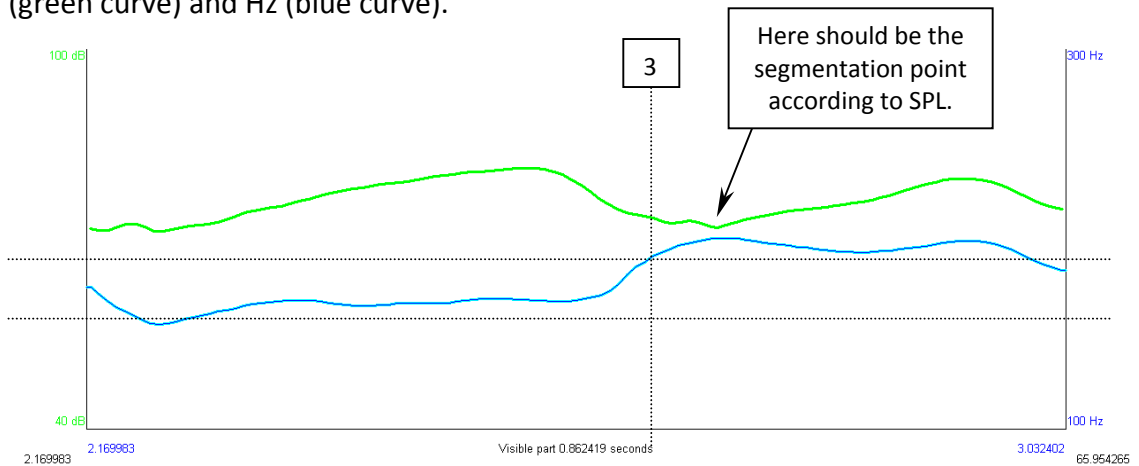
However, in vocal music there is not always a sharp SPL decay on the change of a note. Ross observes that '... sometimes it is necessary to watch the F_0 changes ...' (Ross, 1989: 63). In recordings that are used for this research, this phenomenon appears because of artistic musical phrasing.

Figure 19. Extract from Nairis; 50.93- 54.16; notes 107-116; the green curve = SPL and the blue curve = F_0 ; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



Whenever the intensity curve and pitch curve in this research contradict each other, I have followed the pitch curve.

Figure 20. Extract from Kelly; 2.17-3.03; notes 2-3; the green curve = SPL and the blue curve = F_0 ; the vertical line marks segmentation point between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



Another disputed aspect in the segmentation process is a choice between vowel and consonant onset. Some scholars suggest that 'in sung performances the tone (note) is expected to start with the onset of a vowel rather than with the onset of a new syllable' (Johan Sundberg, quoted in (Ross et al., 2001: 65)). Ross and Lehiste argue that Sundberg's methodology is not universally applicable. For example in measuring Estonian runic songs, it 'creates difficulties and is intuitively unacceptable' (Ross et al., 2001: 66).⁶²⁹ An alternative method to 'vowel onset' method is 'onset to onset' principle. Ross has also used the same principle in his article 'A study of timing in an Estonian runic song'. 'The duration of every note was measured as the time from onset to onset, i.e. from the beginning of the measured note to the beginning of the next one' (Ross, 1989: 64).

Although performance of MSLM is, in stylistic and other aspects, quite different from Estonian runic song, there are similarities too: both are unaccompanied vocal music and the length of the notes and their proportion to each other are not fixed in the notation.⁶³⁰ Although the language⁶³¹ in the case of performance of MSLM is Latin, not Estonian, other features suggest the 'onset to onset' principle rather than 'vowel onset' principle.⁶³² (1) The measured material consisted of performance styles of wide variety. Different performers have different vocal abilities and different interpretational preferences. In this interpretational and vocal variety, the only common nominator can be the actual sound – I measured the length of the notes on the bases of the sound that the performers had recorded. (2) The analysed piece uses prose text, and by pronouncing it with certain intention, the consonants may acquire expressive value of a vowel, lengthening the note considerably.

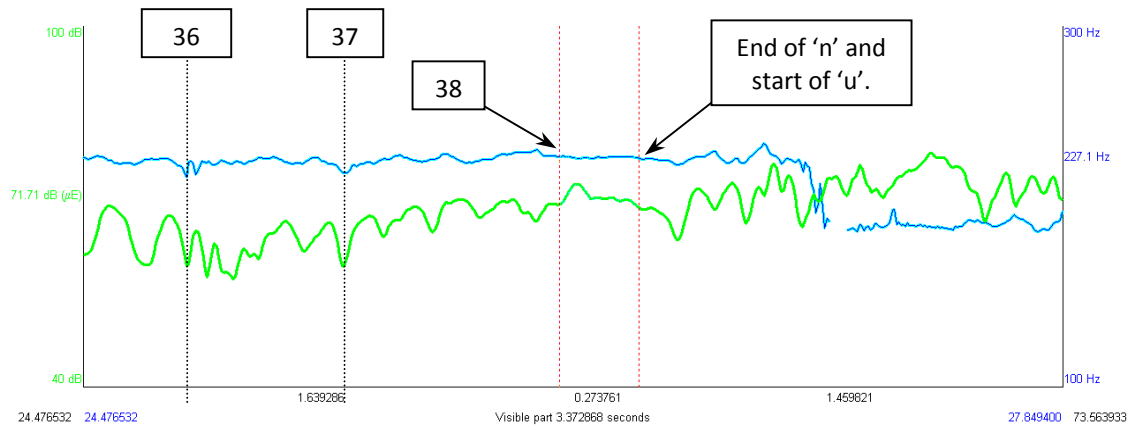
⁶²⁹ 'The application of Sundberg's method to the segmentation of Estonian runic songs into syllables/notes creates difficulties and is intuitively unacceptable, since the quantity relationships between units of speech (segments and syllables) are of crucial importance in signalling the meaning of Estonian words' (Ross et al., 2001: 66).

⁶³⁰ Estonian runic songs have come down to us by oral transmission but they have been written down for scholarly purposes. The notation therefore, is considered do be descriptive not prescriptive.

⁶³¹ Peculiarities of Estonian language are the reasons why Ross and Lehiste do not agree on the 'vowel onset' principle (Ross et al., 2001: 66).

⁶³² The issue of 'vowel onset' versus 'onset to onset' principle from the point of view of representational quality of the measured material is discussed in the subchapter 'Representational quality of the measured material'.

Figure 21. Extract from Joppich; 24.48- 27.85; notes 35-39; the green curve = SPL and the blue curve = F_0 ; the vertical lines mark segmentation points between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



(3) To see the difference between the two principles of measuring a series of additional histograms were created (For the histograms, please see appendix (Appendix 47, vol 2, pp 533-568). In these histograms, notes 99-135 were analysed. These notes are sung on words 'in ea'. The last word 'ea' consists of notes 101-135. These notes are sung only on a vowel and the first word 'in' begins with a vowel, therefore these 37 notes represent only a 'vowel onset' principle. For majority of performers the results of histograms which analyse notes 1-135 and notes 99-135 were not drastically different. This aspect is also discussed in the subchapter 'Representational quality of the measured material' on page 266.

4.5.1.3 The amount of precision of measurement

In every process of measuring, it is important to define the accuracy of the process. There is an objective limit of precision due to many technical parameters.⁶³³ These

⁶³³ Software Praat gives results for queries to 15 decimal places, for example 1.797200079952633 seconds. The sampling frequency of all the measured recordings is 44 100 Hz, and with the software used measuring can only be done on the samples. It means that in every second there are 44 100 samples and length of one sample is $1:44100 = 0.000022675736961451247165532879818594$ seconds. Therefore, if the measuring point happens to be between samples the software will move it to the nearest sample. Thus the accuracy of measurement is \pm half of the value of sample length i.e. $\pm 0.000011337868480725623582766439909297$ sec. Thus, if the sampling frequency of the recording is 44 100 Hz only four decimal places are significant as measuring cannot be done between the samples. This makes the amount of precision for recordings with 44 100 Hz sampling frequency a hundredth of a millisecond.

limits, however, are far beyond the borders of human perception. The amount of precision for of the recordings used for this research and analysed with software Praat appears to be a hundredth of a millisecond. This is an objective limit of measuring recordings with a sampling frequency of 44 100 Hz.

There is another limit, the reason for which is in the 'glide-like' change from one note to another in the human voice. As described above, there is a 'grey zone' between two notes during which it is not possible to detect the end of the first note and the beginning of the succeeding note. In the solo recordings used for the research, the length of the 'grey zone' does not usually exceed 100 msec. If we add half of the maximum length of the 'grey zone' to the first note and the other half to the preceding note, we get the amount of precision of ± 50 msec. Measuring with higher precision than 50 msec can therefore not be pertinent for this research. It is important to point out that notwithstanding complicated specialist software, the human ear plays an important role in this segmentation process. In other words, without listening to the recordings and limiting the analyses only to observation of SPL and F_0 curves, it would not be possible to accomplish the segmentation. However, the human factor does not change the accuracy of measurements because the subjective decision is made within the boundaries of permitted error. The 'grey zone' between two notes is detected following the indications of the software Praat. In some instances, the final decision where to put the segmentation mark within the 'grey zone' is a subjective decision. The 50 msec amount of precision is also supported by empirical knowledge in musical psychology that

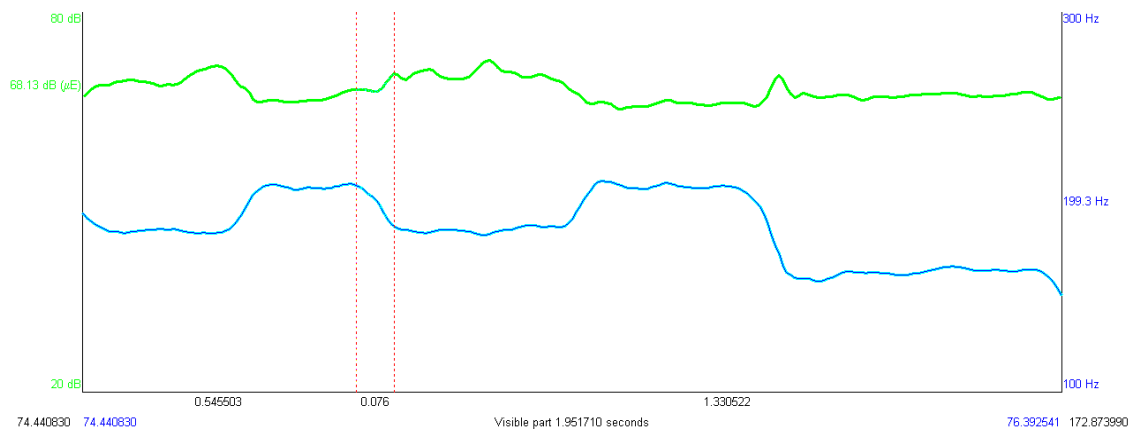
... listeners are sensitive to changes in duration of as little as 20 msec in simple isochronous sequences, and those listeners were still able to detect the lengthening of a single duration by as little as 50 msec in a melody that had base durations of 350 msec and had continuously modulated expressive changes in tempo (Clarke, 1999: 491).

The amount of precision of 50 msec is also a predication to set the histogram bin size to the same value in the forthcoming analysis. In the analysis of Ross the histogram bin size is also set to 50 msec (Ross, 1989: 65) and for comparison with their results it is practical to use the same value.

4.5.1.4 General principles of measuring

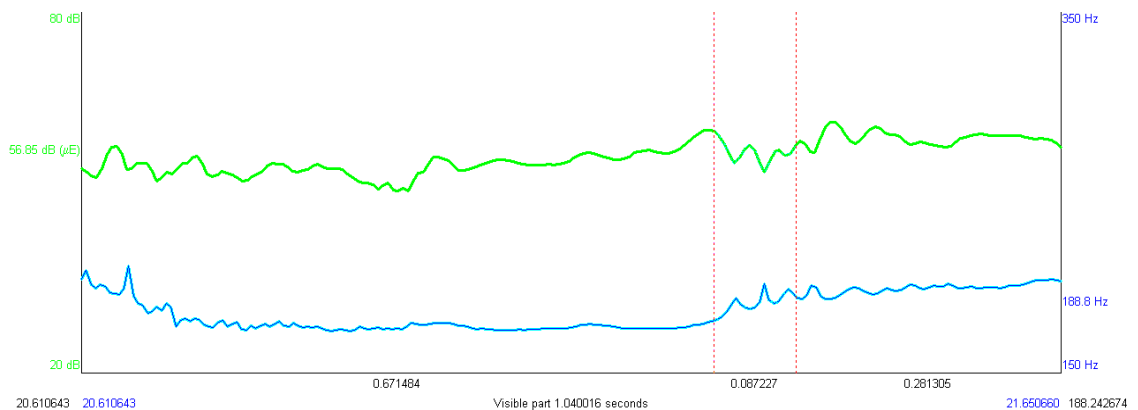
Some recordings have a very clear and readable blueprint. On the following example, the 'grey zone' (marked with vertical dashed lines) between notes 128 and 129 is ~76 msec, and the intensity curve also suggests where the segmentation point should be put.

Figure 22. Extract from Quesnel; 74.44-76.39; notes 127-131; the green curve = SPL and the blue curve = F_0 ; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve); the dashed vertical lines represent the 'grey zone' (~76 msec) between the notes 128 and 129.



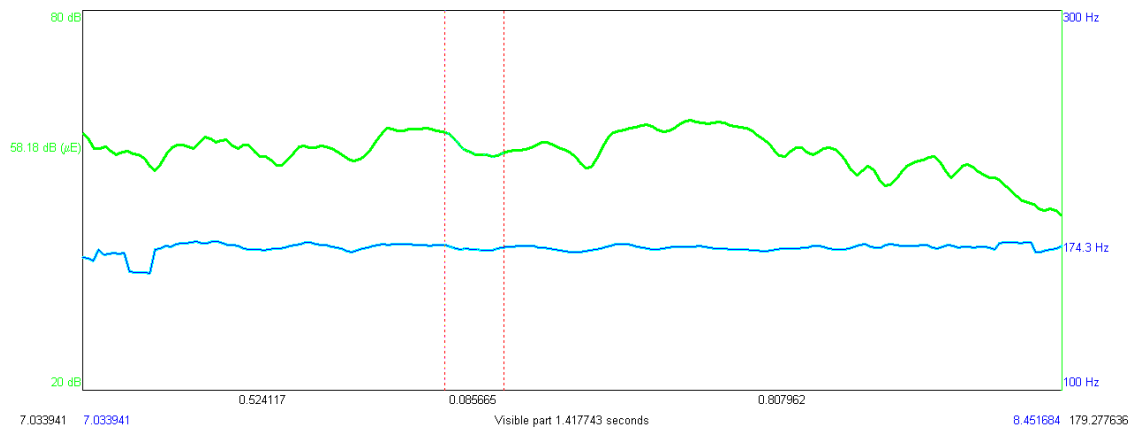
In the next example the 'grey zone' is ~87 msec, but there is no clear suggestion, where to put the segmentation point.

Figure 23. Extract from Tulve; 20.61-21.65; notes 39-40; the green curve = SPL and the blue curve = F_0 ; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve); the dashed vertical lines represent the 'grey zone' (~87 msec) between the notes 39 and 40.



The same principle applies to when the vowel changes on the same pitch or successive notes on the same pitch are prescribed to be performed on a vowel.⁶³⁴ The vowel before the 'grey zone' (~85 msec) is 'i' and after the 'grey zone' is 'e'.

Figure 24. Extract from Ollivry; 7.03- 8.45; notes 17-18; the green curve = SPL and the blue curve = F_0 ; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve); the dashed vertical lines represent the 'grey zone' (~85 msec) between the notes 17 and 18.



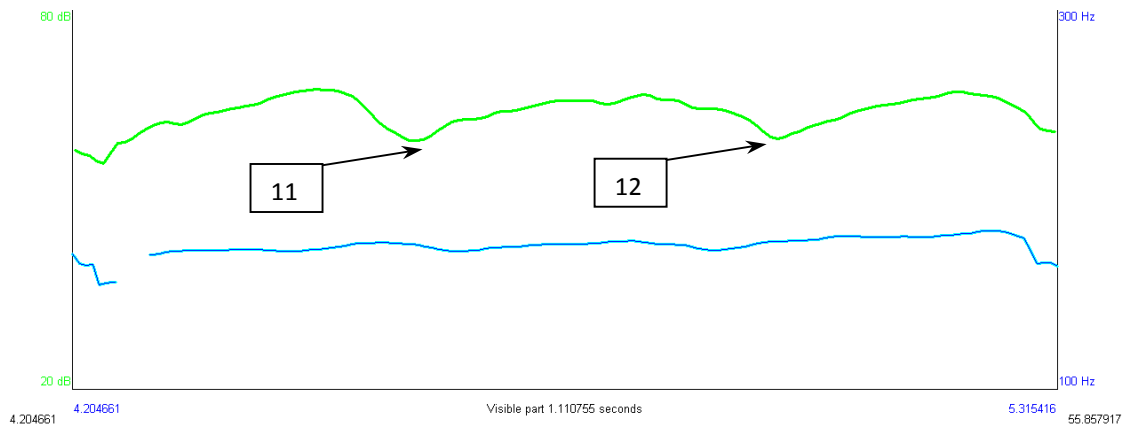
4.5.1.5 Principles of the segmentation of successive notes on the same pitch prescribed to be performed on the same vowel

In the performance of MSLM there can be successive notes prescribed to be performed on the vowel on the same pitch. This can occur (1) in repercussive neumes, for example notes 21-22 and 23-24 where there are respectively *bivirga* and *distropha* on 'c',⁶³⁵ prescribed to be performed on vowels 'e' and 'i' (fe-cit); (2) in a combination of certain neume elements, for example *bistropha* followed by a *climacus* on notes 10-14. The last note of *distropha* (note 11) and the first note of *climacus* (note 12) are on the same pitch and are prescribed to be performed on a vowel 'i' (di-es). There can be several indicators to suggest a segmentation point between successive notes on the same pitch. (1) The intensity curve indicates the beginning of a new note.

⁶³⁴ The latter question is discussed in the next subchapter 'Principles of the segmentation of successive notes on the same pitch prescribed to be performed on the same vowel'.

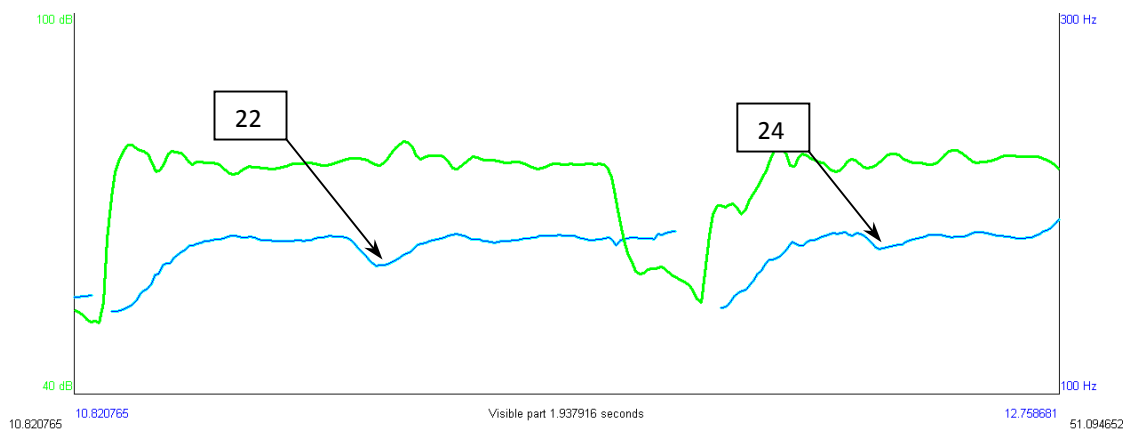
⁶³⁵ All note values are relative.

Figure 25. Extract from Forbster; 4.20-5.32; notes 10-12; the green curve = SPL and the blue curve = F_0 ; the arrowed lines mark possible segmentation points between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



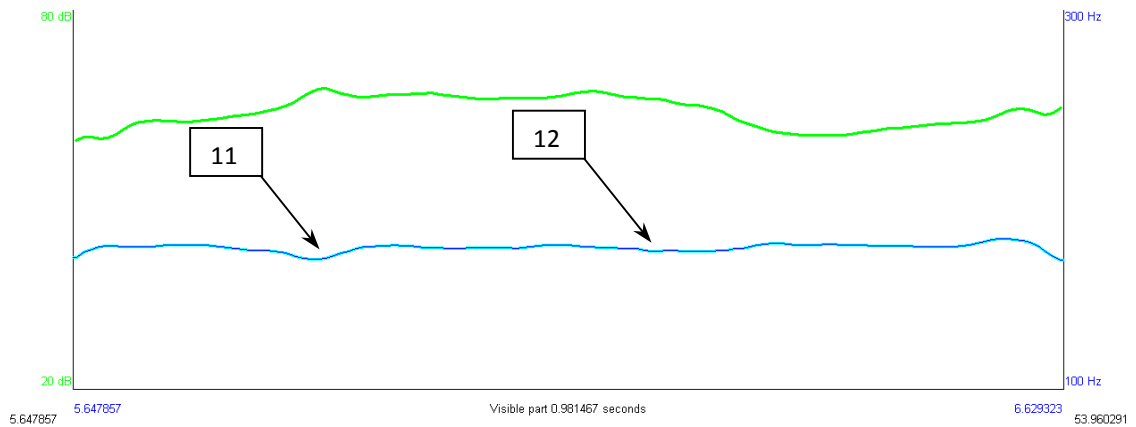
(2) There is a small *portamento* before the second or third note. In these cases, the segmentation point is marked on the lowest point of the *portamento*.

Figure 26. Extract from Jöeleht; 10.82-12.76; notes 21-24; the green curve = SPL and the blue curve = F_0 ; the arrowed lines mark possible segmentation points between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



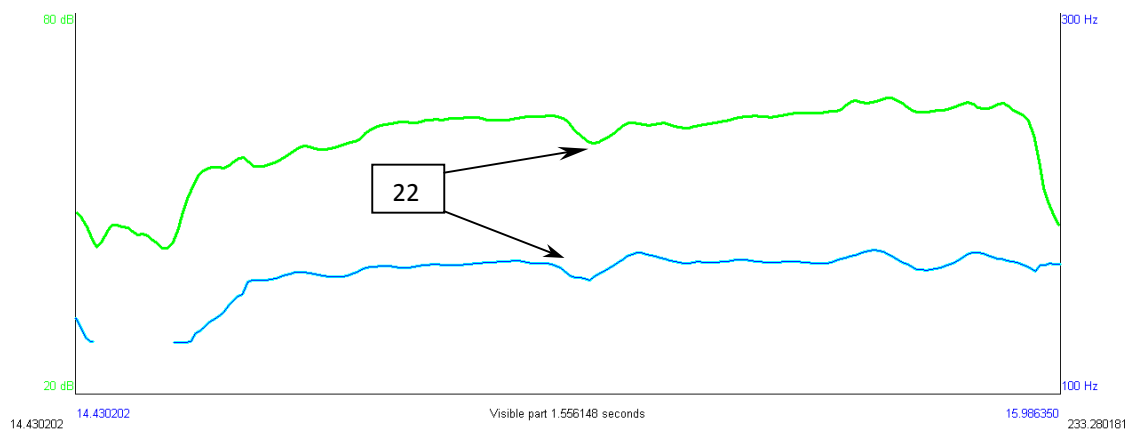
or

Figure 27. Extract from Tulev; 5.65-6.63; notes 10-12; the green curve = SPL and the blue curve = F_0 ; the arrowed lines mark possible segmentation points between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



The previous example is especially interesting because intensity curve moves up during the first portamento. (3) In some cases, these two indicators coincide.

Figure 28. Extract from Quesnel; 14.43-15.99 notes 21-22; the green curve = SPL and the blue curve = F_0 ; the arrowed lines mark possible segmentation point between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



There were several instances in the recordings where it was not possible to detect a segmentation point between successive notes on the same pitch. Some performers treat SNOP as one long note. Sometimes this long note turns into vibrato towards the end. A noteworthy aspect is that some performers treat in the same manner all SNOP, notwithstanding whether it is a result of repercussion or succession of certain neume

elements. This suggests the importance of oral tradition in the learning process of chant in contemporary time. Performers have heard somebody treating this kind of musical element in a certain way. He/she adapts the principle notwithstanding that a written source can be expounded in different way. The other reason aside from interpretational preference can be a lack of vocal ability – it is not always easy to perform SNOP so that every note is clearly audible. The reason can also be that segmentation of the SNOP is only imagined by the performer but not realized in performance.⁶³⁶

If the segmentation point was not detectable, the note was measured as one long note and the subsequent notes got '0' for their length value. Another reason for giving a '0' for value was if the note was omitted by the performer. The following table presents the amount of '0' notes of every performer in the whole piece (135 notes).

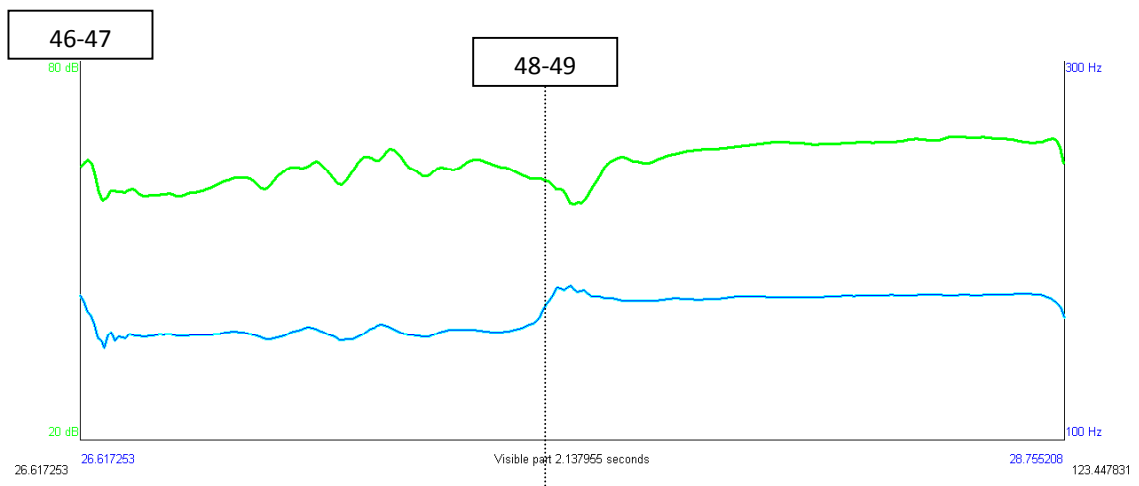
Table 67. The amount of notes with '0' value of every performer; sorted by the amount of '0' notes.

Name	The amount of '0' notes	Name	The amount of '0' notes
Martin Quesnel	0	Lauri Jöeleht	1
Eerik Jöks	0	Tõnis Kaumann	1
Jaan-Eik Tulve	0	Marja Korkala	1
Kadri Hunt	0	Godehard Joppich	1
Lilian Langsepp	0	Andrew Smith	1
Peeter Perens	0	John Alsdatt	1
Toivo Tulev	0	Richard Crocker	1
Hilkka-Liisa Vuori	0	Gereon van Boeschoten	2
Jean-Pascal Ollivry	0	Chris Helfrich	3
Lydia Stritzl	0	Maile Nairis	5
Ulrike Heider	0	Taivo Niitvägi	6
John Rowlands-Pritchard	0	Riho Ridbek	7
Mike Forbster	0	Igor Reznikoff	8
Guntars Pranis	0	Dominique Minier	11
Columba Kelly	0	Maria Staak	11
Tim Pehta	0	Richard Rice	14
Eve Kopli	1	Kerry McCarthy	15
Indrek Laos	1		

⁶³⁶ In the questionnaire, the performers were asked (question 120) to indicate, which notes among the first 18 they 'perceive as having equal durations'. Respondents were allowed to form up to four groups. 25 five respondents out of 30 who had answered this question marked notes 10 and 11 (a two note repercussive neume *bistropa*) to be of equal duration. From 25 performers 5 were performing notes 10-11 so that the segmentation of these notes was not possible. That means that a recording does not always represent the full intention of a performer.

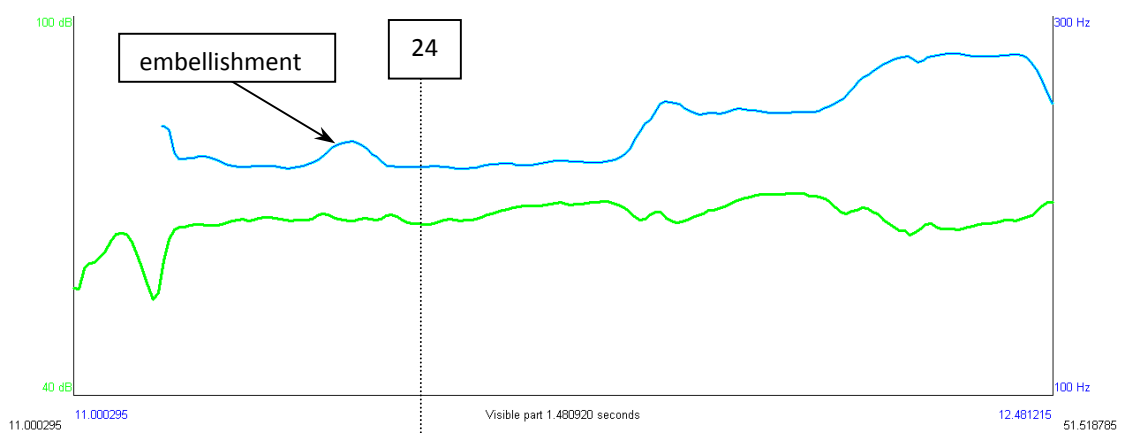
If the SNOP are performed as a single note that turns into vibrato from the half or third of the note, it is arguable whether the point where the vibrato begins can be considered the beginning of the following note. However, this aspect is not sufficient for segmentation and SNOP are measured as one note. It is also possible that two successive notes on the same pitch are treated as a long note without a vibrato at the end. Both cases, of which none is a percussive element, are represented in the following example.

Figure 29. Extract from McCarthy; 26.62-28.76; notes 46-49; the green curve = SPL and the blue curve = F_0 ; the vertical lines mark segmentation points between notes and the numbers indicates the beginning of a particular pair of notes; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



SNOP can also be separated by an embellishment.

Figure 30. Extract from Laos; 11.00-12.48; notes 23-26; the green curve = SPL and the blue curve = F_0 ; the vertical lines mark segmentation point between notes and the number indicates the beginning of a particular note; horizontal axis = time; vertical axis = dB (green curve) and Hz (blue curve).



As a synopsis of the segmentation and measurement discussion, it should be said that there are probably different possibilities to measure recordings of performance of MSLM. In this research, the segmentation of the notes is done with the combined use of the pitch curve (F_0) and the intensity curve (SPL) with the amount of precision of 50 msec using 'onset to onset' principle.

4.5.1.6 The process of measuring and presentation of the raw data

The Gradual consists of 135 notes in the version that is published in the Vatican and Solesmes Editions. In the course of analysis, I measured the temporal structure of the performed piece of 35 performers. For that I had to segment every performance into single notes and measure every note separately. I used software Praat 5.0.40, which is designed for phonetic analysis. It has five basic categories for analysis: spectrum, pitch, intensity, formant, and pulses. For segmentation purposes I used mainly pitch and intensity curves and for some instances a spectrogram.⁶³⁷ I devised a table of coordinates in software Microsoft Excel into which I inserted the beginning value and end value of every note on the time axis. The table was programmed to calculate the length of the notes in seconds by subtracting the beginning value from the end value. From the table of coordinates the data was accommodated into two separate tables in which the lengths of the notes were transformed into milliseconds. First table included the breaths and the second was solely for the length of the notes. The results of the digital measuring in the state of raw data are available in the form of the first table as Appendix 48, vol 2, 569-582.

4.5.1.7 Representational quality of the measured material

Each performance was initially analysed in five divisions: notes 1-18, notes 1-50, notes 1-83, notes 1-135, and notes 99-135. These five different histograms for every performer were necessary to control the representational quality of the results (see Appendix 47, vol 2, pp 533-568). When I started measuring, there was an important question: how many notes should I measure to get sufficient representational quality? Obviously, there was no simple textbook answer to that question because of a lack of experience of measuring this kind of music before. After consulting with fellow musicologists, some colleagues suggested measuring 50 notes from each performer.

⁶³⁷ A spectrogram was used, for example, to detect segmentation points involving soundless consonants.

The Gradual *Haec dies* can be divided into two musical sentences (1) 'Haec dies, quam fecit Dominus'; (2) 'exultemus et laetemur in ea'. The first sentence consists of two phrases (1) 'Haec dies': notes 1-18; (2) 'quam fecit Dominus': notes 19-50. The second sentence consists of two phrases (1) 'exultemus': notes 51-82; (4) 'et laetemur in ea': notes 83-135. Following the logic of the musical phrase, it should have been enough – if the first 50 notes form a full musical sentence, it must have sufficient representation of different note values. When I compared the histogram of notes 1-18 to histogram 1-50, I observed too much instability in the results among some performers based on basic note value. For example, Jöeleht (histograms 2.1-2.4) has a BNV of 300 msec among notes 1-18; BNV 350 msec among notes 1-50; Langsepp has BNV 300 msec among note 1-18; BNV 400 msec among notes 1-50. One of the reasons for this instability is probably a large agogical variety that seems to be characteristic of some performances of MSLM. By adding more results to the histograms, (1-83) the stability increased. For some performers it was not possible to distinguish BNV(s) based on histograms with 50 notes. In the following two histograms, the BNV(s) emerged and for most performers who have a clearly distinguishable basic note value(s) the feature did not change after note 83. Therefore, the representational quality of the material is considered sufficient and the histogram of notes 1-135 represents a digital image of reception of the Gradual *Haec dies* of a particular performer on this particular performance session.

The histogram for notes 99-135 (histogram number 5 for every performer) represents material for comparison of the argument 'vowel onset' versus 'onset to onset'. The last 34 notes of the piece are performed on vowels and will give an idea of the difference between two above-mentioned principles. Obviously there are some differences between histograms of notes 99-135 and 1-135 due to a great difference in the number of notes. In the first histogram there are ~36 notes and in latter one ~135. Differences between histograms vary among the performers. For some, the structure of the two histograms is similar; for example, Tim Pehta (histograms 24.4 and 24.5) and Kerry McCarthy (histograms 30.4 and 30.5). For some performers, there is a difference in the structure of the histograms; for example, Kadri Hunt (histograms 1.4 and 1.5), Chris Helfrich (histograms 13.4 and 13.5) and Richard Crocker (histograms 21.4 and 21.5). Most performers who have clearly distinguishable BNV(s) have the same BNV(s) on the histogram with notes 1-135 and histogram 99-135. In this respect

the difference between principles of 'vowel onset' and 'onset to onset' are not considerably significant. The differences, however, prove once more that the decision to prefer the principle of 'onset to onset' for measuring is right because obviously, the relationship of consonants and vowels varies among the performers and the only common feature to measure is the actual sound.

4.5.2 The methodology of the perception experiment

The combination of the results of Question 120 in the questionnaire and the results of the digital measuring of the solo recordings made it possible to conduct a perception experiment. Perception experiments are a usual practice in the field of Psychology of Music. The purposes of these experiments can be about human perception of pitch, rhythm or some other property of music. The purpose of my perception experiment is to see whether the subjective description of note lengths and the actual performance coincide. The respondents were asked to look at the transcription of the first two words of the Gradual *Haec dies* and describe which notes they perceive as of equal duration. The results of the subjective description are then compared to the results of the digital measuring of the recordings. This perception experiment is described and discussed in the subchapter 'Equality of note durations– comparison of performers' descriptions with actual recordings'.

4.5.3 The methodology of the analysis of the musical phrasing

In the course of this work, I had to listen to the recordings many times. Through this listening, I observed that there are some almost universal patterns in musical phrasing. These universalities manifest themselves most obviously in places where the performers tend to breathe. The method of analysing musical phrasing in the Gradual *Haec dies* and the verse *Confitemini Domino* consists of the comparison of musical phrasing on the recordings with the text and the notation. Supporting material for this analysis is a selection of the earliest manuscripts of Franco-Roman Chant.⁶³⁸

⁶³⁸ For the details of these manuscripts please see Primary sources on page 365.

4.6 Analysis of the results

4.6.1 Introduction

There are many aspects of the analysis of temporal structure that can be taken into consideration. For example, in the categories of dispersion, the parameters to classify are (1) standard deviation; (2) variance; (3) minimum; (4) maximum; (5) range. From these, for example, I only use standard deviation. Most of the purely statistical methods for classifying recordings were abandoned after continuous experimenting. For example, categories of distribution, which are (1) skewness and (2) kurtosis, appeared not to be the best parameters for categorisation in this study. It must be noted that in the stage of comparing the results of the questionnaire with the results of digital measuring both these parameters showed some interesting correlations with the scale questions of the questionnaire. It was very tempting to continue scrutinising these connections. However, it is not possible within the period of this particular research and must be left for future projects.

The explanation of unfitness of these and many other purely statistical methods is very technical and will not be included to this text. However, one example of this kind of discussion can be found in the subchapter 'Connections between conceptualisation and practice – a heuristic experiment' on page 332, where the question of using standard deviation for analysis of agogical variety is scrutinised.

The main reason why ready-to-use methodologies are not adequate is probably because of vast variety of performance styles in the solo recordings and consequent differences that appear in the results of measuring of these recordings. Therefore, a combined method of histogram observation, examination of selected statistical parameters, and listening to the recordings, was applied for classification according to basic note value(s). For classification according to tempo, the length of the piece rather than mean note value was used. For categorisation according to agogical variety, the number of different note categories was counted. Explanations on all these aspects follow together with particular classification.

4.6.2 Classification according to tempo

It was described in the previous work how the recordings were measured and how the table of coordinates was constructed. The data in the table of coordinates was transformed into milliseconds and two additional tables were devised to

accommodate this transformed data. The first table, with all the data in milliseconds, is added as an appendix (see Appendix 48, vol 2, pp 569-582). Based on this table, the length of every performance was calculated. In other words, the length of the piece includes breaths – with the exception of the first breath, which was not detectable in all performances. The second table was devised for histogram analysis of the temporal structure. From this table the breaths were excluded. Mean note value was calculated based on this table – in other words, it is a mean value of all performed notes without breaths.

Lengths of every performance gives us the first category for the classification of recordings – tempo. Possible parameters for tempo classification are (1) the mean note value and (2) the length of the piece. Usually if the mean note value is higher, the length of the piece is longer. However, there are some exceptions, because some performers treat SNOP as one long note and thus there are proportionally more long notes. For example, Kerry McCarthy performs the piece in 64.2 seconds. It is characteristic of her performance to treat all SNOP as one long note. Therefore, her number of notes is 120. Lydia Strizl performs the piece in 65.2 seconds but extracts carefully all SNOP as single notes. Her number of notes is 135. Thus, the length of the piece is almost the same but the mean note value is different – McCarthy 535 msec and Strizl 483 msec. Because of that inconsistency, the preferred value in classification according to tempo is the length of the piece.

Because the mean value is a very important factor in all manipulations with histograms, I pondered whether or not I should use the actual mean value (the length of the piece divided to number of notes) for those performers who are treating SNOP as one single note and/or omit notes that are prescribed in the Vatican edition. The alternative would have been a 'derived mean' – the length of the piece divided always with 135, that is a hypothetical number of notes, if all notes would be performed as prescribed. This idea was abandoned after some tests because it appeared that the length of the piece is an adequate and sufficient parameter to classify recordings according to tempo. The question of using the derived mean emerged again when a curve of normal distribution for every histogram was created. This curve is placed on the histogram considering the mean value of the data set. If the mean is not adequate, the curve of normal distribution would be misplaced. However, I abandoned this plan, because by testing two different means with histograms (all data and data with bins

less than 3 excluded), it appeared that the difference is not significant. Therefore, the actual mean is used in every case, unless it is stated differently, for example in the subchapter 'The hypothesis of ratio'.

Table 68. Length of the piece with breaths (Length, br), groups according to previous column (Group), length of the piece without breaths (Length, no br), mean note value, and derived mean note value; sorted by length of the piece with breaths. All values, except 'Group' are in milliseconds; please see the table also as Appendix 49, vol 2, p 583.

Name	Length, br	Group	Length, no br	Mean	Derived mean
Tõnis Kaumann	55 702	1	52 393	391	388
Eve Kopli	56 217	1	51 781	386	384
Jean-Pascal Ollivry	57 711	1	54 750	406	406
Mike Forbster	58 313	1	55 783	413	413
Guntars Pranis	58 682	1	55 562	412	412
Toivo Tulev	58 908	1	55 436	411	411
John Alsdatt	59 223	1	55 769	416	413
Maile Nairis	60 473	1	57 390	441	425
John Rowlands-Pritchard	60 834	1	56 686	420	420
Indrek Laos	61 171	1	56 589	422	419
Lauri Jõelet	62 386	1	59 051	441	437
Lilian Langsepp	62 824	1	57 898	429	429
Jaan-Eik Tulve	63 417	2	59 245	439	439
Richard Crocker	63 833	2	59 898	447	444
Kadri Hunt	64 413	2	60 783	450	450
Tim Pehta	64 459	2	60 644	449	449
Eerik Jõks	64 608	2	60 649	449	449
Maria Staak	64 628	2	59 136	477	438
Chris Helfrich	64 783	2	59 588	451	441
Peeter Perens	65 512	2	60 055	445	445
Andrew Smith	66 498	2	62 767	468	465
Columba Kelly	66 814	2	63 075	467	467
Ulrike Heider	68 050	2	62 670	464	464
Riho Ridbek	68 179	2	63 405	495	470
Gereon van Boeschoten	68 303	2	63 276	476	469
Lydia Stritzl	68 519	2	65 160	483	483
Kerry McCarthy	69 852	2	64 249	535	476
Richard Rice	70 519	2	67 112	555	497
Martin Quesnel	79 955	3	77 043	571	571
Marja Korkala	80 893	3	72 899	544	540
Taivo Niitvägi	81 147	3	73 383	569	544
Dominique Minier	86 952	3	82 056	662	608
Igor Reznikoff	87 541	3	81 492	642	604
Godehard Joppich	98 360	3	93 342	697	691
Hilkka-Liisa Vuori	101 145	3	91 248	676	676

The difference in tempo between the performers with shortest and longest time of performance is 1.8 times. The fastest performance is Kaumann, with 55.7 seconds, and

the slowest Vuori, with 101.1 seconds. In most cases, the difference between two performances next to each other in the table is not more than one second or less. Only in four cases is this value higher. All examples are among seven slowest performances: (1) Quesnel is nine seconds slower than Rice; (2) Minier is six seconds slower than Niitvägi; (3) Joppich is 11 seconds slower than Reznikoff; (4) Vuori is three seconds slower than Joppich. For the further comparison, the performers had to be divided into different categories (1) fast; (2) medium; (3) slow. Because of such equal distribution and lack of clear borders between different groups, the division was made based on the cluster analysis. When the software SPSS⁶³⁹ was programmed to form three clusters, the groups were 2/5/28. The amount of performers in these groups is too different to use the groups in the comparison. When divided into four clusters, the groups were 16/12/5/2. In this segmentation, the third group (28) in the division of three clusters is divided and two last groups remained the same. The analysis was repeated with five clusters and the result was 2/3/16/2/12. The two biggest groups remained intact and the smaller groups were slightly redistributed. To create more equal sizes of the groups, the result of four clusters was taken and clusters three and four were added up into one cluster. Therefore, it can be said that according to the cluster analysis, there are three basic groups based on length of the piece. As a result, there are three groups (1) fast – 12 performers; (2) medium – 16 performers; (3) slow – seven performers.

4.6.3 Classification according to agogical variety⁶⁴⁰

Agogics or variation of durations during the performance is measured by counting the number of different note categories (henceforth also DNC). The more there are DNC, the more the performer varies durations of notes. According to this feature, the difference between the lowest value (15) and the highest value (29) is almost two times (1.9).

⁶³⁹ Statistical Package for the Social Sciences.

⁶⁴⁰ Issues of agogical characteristics are also considered in the subchapter 'Classification according to basic note value'.

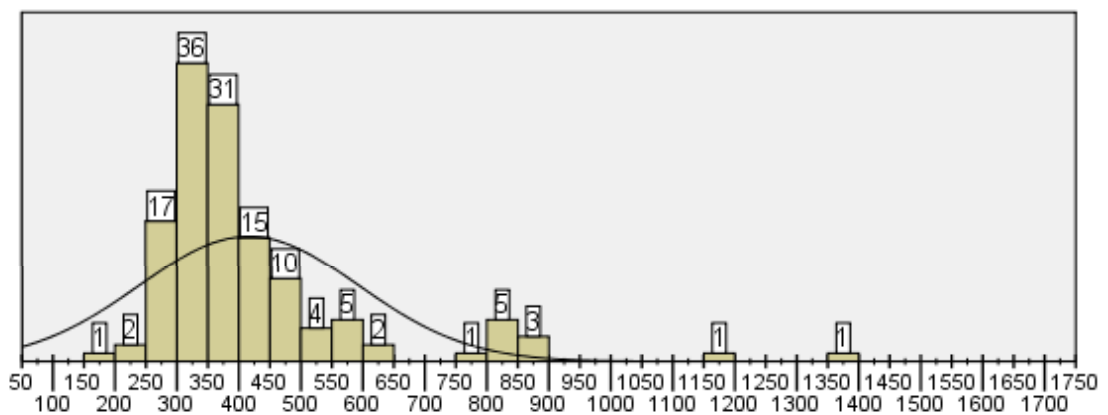
Table 69. Groups formed according to DNC (Group), number of different note categories (DNC), standard deviation (StDev), length of the piece without breaths (Length, no br), mean note value, and derived mean note value; sorted by DNC; please see the table also as Appendix 50, vol 2, p 584.

Name	Group	DNC	StDev	Length, no br (sec)	Mean	Derived mean
John Alsdatt	1	15	177	55.8	416	413
John Rowlands-Pritchard	1	16	205	56.7	420	420
Lydia Stritzl	1	16	166	65.2	483	483
Taivo Niitvägi	1	16	198	73.4	569	544
Guntars Pranis	1	17	190	55.6	412	412
Jean-Pascal Ollivry	1	17	200	54.8	406	406
Lauri Jöeleht	1	18	221	59.1	441	437
Lilian Langsepp	1	19	230	57.9	429	429
Ulrike Heider	1	19	266	62.7	464	464
Gereon van Boesschoten	1	20	260	63.3	476	469
Kadri Hunt	1	20	271	60.8	450	450
Mike Forbster	1	20	249	55.8	413	413
Peeter Perens	1	20	200	60.1	445	445
Toivo Tulev	1	20	240	55.4	411	411
Tõnis Kaumann	1	20	262	52.4	391	388
Andrew Smith	2	21	241	62.8	468	465
Chris Helfrich	2	21	225	59.6	451	441
Eerik Jöks	2	21	294	60.6	449	449
Indrek Laos	2	21	289	56.6	422	419
Jaan-Eik Tulve	2	21	233	59.2	439	439
Kerry McCarthy	2	21	295	64.2	535	476
Maile Nairis	2	21	292	57.4	441	425
Riho Ridbek	2	21	307	63.4	495	470
Tim Pehta	2	21	258	60.6	449	449
Columba Kelly	3	23	352	63.1	467	467
Richard Crocker	3	23	312	59.9	447	444
Richard Rice	3	23	312	67.1	555	497
Eve Kopli	3	25	386	51.8	386	384
Igor Reznikoff	3	25	393	81.5	642	604
Marja Korkala	3	25	269	72.9	544	540
Hilkka-Liisa Vuori	3	26	418	91.2	676	676
Maria Staak	3	26	355	59.1	477	438
Godehard Joppich	3	27	382	93.3	697	691
Martin Quesnel	3	27	368	77.0	571	571
Dominique Minier	3	29	389	82.1	662	608

As with the issue of piece length, there is no clear hint how to segment this data into groups for comparison. The mean DNC for all performers is 21. There are nine performers with mean DNC and the grouping of performers is done based on this value. Group one is formed of performers who have DNC lower than mean and group three consists of performers with higher DNC than mean. That leaves group two for the performers who have mean DNC.

To see the differences in DNC we observe examples from both ends of the table. The difference between recordings with drastically different DNC is clearly visible on the histogram and in most cases clearly audible on the recording. A factor that might lead astray in detecting DNC by only listening to the recording is articulation. If the performer has a tendency to mark beginnings of the notes either with an accent, a miniature crescendo, or a portamento, it tends to sound as if there is less DNC. If the situation is the other way round and the performer sings with tight legato, then a performance with less DNC can sound as one with many DNC. In other words, this performance loses the monotonous nature that is characteristic of performances with less DNC, because of what happens between the notes.

Figure 31. Temporal structure of the Gradual *Haec dies* performed by John Alsdatt; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC = 15.

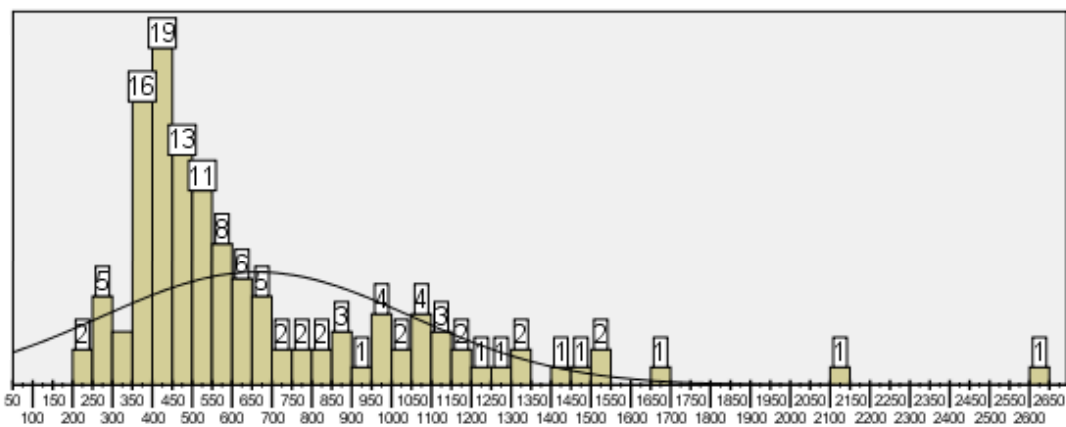


N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	1169	182	1351	55769	55.8	416	177

This histogram has 15 DNC, which is the lowest. Most of the notes are in the period of 250-500 milliseconds. Durations of notes in the performance sound equal. Some notes are lengthened – for example, the last notes of the phrases and some notes that are marked with lengthening mark in the quadratic notation of Solesmes and Vatican Editions. Lengthening these notes sounds more like doubling the length rather than slowing down the tempo. Lengthening of the notes is not preceded by significantly slowing down the tempo. Ritenutos and returning to the tempo are very mild. There are no significant accelerandos.

The curve on the histogram represents a normal distribution. This curve is placed so that the peak of the curve is on the mean (416 msec) and the curve is perfectly symmetrical. The height of the curve depends on the length of the tails of the histogram. The longer the tails, the lower the curve. Together with this curve, it is good to observe the extent to which a particular histogram deviates from normal distribution. At the other end of the table of DNCs, there is Dominique Minier.

Figure 32. Temporal structure of the Gradual *Haec dies* performed by Dominique Minier; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC = 29.

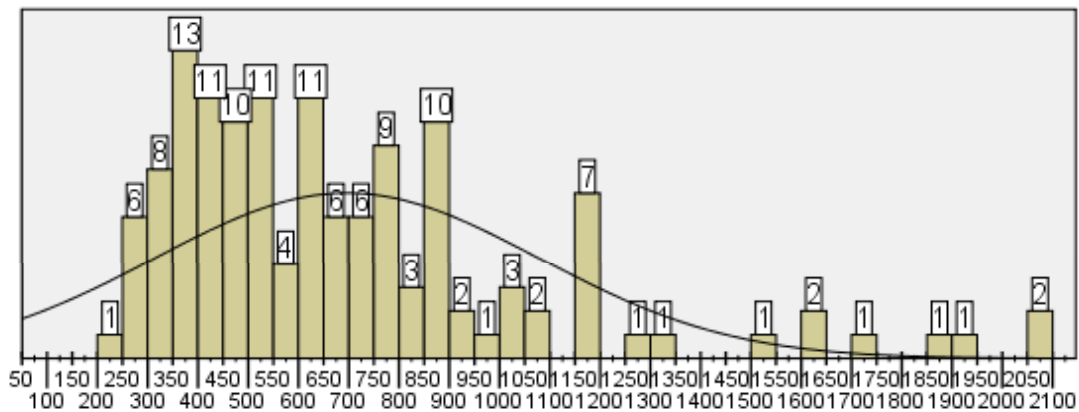


N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
124	2386	216	2602	82056	82.1	662	389

The difference between Alsdatt and Minier is very clearly visible and audible. The right tail of the histogram of Minier is much longer. In fact, it is substantial enough to be considered as a second basic note value.⁶⁴¹ On the recording, it is audible how lengthening the notes are well prepared with ritenutos and after slowing down the tempo there is a return to 'a tempo'. There are also accelerandos within the phrase. One step up from Minier there is Martin Quesnel with DNC of 27. His histogram is similar to Minier's – there is a formation in the right tail of the histogram that can be considered a second basic note value. The above-described characteristics of performance are also similar to Minier. There is another performer with DNC of 27, whose histogram looks quite different – Godehard Joppich.

⁶⁴¹ First basic note value in this case is 400-450 msec.

Figure 33. Temporal structure of the Gradual *Haec dies* performed by Godehard Joppich; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC = 27.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	1874	206	2080	93342	93.3	697	382

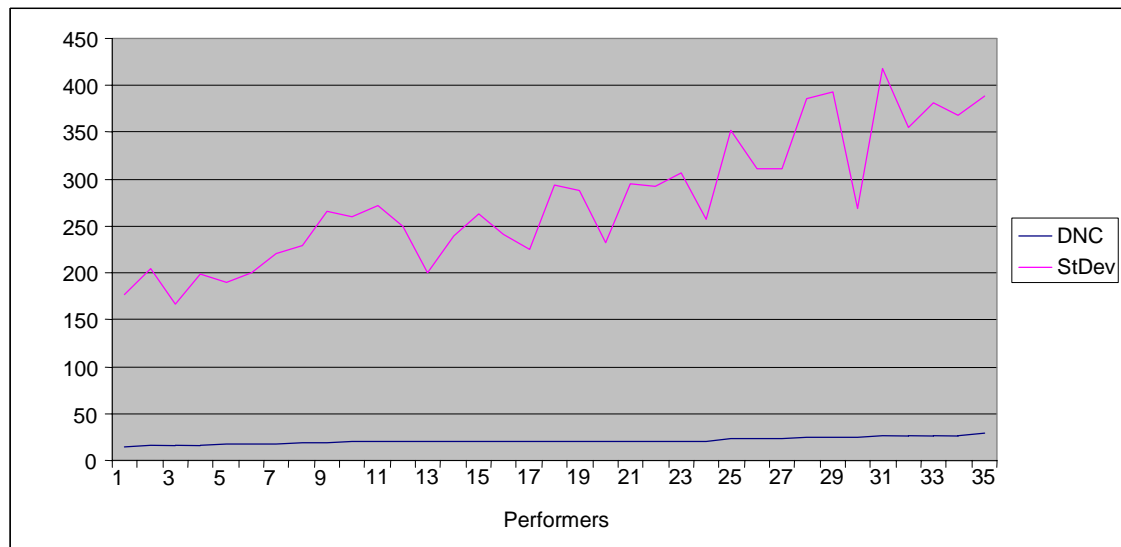
Joppich differs significantly from Minier and Quesnel with much wider distribution of notes on the axis of time. In statistical terms, Joppich does not have the widest distribution of note durations. The statistical parameter that can be used to measure the aspect of variety of agogics is standard deviation. The standard deviation of Joppich's histogram is 382, which puts this histogram in the fifth position after Vuori (418), Reznikoff (393), Minier (389), and Kopli (386). Right after Joppich comes Quesnel (368). However, together with Reznikoff and Vuori, he forms an exceptional group of performances in which it is not possible to detect which is a BNV because the notes are distributed so equally on the axis of time. Of course, there is a hint in all these histograms what a BNV might be, but it cannot be confirmed with certainty. Of these three, Vuori has the strongest implication for BNV. In terms of agogics, these performances are packed with changes in tempo. In the cases of Minier and Quesnel it is still possible to hear the BNV – in other words, some kind of pulse – but for Joppich, Vuori, and Reznikoff, this feature has totally vanished into agogical variety.

It is interesting that the reasons for variety in agogics appear to be different. In Joppich, the reason is in very intense pronouncing of the text together with thorough semiological analysis. Reznikoff and Vuori are playing on imaginable ambience – both these performers prefer to perform in large acoustics and are performing in very

different acoustics for this research. Agogical variety is best observable in the performance of Joppich because his vocal tone is most intense. He pronounces very carefully every syllable and word together with countless ritenutos and accelerandos. In all these three performances, separate notes do not have very clear beginnings – rather, we can hear the movement or a group of notes.

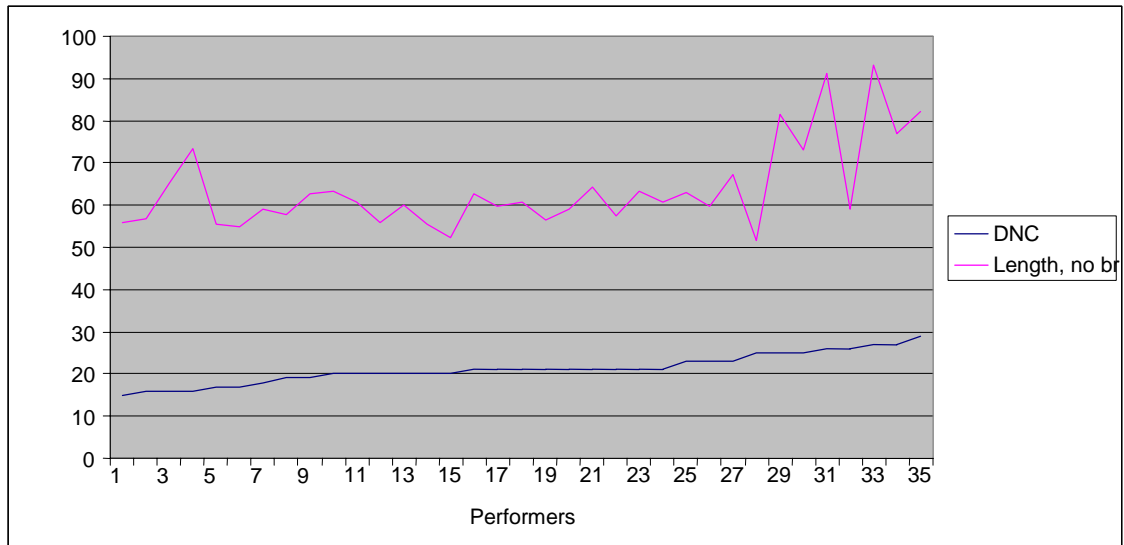
In general terms, it can be said that the more there is DNC, the higher is the standard deviation. On the following chart, it can be seen that the connection between DNC and StDev is not static, but in general terms both aspects follow the same dynamics.

Figure 34. Dynamics of different note categories (DNC) and standard deviation (StDev) of 35 performances; horizontal axis represents performances, vertical axis represents number of different note categories of every performance for DNC and value of standard deviation of every performance for StDev.



The difference between the dynamics of the length of the piece (without breaths) and DNC however, is less similar than StDev and DNC.

Figure 35. Dynamics of different note categories (DNC) and length of the piece without breaths (Length, no br) of 35 performances in seconds; horizontal axis represents performances, vertical axis represents seconds for 'Length, no br' and number of different note categories of every performance for DNC.



For most of the time, the curve of the length of the piece remains around 60 sec. Therefore, it can be said that arise in the agogical variety does not increase the length of the piece, or in other words, does not slow down the tempo.

There are many further possibilities for studying the issue of DNC. For example, it would be interesting to know what is behind the variety in DNC. A large part of this variety obviously lies in the ritenutos at the ends of the phrases. Closer study would reveal the proportion of agogical variety between changes of tempo at the end of the phrase and in the middle of the phrase.

4.6.4 Classification according to basic note value

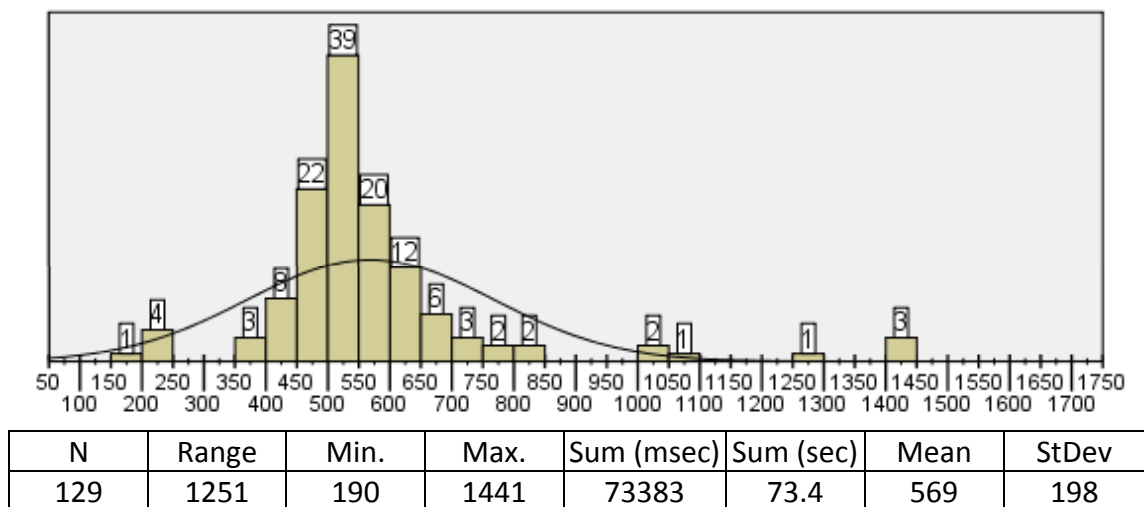
The classification of histograms according to basic note value (BNV) was the most complicated task of this research. It appeared to be not as straightforward as it was expected. The illusion before the measuring was that there is a clear border between performers with one BNV and performers with more than one BNV. This illusion was created by the classification of rhythm in Gregorian chant performance that has been used for decades according to which there are performances that are based on one durational category (equalist) and performances that are based on several durational categories (mensuralists). The variety of histograms, however, was much wider than expected. Indeed, there is a group of performers who have clearly one BNV and another group of performers who tend to have two BNVs. As a surprise, there is also a

third category consisting of cases where it is not clearly possible to detect how many BNVs there are. The latter group is referred to in this research as the histograms with ‘equal distribution’ or ‘ED’. In addition, among the group with one BNV, it is also possible to separate different categories – for example, those performers who have a tendency towards more than one BNV. To make this classification, additional measuring and/or closer research would have been needed, and therefore the idea was abandoned to be engaged in future projects. However, it cannot be neglected that even in the category of one BNV there are different subcategories. Some clues to explain these tendencies are presented in the subchapter ‘Hypothesis of ratio’.

It must be noted that in some cases, the classification according to BNV is arbitrary. For obvious reasons, there is no clear methodology to make a distinction between performers with one or multiple BNVs in the performance of MSLM. The decision to group histograms according to BNV is made based on the histograms with all notes mainly on the bases of visual observation. For the comparison possibilities, histograms without bins fewer than 3 notes and bins less than 5 notes were created for every performer (see Appendix 51, vol 2, pp 585-655).

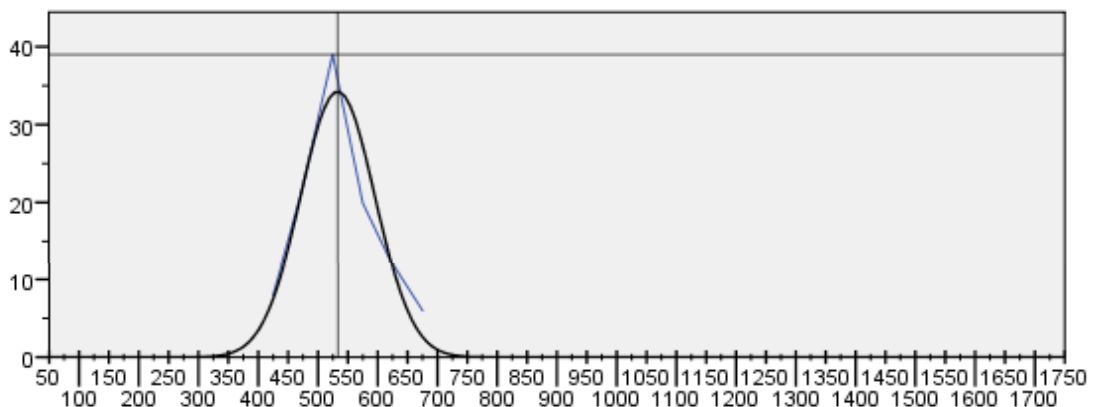
In the following analysis, different types of histograms are presented to show typical examples of one BNV, two BNVs, and equal distribution. A good example for a performer with one basic note value is Taivo Niitvägi.

Figure 36. Temporal structure of the Gradual *Haec dies* performed by Taivo Niitvägi; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 1.



From this histogram, we can see that this performer has one BNV, which is 500-550 milliseconds (msec). He has 39 notes out of 129 of this value and the BNV deviates almost similarly on both sides. In musical terms, it means that this performer does more or less equal *accelerandos* and *ritenutos*, but in this particular case, it happens in a fairly short period of durations. On both ends of the histogram, there are some bins detached from the main body of the histogram. Towards the right, these probably represent the last notes of the phrases and sentences. This histogram is a very good example for presenting appearances of one BNV, but in many respects, it is a very unusual example. The basic note value (500-550 msec) is higher than usual⁶⁴² and consequently the length of the piece is one of the longest among the 35 solo recordings. Because the symmetrical properties of the main body of histogram, this distribution is almost normal, if we exclude bins with less than five notes.

Figure 37. Temporal structure of the Gradual *Haec dies* performed by Taivo Niitvägi; bins with less than 5 notes excluded; the blue line represents the actual distribution on note durations, the black line is the normal distribution model curve fitted to the blue line; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 1.

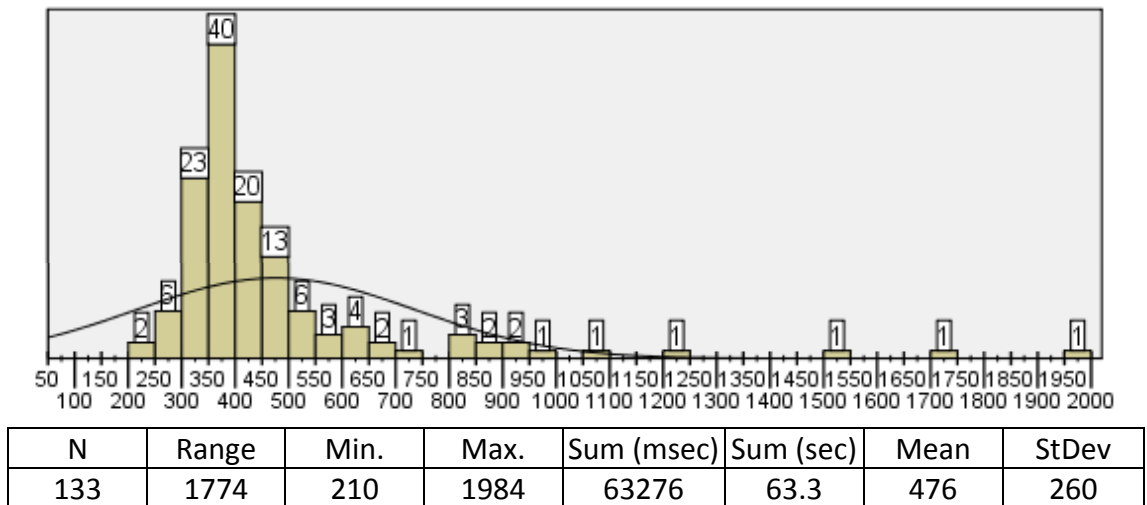


In this example, the bars of the histogram are replaced with a distribution line. With this method we can see how closely some performances are to a normal distribution.⁶⁴³ Another good example of one BNV is Gereon van Boeschoten. In his histogram, the value of BNV is more common.

⁶⁴² With most of the performers, BNV is lower.

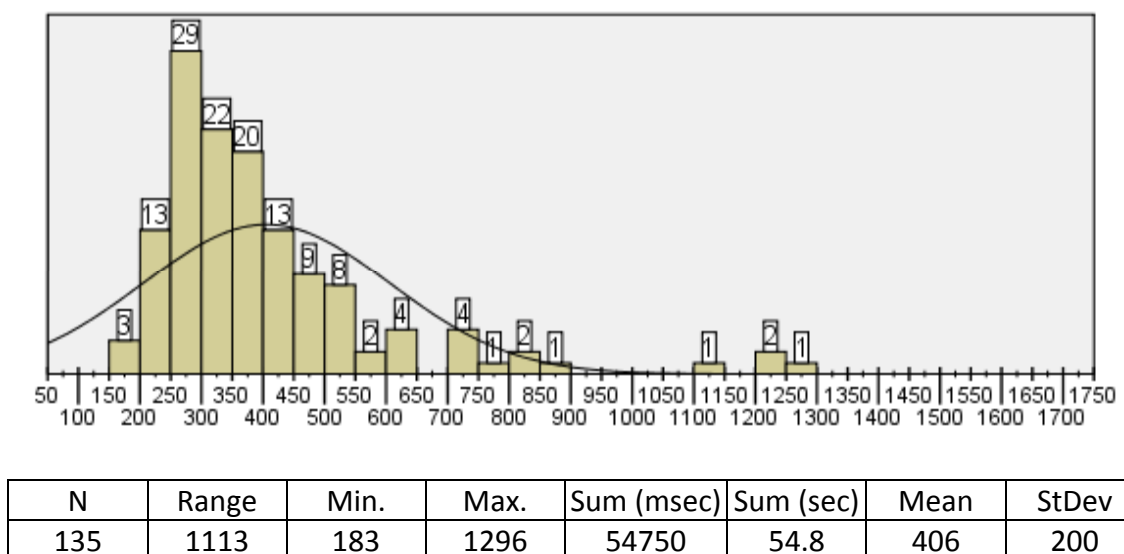
⁶⁴³ Most of the histograms however, deviate significantly more from a normal distribution. To see the deviation please see Appendix 51, vol 2, pp 585-655 and pay attention to the histograms from which the bins with less than five notes are excluded. With all notes, all histograms would have had a long right tail and the curve of normal distribution would have looked almost the same for most of the histograms.

Figure 38. Temporal structure of the Gradual *Haec dies* performed by Gereon van Boeschoten; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV=1.



Here the BNV is 350-400 milliseconds. The main body of the histogram is still quite symmetrical but the right tail is significantly longer and there are no isolated bins on the left side of the histogram. The next type of histogram under the observation is a distribution with one note value, which is less symmetrical than two previous examples.

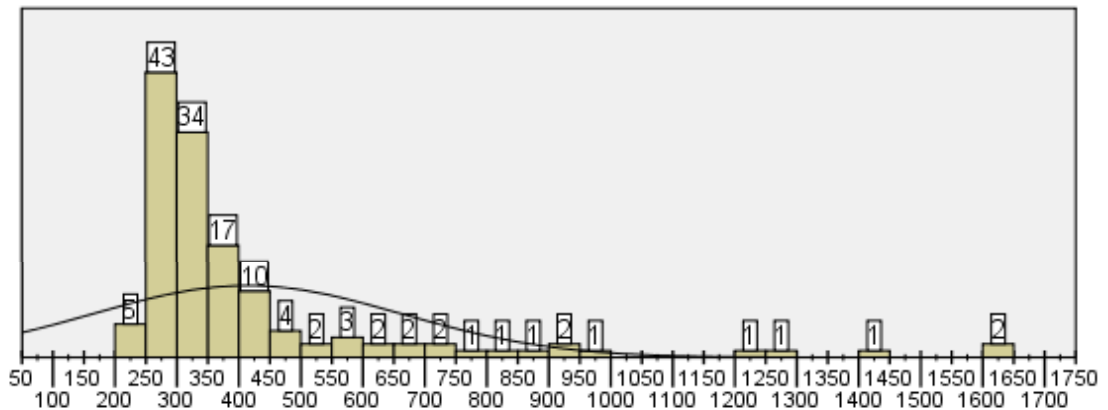
Figure 39. Temporal structure of the Gradual *Haec dies* performed by Jean-Pascal Ollivry; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 1.



In this histogram there is still one BNV (250-300) but this performer deviates considerably more towards longer durations, in other words, he does slightly more

ritenutos than accelerandos. Histograms that have been under observation so far show deviation to both sides of the BNV. There is another type of histograms in which there is almost no deviation towards shorter durations.⁶⁴⁴

Figure 40. Temporal structure of the Gradual *Haec dies* performed by Mike Forbster; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 1.



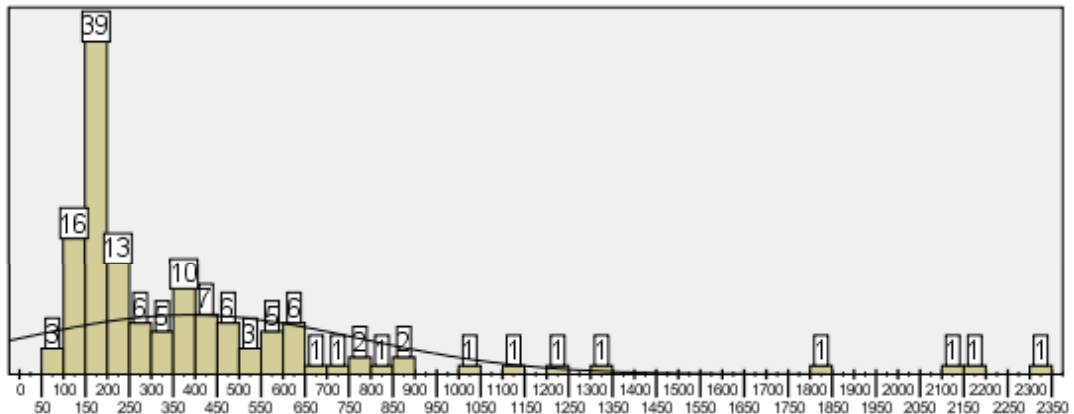
N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
135	1396	219	1615	55783	55.8	413	249

In this histogram, there is one basic note value (250-300 msec) but there is almost no deviation to the left from the basic note value. In generalized terms, it is possible to say that these performers prefer to do more ritenutos than accelerandos. However, we must also consider that if there is, for example, a note group consisting of one note from the bin 350-400 msec, two notes from the bin 300-350 msec and two notes from the bin 250-300 msec, we have an agogical situation that can sound like an accelerando. However, this possibility is purely theoretical in this particular case – it is clearly audible on the recording that Forbster does not use accelerandos. The feature that some performers do not deviate from the note categories towards shorter durations gives another parameter to group the histograms. The first group is called L+ (there is deviation towards shorter durations) and the second is referred to as L- (there is no deviation towards shorter durations). In the case of the histograms with two

⁶⁴⁴ The same kind of phenomenon can also arise in histograms with two BNV. It is possible that a lack of accelerandos in this case influences the amount of ritenutos and plays a role in forming the second BNV. For example Kadri Hunt (see histogram 1.6 in Appendix 51, vol 2, pp 586).

BNVs, it means deviation to the left of the shorter BNV. Histograms with 'equal distribution' are all marked as L+. The next examples show histograms with two BNVs.

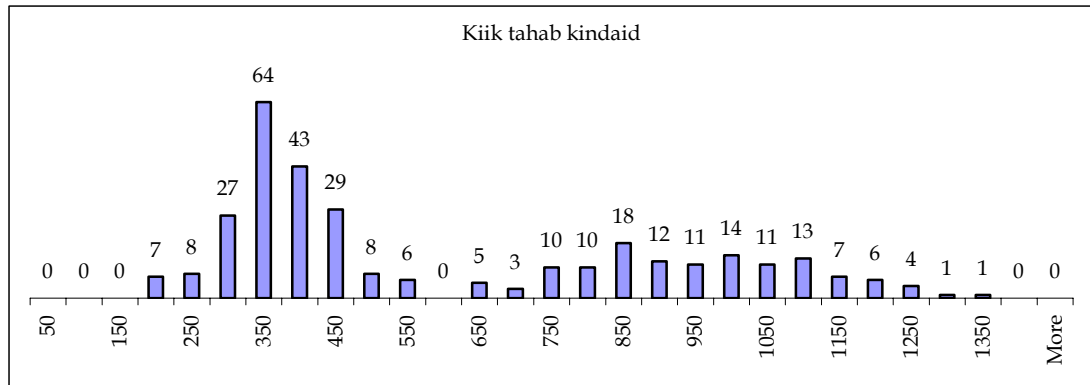
Figure 41. Temporal structure of the Gradual *Haec dies* performed by Eve Kopli; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV=2.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	2224	86	2310	51781	51.8	386	386

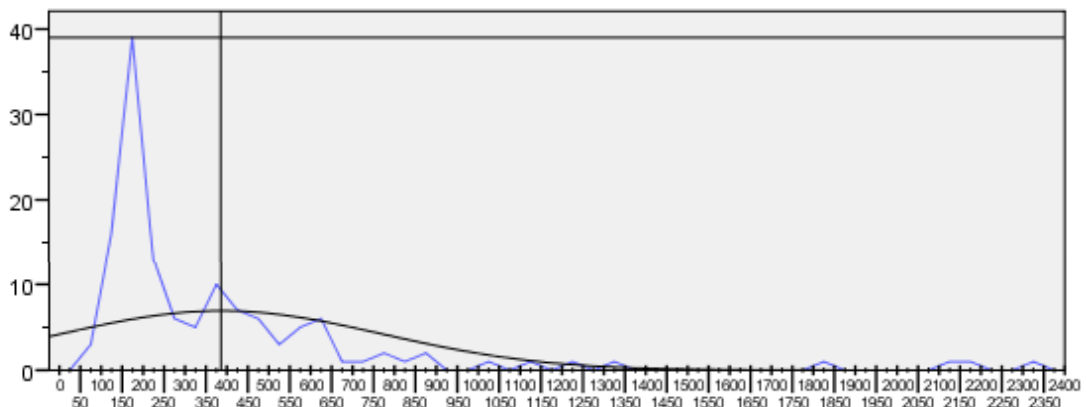
This histogram shows a longer tail to the right than previous histograms. This feature, together with a second peak (10 notes on 350-400 msec), suggests a presence of two BNVs. After diminishing to five notes for 300-350 msec, it suddenly increases to ten notes for 350-400 msec, forming a new peak. Therefore, it can be said that one BNV is 150-200 msec and the second BNV is 350-400 msec. Of course, it must be asked whether this extra long right tail is a proof of two BNV? Can it simply be a variation of the histogram with one BNV with a long right tail? To answer this, we look at research of Jaan Ross, who in his study of temporal structure of Estonian swing song *Kiik tahab kindaid* concluded that there are two BNVs – 300-350 msec and 800-850 msec (Ross, 1989: 68). The histogram of analysed performance looked like this:

Figure 42. A histogram of the lengths of the notes of 'Kiik tahab kindaid'. The histogram is constructed by Eerik Jõks on the bases of the results of measuring of Jaan Ross; horizontal axis = milliseconds, vertical axis = number of notes of a particular length.



In the group of shorter notes, there are 192 notes, and in the group of longer notes, 126. The ratio of these two groups is $192:126=1.52$. In his histogram there is a clear gap between groups of shorter and longer durations – there is are no notes with a length of 550-600 msec. Both groups have a clearly defined peak and both deviate more towards longer durations. In the histogram of Eve Kopli, there is no gap between two groups but there is a similar multi-peaked contour. We can see it better if we look at the histogram where instead of bars is a distribution line.

Figure 43. Temporal structure of the Gradual *Haec dies* performed by Eve Kopli; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; the blue line represents the actual distribution on note durations, the black line is the normal distribution model curve fitted to the blue line; $BNV = 2$.



The distribution line has a second peak on 350-400 msec where there are ten notes. The question is whether this is enough to indicate a second BNV?⁶⁴⁵ For that, we calculate the ratio of the group of shorter notes to longer. If we assume that the border of two groups is at 300 msec, then the group of shorter notes consists of 77 notes, and longer, 57 notes. The ratio is therefore 1.35; this result is even smaller than the ratio of relevant groups of the histogram of 'Kiik tahab kindaid', which means that there are even more notes in the segment of longer durations. Based on this principle, it is possible to say that there is a reason to talk about two BNVs in some of the solo performances of MSLM studied in this research. It must be noted that the main feature for considering a particular performance to have two BNVs is not only the low ratio between the groups of shorter and longer notes. Not all solo performances in this research with two basic note values have a ratio of two BNVs as low as 1.52. One of the main factors in detecting the second BNV is that there must be a second peak, around which the formation of the second BNV concentrates, or a clear formation of the second BNV, which is separated from the formation of the first BNV. If there is no second peak and/or there is no clearly separated and substantial formation of the second BNV as in the histogram of Gereon van Boesschoten, then there is one BNV with longer deviation towards the longer notes.

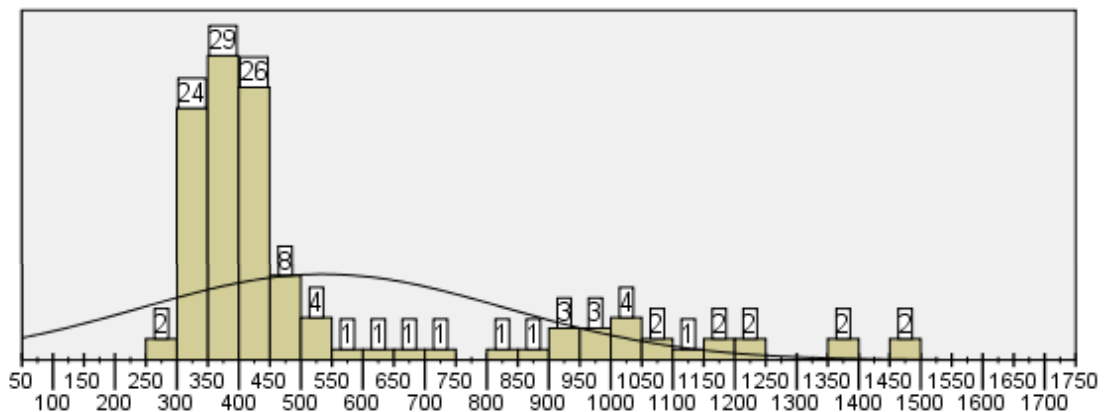
There can be many reasons why a performer has two note values. In the case of Eve Kopli, the second BNV appears probably because the main note value is so short – only 150-200 ms. It is characteristic of Kopli's performance style to have a big difference between so-called structural notes and ornamental notes. We can see that other performers who have shorter BNV also have a tendency to have second BNV. There are no performers with so short first BNV as Eve Kopli; but for example Kadri Hunt's first BNV is 200-250 msec and her second, 550-600 msec; Maria Staak's first BNV is 200-250 msec and her second, 400-450 msec. In some cases, where the first basic note value is between 200 and 250 msec, there is not so clear indication of second BNV. For example, Richard Crocker's BNV is 200-250 msec, but his second BNV has no clear peak. Nevertheless, as the formation of longer durations is compact, this performer is also considered to have two BNVs.

Another example where we can talk about two BNVs is Kerry McCarthy. Her performance style differs drastically from Eve Kopli. We can see this clearly if we

⁶⁴⁵ There is actually a hint to third BNV as the distribution line has also third peak on 600-650 msec.

compare for example the length of the performance. With all notes, the length of the piece performed by Kopli is 51.8 seconds but by McCarthy the length is 64.2 seconds.

Figure 44. Temporal structure of the Gradual *Haec dies* performed by Kerry McCarthy; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 2.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
120	1207	290	1496	64249	64.2	535	295

If we compare other aspects between Kopli and McCarthy, we see the reason for two BNVs in McCarthy's histogram. From 135 notes in the Vatican and Solesmes Editions, Kopli has 134 notes, but McCarthy has only 120 notes. The latter performer has so many fewer notes because of her different interpretation of SNOP. She treats all SNOP as one long note and therefore she has significantly more long notes. Because of that, it is highly likely that a separate formation of long notes, which we can refer to as second BNV is formed. McCarthy has therefore two BNVs, which are 350-400 msec and 1000-1050 msec. The ratio between the number of notes in the group of shorter notes and the group of longer notes is way over the ratio of 'Kiik tahab kindaid' histogram and according to this principle there is no second BNV. However, if we compare the histogram to the histogram of 'Kiik tahab kindaid' we see a clear statement of two BNVs. For similar reasons we can say that the histogram of Richard Rice has two BNVs. He also tends to treat SNOP as a single long note and therefore his number of notes is 121.

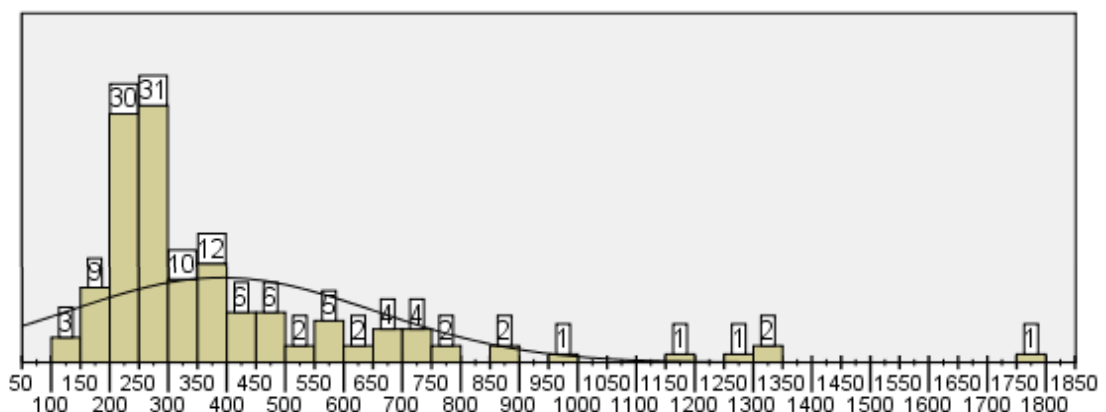
In some instances, it is not fully clear whether there is a reason to talk about two BNVs. As it was observed in the beginning of this chapter, there are histograms that definitely have one BNV and there are histograms that definitely have more than one

BNV. Many histograms however, could be labelled as having a tendency towards more than one BNV. If there is a suspicion of the second BNV, the histogram is classified accordingly.

During the preliminary observations, I thought that bins with three or less notes on the right side of the histogram could be extracted as noise because they represent long notes at the ends of phrases. However, if we take into consideration musical characteristics of the Gradual *Haec dies*, we must admit that there are only four musical phrases. Therefore, if there is already a sufficient amount of notes that seem to be a formation of the second note value, it must be considered accordingly. The next step in analysis for further study of this aspect should be marking the position of the longer notes in the piece into the histogram. This would give clearer answer to the issue of what the second note value consists of.

In the next histogram, there is a second peak – after a bin of 10 notes of 300-350 msec, there is a bin of 12 notes of 350-400 msec. This second peak is a hint of the second BNV but it is definitely not the only suggestion. A more important feature is a formation of longer notes that comes after this peak. This kind of ‘second small peak’ appears in many histograms, for example Columba Kelly and Andrew Smith.⁶⁴⁶ In these examples, however, there is a stable decay towards longer durations.

Figure 45. Temporal structure of the Gradual *Haec dies* performed by Tõnis Kaumann; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 2.

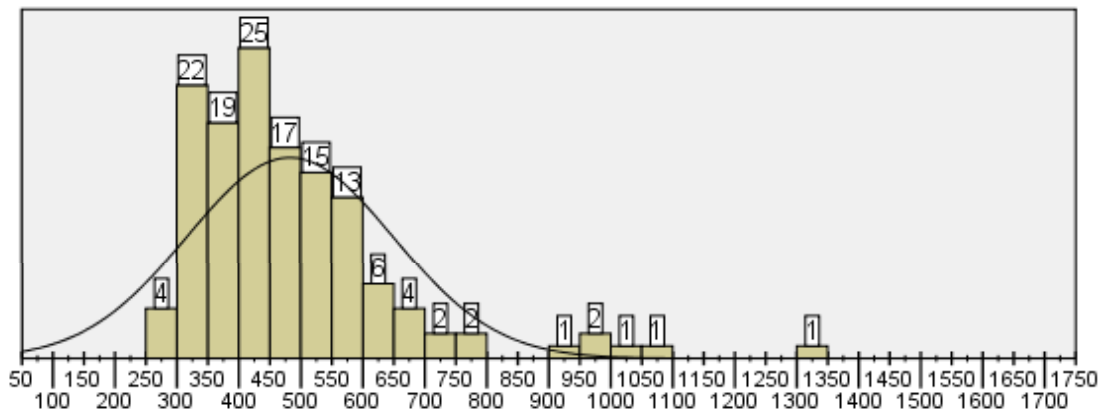


N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	1662	110	1772	52393	52.4	391	262

⁶⁴⁶ The phenomenon of ‘second small peak’ also appears in all histograms that in research are called ‘equal distribution’ and are considered in following analysis.

The phenomenon of ‘second small peak’ appears in quite irregular form in the histogram of the performance by Lydia Stritzl. In this case, ‘second small peak’ appears on the left side of the BNV. This is an isolated case among the histograms with one or two BNVs but appears in all four histograms with ‘equal distribution’. In these histograms, a ‘second small peak’ can appear to the left of a hypothetical BNV.

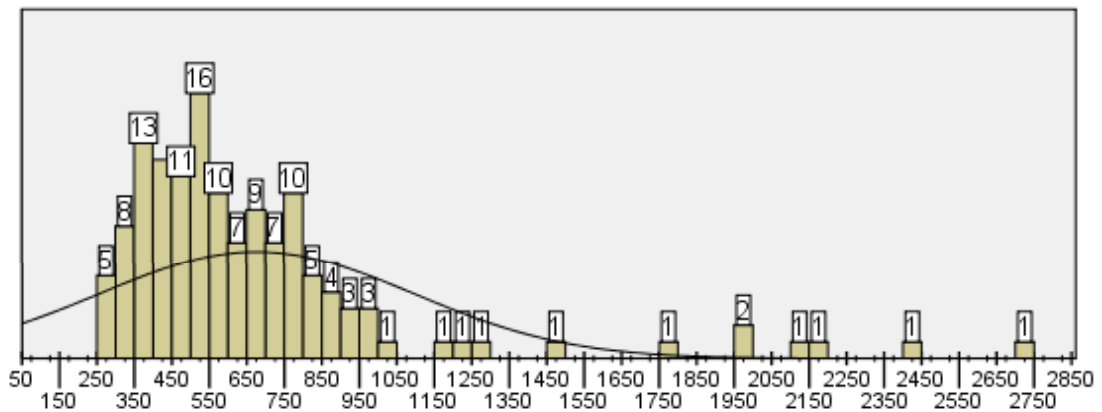
Figure 46. Temporal structure of the Gradual *Haec dies* performed by Lydia Stritzl; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; BNV = 1.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
135	1067	271	1338	65160	65.2	483	166

At the beginning of the classification according to BNV, I described histograms in which the note categories cluster to a short period on the axis of time. On the other end of the chart, there is the performance of Hilikka-Liisa Vuori with significantly wider distribution. The difference can be seen in the value of standard deviation. Standard deviation of the histogram that describes John Alsdatt’s performance is 177 and the period on the axis of time that accommodates all notes 134 notes is 150-1400=1385 msec. StDev of the performance of Hilikka-Liisa Vuori is 418 and the period for her 135 notes is 250-2750=2500 msec.

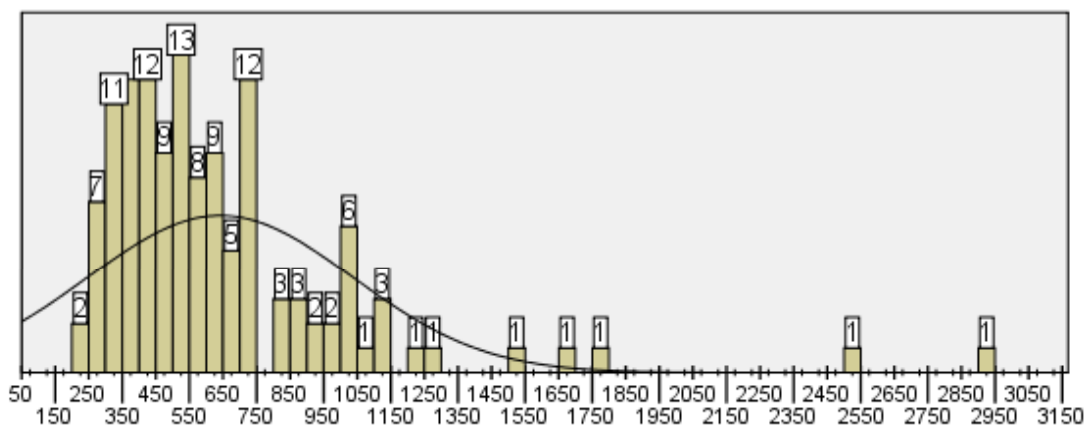
Figure 47. Temporal structure of the Gradual *Haec dies* performed by Hilikka-Liisa Vuori; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; equal distribution.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
135	2487	256	2744	91248	91.2	676	418

In the histogram of Vuori, the note values are equally distributed over a much wider scale than in previous examples. If we try to detect BNVs, we see that there are three or even four peaks. Although it can be said that there are two or three basic note values, this distribution is clearly exceptional. Hilikka-Liisa Vuori is not an isolated example of distribution of this kind; similar features can also be seen in the case of legor Reznikoff.

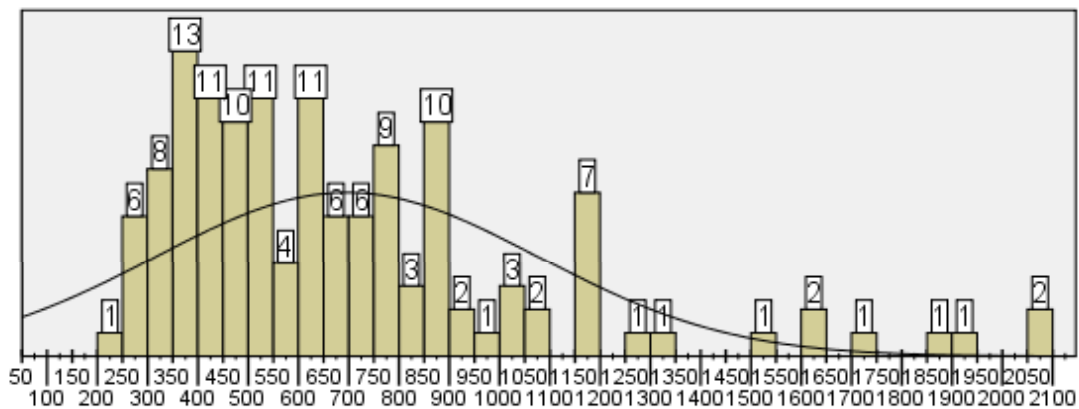
Figure 48. Temporal structure of the Gradual *Haec dies* performed by legor Reznikoff; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; equal distribution.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
127	2693	222	2915	81492	81.5	642	393

As in the previous example, there are multiple peaks but not clear formations of BNVs. The bin that has most notes is 500-550 msec but the deviation to both directions is irregular. Here again one can see almost see three BNVs – 500-550 msec, 700-750 msec, and 1000-1050 msec. Two previous examples are predictably similar– Hilikka-Liisa Vuori follows the performance style of Igor Reznikoff. Somewhat surprisingly, though, Godehard Joppich’s histogram is also similar, despite the fact that he represents an entirely different school of performance.

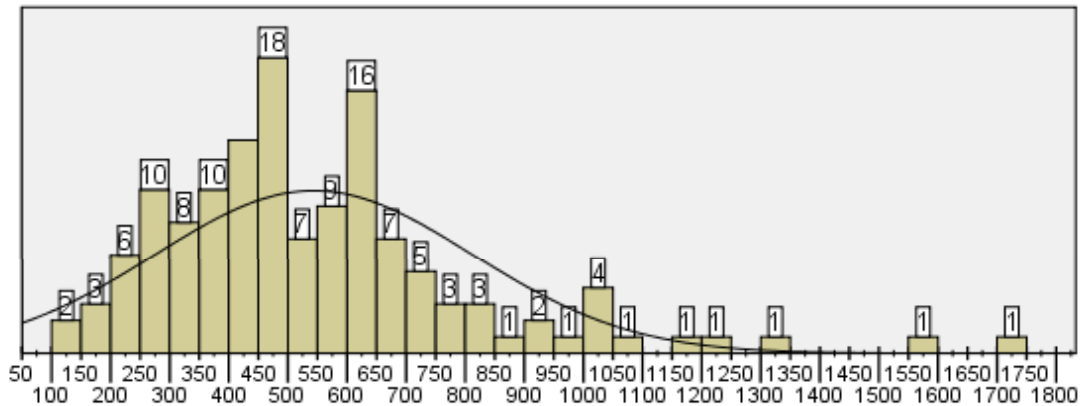
Figure 49. Temporal structure of the Gradual *Haec dies* performed by Godehard Joppich; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; equal distribution.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	1874	206	2080	93342	93.3	697	382

In this histogram, again one cannot clearly state the BNV. The best candidate would be 350-400 msec with 13 notes. There is also a clear decay towards the shorter durations. However, most of the bins towards the longer durations are very similar in value and there is no clear second peak for the second BNV. At the same time, the tail to the right is long enough to presume a presence of two BNVs. In two previous examples, we could guess three BNVs, but this histogram seems rather to show one BNV example with a very long right tail, though the distribution is far too irregular to classify it accordingly. A fourth irregular histogram is that of Marja Korkala.

Figure 50. Temporal structure of the Gradual *Haec dies* performed by Marja Korkala; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; equal distribution.



N	Range	Min.	Max.	Sum (msec)	Sum (sec)	Mean	StDev
134	1583	122	1705	72899	72.9	544	269

There are two relatively clear peaks but they seem to be far too close to represent two separate BNVs. Therefore, this histogram suggests one BNV of 450-500 msec; 16 notes on 600-650 msec can be considered a 'second small peak'. A common feature to all four exceptional performances is the long duration of the performance – they are the four longest. These performances are also in agogical terms the most elaborate – all four belong to the third group according to DNC (see page 273). They not only have a large variety of long durations but they also have surprisingly many very short notes.

4.6.4.1 Conclusion on grouping the recordings according to basic note value

Analysis of the histograms according to BNV has detected the following groups: (1) Histograms with clearly one BNV; among these are also histograms with a hint of a second note value; (2) histograms with two BNVs; (3) histograms with equal distribution in which the number of BNV(s) is not clearly detectable; some of these histograms tend towards three BNVs. In the following table, the results of grouping according to the BNV and L+/L- are presented.

Table 70. Number of BNVs, StDev, and L+/L-; sorted by 'BNV'; please see the table also as Appendix 52, vol 2, p 656.

Name	BNV	StDev	L+/L-
Lauri Jöeleht	1	221	L+
Lilian Langsepp	1	230	L-
Maile Nairis	1	292	L+
Jean-Pascal Ollivry	1	200	L+
Peeter Perens	1	200	L+
Jaan-Eik Tulve	1	233	L+
Taivo Niitvägi	1	198	L+
Mike Forbster	1	249	L-
Columba Kelly	1	352	L+
Gereon van Boesschoten	1	260	L+
Guntars Pranis	1	190	L-
Lydia Stritzl	1	166	L+
Ulrike Heider	1	266	L+
Andrew Smith	1	241	L-
John Rowlands-Pritchard	1	205	L+
John Alsdatt	1	177	L+
Indrek Laos	1	289	L+
Toivo Tulev	1	240	L+
Eerik Jöks	1	294	L+
Kadri Hunt	2	271	L-
Eve Kopli	2	386	L+
Maria Staak	2	355	L-
Riho Ridbek	2	307	L-
Chris Helfrich	2	225	L+
Martin Quesnel	2	368	L-
Richard Crocker	2	312	L-
Richard Rice	2	312	L+
Tim Pehta	2	258	L+
Kerry McCarthy	2	295	L+
Tõnis Kaumann	2	262	L+
Dominique Minier	2	389	L+
Godehard Joppich	ED	382	L+
Hilkka-Liisa Vuori	ED	418	L+
Igor Reznikoff	ED	393	L+
Marja Korkala	ED	269	L+

Most performers (19) have one BNV. There are 12 performers with two BNVs. The appearance of more than one BNV can be a result of different reasons (1) the first BNV is very short; (2) treatment of SNOP as one long note (3) vast agogical variety. The smallest group (four) is formed of performers with equal distribution. Among 35 performers, nine belong to the category of L- and 26 belong to the category L+.

4.6.5 Equality of note durations – comparison of performers' descriptions with actual recordings

In the questionnaire, the respondents were asked the following question: 'Please have a look at the two beginning words of the Gradual *Haec dies*. When performing this song, which notes do you perceive as having equal durations? Please build up to four groups of these notes, marking the notes with equal durations. For example, notes 4 and 5 have an equal duration or notes 3, 4, 5, 10 and 12 have an equal duration'.⁶⁴⁷ The following transcription was also presented with the question.

Figure 51. Transcription of the first two words of the Gradual *Haec dies* from 'Graduale Triplex', St Gall Stiftsbibliothek 359 and Bibliotheque Municipale 239; numeration of the notes is added by the transcriber.

Leon, Bibliothek municipale 239 103

St Gall Stiftsbibliothek 359 107

Graduale Triplex 196

Haec di- es,

In the following analysis, the results of 30 respondents who also recorded for this research are observed. It is a fascinating presentation of similarities and dissimilarities between subjective evaluation and objective measurement. The respondents used their options to form groups differently; the results are presented in the following table. Some formed four groups, leaving some notes ungrouped. For example Kadri Hunt group one – notes 1, 2, 8, 9; group two – notes 4, 5, 13, 14; group three – notes 6, 7, 15, 16; group four – notes 12, 17. Groups are highlighted with different colours. Notes 3, 10, 11, and 18 were ungrouped. The latter notes are without background colour. There are more examples similar to Hunt, where it seemed that four temporal categories are not enough to describe these 18 notes. Some respondents however, did

⁶⁴⁷ Question 120

not need more than one or two groups to cover all 18 notes. For example, Taivo Niitvägi perceives all 18 notes having equal durations. Kerry McCarthy uses two groups, as she perceives first 17 notes as equal and the last note as of different duration. Columba Kelly engages three different categories of duration for all 18 notes and Jean-Pascal Ollivry uses all four groups to classify durations of these notes. Some respondents only used one or two groups to mark only some notes. For example, Guntars Pranis used only one group and described through it that notes 6, 7, 15, and 16 are of equal durations.

Table 71. Groups of notes of equal duration as perceived by performers; notes 1-18; sorted by 'Gr' (groups formed on similarity); all values are in milliseconds; sorted by groups that are formed according to similarity; please see the table also as Appendix 53, vol 2, p 657.

Performer	Gr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Taivo Niitvägi	1	825	656	496	503	458	535	506	531	445	537	631	624	506	462	512	462	437	1420
Richard Rice	1	875	531	372	331	343	309	535	731	377	1105	0	0	442	358	302	418	379	1344
Kerry McCarthy	1	680	473	380	317	422	368	439	337	381	1241	0	0	368	429	405	425	332	1496
Lydia Stritzl	2	746	673	590	337	342	478	409	538	574	296	344	918	290	406	321	439	511	784
Andrew Smith	2	857	903	311	257	261	261	361	400	503	390	245	277	255	273	314	368	434	1198
Chris Helfrich	2	928	527	356	331	277	318	385	566	447	1203	0	0	324	301	402	354	401	939
Igor Reznikoff	2	544	809	340	255	351	524	590	865	935	568	631	705	384	315	825	478	326	1541
Toivo Tulev	2	1138	827	264	254	335	253	361	426	648	244	330	407	275	302	201	307	487	1054
Kadri Hunt	2	1010	970	338	225	335	294	491	480	570	605	468	606	239	284	242	376	441	1559
Richard Crocker	3	961	885	225	228	290	739	294	255	329	391	400	1168	228	240	205	250	252	1000
J.P. Ollivry	3	1148	780	300	232	309	233	300	477	501	319	363	271	288	329	266	436	537	880
Jaan-Eik Tolve	3	1104	917	269	219	410	134	380	573	537	550	326	288	318	330	255	382	437	1395
Columba Kelly	3	1375	470	392	174	291	320	430	328	341	434	357	672	286	316	454	239	425	1394
Martin Quesnel	3	1170	1317	355	324	373	272	424	560	925	431	523	288	350	384	378	513	454	1808
Tim Pehta	3	951	413	318	194	306	266	425	470	448	414	397	336	256	299	276	312	330	1268
John Rowlands	3	827	453	354	326	284	302	383	359	361	335	407	450	357	373	364	378	287	1189
Tõnis Kaumann	3	973	740	326	158	244	286	278	280	686	293	281	486	218	286	179	323	467	1298
Eerik Jõks	3	1286	1131	437	257	331	270	388	385	463	400	370	433	293	385	297	369	390	1127
Peeter Perens	4	975	439	473	276	349	399	416	530	416	520	337	344	385	305	356	275	266	1169
Mike Forbester	4	985	309	329	285	294	289	361	639	448	384	412	315	288	280	288	303	367	1256
H.L. Vuori	4	1246	587	892	423	506	768	533	646	1796	400	304	381	506	334	285	360	704	1952
Indrek Laos	4	890	662	264	167	202	283	293	547	408	615	473	239	197	222	186	144	293	1317
Lauri Jõelett	5	908	661	361	277	284	300	287	346	441	370	378	294	345	290	292	351	322	1407
Eve Kopli	5	1146	893	333	170	160	171	273	607	571	346	140	254	113	179	188	206	415	2190
Lilian Langsepp	5	849	430	469	165	331	366	364	261	536	471	503	325	281	360	276	293	421	1042
Maile Nairis	5	735	376	369	219	290	261	349	440	699	227	302	511	220	305	282	380	494	1541
Maria Staak	5	869	385	367	175	249	302	403	762	476	681	0	345	230	231	254	240	515	1864
Riho Ridbek	5	1188	341	324	250	284	251	448	362	404	1289	0	0	427	332	321	318	464	1660
Guntars Pranis	5	731	549	269	254	362	360	313	376	436	295	286	386	253	346	275	350	698	844
Ulrike Heider	5	680	337	469	250	352	405	848	308	498	329	260	330	313	443	284	293	422	1496

4.6.5.1 Observations on subjective descriptions

From the table it can be seen that the variety of patterns is wide. No two performers have exactly the same grouping. However, there are similarities. Niitvägi, Rice, and McCarthy, who perceive all or most notes as equal, form group one. Niitvägi has only one group; Rice perceives that all notes are of the same duration apart from the first and the last note. Both notes are perceived as of different durations. McCarthy has a different durational perception only for the last note. A big category of similar perceptions (groups two and three) has a characteristic of perceiving notes 1-2 and 8-9 to be equal. The difference between groups two and three is that the latter has two big groups 3-7 and 10-16 as of equal durations. In group two, there is more durational variance at the same places. There are also exceptions within groups. For example, Ollivry marks notes 8 and 9 (*pes quassus*) to have different durations than any preceding notes. Most performers in the same group perceive both these notes to be equal with notes 1-2. Quesnel and Jõks mark only the second note of *pes quassus* to be of different duration. Quesnel thinks that the second note of *pes quassus* (note 9) is of equal duration as the last note (note 18); Ollivry, however, believes that the first note of *pes quassus* is equal to the penultimate note (note 17). Jõks, Quesnel, and Ollivry are similar as they are the only performers who have a separate note value for the second note of *pes quassus*.

Group four differs from other performers by marking the first and second note as of different durations. Group five represents different perceptions that do not follow clearly similar patterns. There are many interesting perceptions of rhythm in all groups and they cannot be all described here. For example, there are different perceptions for a fairly simple neume *climacus* (three descending notes) on notes 3-5. Some perceive all notes as equal but some believe that the last two notes are of different duration or the first two notes are of different duration. However, the table has served its purpose by showing that although there are some similar patterns, the variety in perception of durations of notes is highly variable.

4.6.5.2 Objective versus subjective

In the previous subsection, I described subjective perception of durations of notes. In the following analysis, I examine the extent to which a subjective evaluation coincides with objective measuring. For that, we compare the perception and actual length of

notes 1-2. 16 performers have marked that they perceive the first and the second note as of equal duration. Most of them (13) have the first note longer than the second note.

Table 72. Performers who perceive notes 1 and 2 as of equal duration; ratio of 1 and 2 and deviation of 2 from 1; sorted by the ratio of 1 and 2; divided into three segments by different colours: (1) the second note is longer, (2) the first and the second notes are equal, (3) the first note is longer; please see the table also as Appendix 54, vol 2, p 658.

Performer	Note 1	Note 2	ratio of 1 and 2	deviation of 2 from 1 in msec
Igor Reznikoff	544	809	0.67	-265
Martin Quesnel	1170	1317	0.89	-147
Andrew Smith	857	903	0.95	-46
Kadri Hunt	1010	970	1.04	40
Lydia Strizl	746	673	1.11	73
Eerik Jõks	1286	1131	1.14	155
Jaan-Eik Tulve	1104	917	1.20	187
Taivo Niitvägi	825	656	1.26	169
Tõnis Kaumann	973	740	1.31	233
Toivo Tulev	1138	827	1.38	311
Kerry McCarthy	680	473	1.44	207
J.P. Ollivry	1148	780	1.47	368
Chris Helfrich	928	527	1.76	401
John Rowlands	827	453	1.83	374
Tim Pehta	951	413	2.30	538
Columba Kelly	1375	470	2.93	905

In ultimate case of Columba Kelly, we can see that the duration of the second note is almost three times shorter than the first note and the deviation of the second note from the first is almost one second. Other cases decrease in these values, but if we take into consideration empirical knowledge about human perception – that it is possible to make a difference between durations as short as 50 msec (Clarke, 1999: 491) – then we can say that in most cases, the first note is actually longer than the second note. In case of Kadri Hunt (dev 40 msec), and Lydia Strizl (dev 73 msec), it is possible to say that these notes are actually equal; but starting from Eerik Jõks (dev 155 msec) downwards, the first note is definitely longer. We can see that the second note can actually be longer than the first note. In the case of Smith, we can also call notes 1 and 2 equal because the deviation is within the limits of permitted error (dev -46 msec) but for Martin Quesnel and Igor Reznikoff the second note is definitely longer than the first note.

An interesting question, of course, is: what is the reason behind this pattern? We can see differences between perception and actual performance in many places but in this particular case, we might have a suggestion what causes it: a conflict between knowledge and tradition. In earliest neumatic notations, there are neumes on the first two notes that are believed to prescribe prolongation of these notes. In St Gallen notation there is a *clivis* with *episema* and in Laon notation two *uncinus*. In both notations, there is a way to write two descending notes in a lighter manner – in both notations, there is a simple *clivis*. However, *clivis* with *episema* meaning ‘two prolonged notes’ is not a common understanding of this neume in the study of neumatic notation. Earlier understanding was that only the first note is prolonged. It is marked with a horizontal line over the first note in the square notation of Vatican and Solesmes editions. If we listen to earlier commercial recordings, there is a clear tendency to prolong only the first note – examples are Mocquereau 1904, Bihlmeyer 1929, Bryning 1930, and Mustonen 1977. With progress of semiological research, the understanding of the first two notes of *Haec dies* also changes and on later recordings the second note is also significantly more prolonged than in earlier recordings – for example, Joppich 1981, Göschl 1992, and Tolve 1998. These three conductors are all well educated in semiology and they have trained their choirs to perform accordingly. Among our respondents however, are those who are also very experienced in semiologically informed performance. The fact that they perceive two notes of *clivis* with *episema* as two equal notes speaks for that. However, most of them still perform the first note longer and some of them significantly longer. Can this be another suggestion of tradition that has accumulated in the collective mind of performers of MSLM? This question needs further study of more solo recordings. The phenomenon of having the second note shorter in some cases can also be a result of *accelerando* after establishing the beginning of the piece with a long note.

There are also performers who mark the first and the second note to be of different durations. For example, Hilikka-Liisa Vuori perceives the first note to be equal with 3, 6, 9, 12, and 15 but not with the second note.

I have already shown how different could be the durations of notes that a performer perceives as equal. There are also examples of how subjective perception is followed by the performance. For example, Ollivry perceives notes 3-7 to be equal. Notes 3-7 are in the range of 232-309 msec, which makes the deviation only 77 msec.

However, if we look at notes 10-16, which are also claimed to be of the same duration, we observe that they are in the range of 266-436 msec. Deviation therefore is 170 msec. Note number 16 is probably already a part of a *ritenuto* at the end of a musical phrase. If we exclude this note, there is a deviation of 97 milliseconds among notes 10-16. Ollivry has marked notes 1, 2, and 18 as equal. The issue of the first and the second note was already discussed. If we look at notes 2 and 18 with a consideration of *ritenuto* at the end of the musical phrase, we see that notes 2 and 18 are fairly equal. The same applies to notes 8 and 17 that are perceived as equal and also performed accordingly. Therefore, apart from the phenomenon of lengthening the first note we can say that Ollivry more or less performs the notes, as he perceives them.

Table 73. Groups of notes of equal duration as perceived by Jean-Pascal Ollivry; notes 1-18; all values are in milliseconds.

Performer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
J.P. Ollivry	1148	780	300	232	309	233	300	477	501	319	363	271	288	329	266	436	537	880

Altogether different is the picture with Richard Crocker. He perceives notes 3-7 and 10-17 as equal. The difference between the longest and shortest notes in these groups is 963 msec (note 12=1168 and note 15=205 msec). We can also see a big agogical difference between Crocker and Ollivry at the end of this musical phrase. Ollivry has a clear *ritenuto* during the last four notes (266/436/537/880) but Crocker performs the same notes clearly without slowing the tempo (205/250/252/1000). He is simply performing the last note about four times longer than the penultimate note.

Table 74. Groups of notes of equal duration as perceived by Richard Crocker; notes 1-18; all values are in milliseconds.

Performer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Richard Crocker	961	885	225	228	290	739	294	255	329	391	400	1168	228	240	205	250	252	1000

Among the performers, there are many examples in many different combinations where subjective perception and actual performance differ significantly. For example, Indrek Laos perceives notes 2 and 16 as equal but the difference between these notes is 518 msec or in other words 3.6 times.

Table 75. Groups of notes of equal duration as perceived by Indrek Laos; notes 1-18; all values are in milliseconds.

Performer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Indrek Laos	890	662	264	167	202	283	293	547	408	615	473	239	197	222	186	144	293	1317

From Table 71 on page 294 (also Appendix 53, vol 2, p 657) it is also interesting to see the different treatments of SNOP on notes 10-12. There is a *bistropa* followed by a *climacus* starting from the same pitch as the *distropa*. As a result we have three notes to be performed on the same note on vowel 'i'. It is very important to note again that this table shows that although performers perceive SNOP as separate equal notes, some tend to perform it as one single note and it is not possible to segment them into three different notes.

The material covering the first 18 notes provides fascinating possibilities for the study of semiological perceptions. If we add all 135 notes, we have a massive amount of material with endless possibilities for studying the performance of MSLM. For example, it would be very interesting to see how a particular performer treats the similar neume elements and whether there are any universal patterns among the performers. Within the framework of this research, we sadly have to abandon this work and be satisfied with the fact that subjective perception of the lengths of the notes and the actual performance can differ significantly.

4.6.6 Some universal patterns in performance of the Gradual *Haec dies*

In the previous section, it was demonstrated that most of the performers who evaluated the first two notes as of equal duration actually performed the first note longer. This can be called a pattern of similarity but it is definitely not a universal pattern. In the course of this work, other patterns emerged. Some of them have an almost universal appliance.

There are some obvious places to breath during the performance of vocal music. Most certain are the places informed by textual inter-punctuation. However, it is not always possible to follow the textual pattern in vocal performance. There are instances where a musical phrase is formed apart from the sentence structure. This of course is arbitrary, because different performers perceive musical phrase differently. The same applies to perceptions of textual sentences. Which words in the sentence are most

important and where should the climax of the sentence be? These questions do not always have a definite answer.

The text of the Gradual *Haec dies* consists of only one sentence – ‘Haec dies, quam fecit Dominus: exsultemus, et laetemur in ea.’⁶⁴⁸ It must be noted that all punctuation marks are of later additions to the original Latin text. In all recordings of the Gradual *Haec dies* that I have ever heard, performers breathe after the word ‘dies’. At first glance, it seems to be a normal phenomenon, as the musical material during these words can be formed into a musical phrase. Some performers prepare the end of this musical phrase with a *ritenuto* and some just lengthen the last note. Nevertheless, what is universal is that they all breathe. If we try to establish the hierarchy of the words in the first part of the sentence, we see that the word ‘Dominus’ has to be the most important. Previous words prepare the word ‘Dominus’ and it appears to be the textual climax of the whole sentence. Considering that the ‘energy’ of the sentence is moving towards the word ‘Dominus’, it is surprising that there is not one performer who tries to interpret the last note of the word ‘dies’ to make a *crescendo* and pass on to ‘quam fecit’ without a breath. To be sure, the ability to sing the whole phrase until ‘Dominus’ without a breath is not accomplishable by every solo performer. However, although there are performers of acknowledged vocal efficiency, nobody even tries it. Most performers prefer not to breathe between ‘fecit’ and ‘Dominus’ in order to show the intention of the text to move towards ‘Dominus’. However, if one would really like to perform without breathing between ‘dies’ and ‘quam’ there is another place where it is possible to breathe – after the word ‘Haec’. Some performers, for example Joppich, use this possibility. In fact, Joppich does not use it to pass through without breathing until the beginning of ‘Dominus’, but rather to bring out the word ‘haec’ and particularly the last ‘c’ of the word. This shows how it is possible to make substitution breathing instead of one between ‘dies’ and ‘quam’ which continuation until a breath only before ‘Dominus’.

On the other hand, I can find plenty of reasons to justify breathing between ‘dies’ and ‘quam’ – and after all, I myself breathe there: (1) there is a comma after ‘dies’, which gives a good reason for a *cesura*; if there is already a *cesura*, then why not

⁶⁴⁸ This is the day the Lord has made: let us rejoice and be glad in it (Psalm 118: 24)

breathe? To prepare the breath, we have to make a little *ritenuto* and a nice musical phrase is formed. The fact that the comma is a later addition to the text and might actually disturb the intention of the text does not matter, because we are musically 'satisfied'. (2) There is an asterisk between 'dies' and 'quam' in the Vatican and Solesmes editions, marking where schola begins to sing after the intonation of the cantor. This also calls for some kind of preparation even if there is no interpolation of cantor and schola. (3) There is a *virga* with *episema* prescribing a long note. In this particular case, it is always interpreted as the end of phrase. However, if we take away the comma and the asterisk and consider the intention of the text, can it mark a *crescendo* instead? (4) It is not possible to sing the whole phrase until the end of the word 'Dominus' with just one breath and I do not want to breathe between 'fecit' and 'Dominus' because it might disturb the phrase. Well, if one breathes between 'dies' and 'quam' the phrase is likely already disturbed. Why not take a quick breath after 'haec' and next time before 'Dominus'? There is a similar semiological situation – *virga* with *episema* preceded by *climacus*, which is considered a 'light' neume. This will be even better, because if you do not breathe after 'dies' and you do not make a *ritenuto* either, then the energy of the phrase will be so strong when you reach 'Dominus' that a even a small *ritenuto* and a proper breath will not stop it. (5) And last but not least, a strong argument for breathing between 'dies' and 'quam' is that it is always been performed like this. It is a tradition. Of course it is – we have evidence of this kind of performance practice already from 1904. That is definitely a tradition – a tradition of a contemporary performance of MSLM.

In case of solo performance, we have good arguments for vocal possibilities when discussing phrasing and particularly breaths. What about the same situation in commercial recordings, where a schola would be able to use so called 'staggered breathing' to overcome this obstacle? I have never heard a schola recording where this place would have been approached in a different manner. There are clearly performances where the *ritenuto* is smaller and subsequently the length of the last note is shorter, but there is always a clear breath.

It must be admitted that the case of breathing between 'dies' and 'fecit' is highly arguable and does not prove anything just by itself. However, there are other instances where we can see a pattern of similarity emerging. One of these cases is not about

phrasing, but rather articulation. For an example, I describe the performance of the last nine notes of the word 'ea'. At the beginning of this group of nine notes, there is a five-note figure that is notated in both St Gallen and Laon notation with a neume element that is written with a single stroke. This is believed to prescribe that these notes should be performed lightly. There is no indication which of first four notes should have special attention. The fifth note is clearly marked as special by *episema* in St Gallen notation and a letter 'a' in Laon notation. Instead of articulating all four notes similarly, almost all performers put a clear accent on the second note of the group. The second note is not lengthened, but it is stressed. This phenomenon is almost universal and is better heard in solo performances that are made in a non-reverberant room. One possible explanation for this interpretational pattern is that the performers are following the notation in Einsiedeln 121, where the note under discussion is the second element of a *torculus* that is believed to be more important than the preceding and the following note. This explanation is not very likely, because in the most commonly used book for chant performers, the *Graduale Triplex*, the St Gallen notation is taken from St Gallen 359.

An interesting example of a universal pattern emerging without a clear textual, musical, or semiological justification is in the verse of the Gradual *Haec dies Confitemini Domino*. We concentrate on two melismatically expressed words 'quoniam' and 'bonus' and more exactly to what happens between these two words. There are four groups among solo performances formed based on this fragment.

- (1) No breathing between 'quoniam' and 'bonus' – two performers.
- (2) Breathing only between 'quoniam' and 'bonus' – 12 performers.
- (3) Breathing during 'o' of 'quoniam' and between 'quoniam' and 'bonus' – 20 performers.
- (4) Two breaths during 'o' of 'quoniam' and between 'quoniam' and 'bonus' – 3 performers.

If focusing on breathing between 'quoniam' and 'bonus', it can be seen that only two performers out of 34⁶⁴⁹ do not breathe there. Among 32 performers who do breathe between these words, there are different breaths. Some performers try to breathe very quickly and continue with the phrase, some end the phrase at the end of

⁶⁴⁹ One performer did not record the verse *Confitemini Domino*.

'quoniam'. Nevertheless, almost all performers, except two, make a short or long break between quoniam and bonus.

As said before, this is a melismatic phrase where there are as many as 21 notes on the syllable 'quo' alone. Obviously there must be breaths because performed as a solo it is not easy to sing both words 'quoniam' and 'bonus' with a single breath so that it is also vocally well presented. Even if performed by a group of people some prefer to make breaths in long melismas to articulate the phrase. But, why do most performers breathe exactly in the same place? Is it about text or music? Let us analyse the text of the first part of the verse 'Confitemini Domino quoniam bonus'. If I try to establish the hierarchy of the words, one word seems to be *a priori* more important than the others – 'Domino'. 'Confitemini' is also important but not as important as 'Domino'. 'Bonus' is probably as important as 'confitemini'. This leaves us with 'quoniam' that can definitely not be as important as 'Domino' and not even as important as 'confitemini' and 'bonus'. 'Quoniam' appears to be a conjunction to prepare the word 'bonus' – it is not important in itself but has to lead to a word 'bonus'. Of course, we can think of many different rhetorical patterns, but it seems more likely that the intensity rises, towards the word 'bonus'. So why make a break and in many cases *ritenuto* and *diminuendo* there? Can it be due to semiological reasons?

The following example shows the analysed music as presented in the earliest notated manuscripts. All of these manuscripts were a part of the base on which the restoration of Gregorian chant in the nineteenth century was built.

Figure 52 Transcription of a fragment of the verse *Confitemini Domino* of the Gradual *Haec dies* from selected medieval⁶⁵⁰ and contemporary sources; please see the figure also as Appendix 55, vol 2, p 659.

LAON 239
F52R

ST GALL 359
P107

BAMBERG 6
40v

ST GALL 376

EINSIEDELN 21
P207

ST GALL 339

GRADUALE
TRIPLEX
P197

MONTPELLIER
H.159
F83v

The earliest notations of St Gall and Laon are known as rhythmic notations. Due to semiological research, it is believed that these notations have a sophisticated methodology for expressing whether there should be an emphasis on a particular note. There are methods to show slowing down the tempo at the end of the phrase. For an example, please see the end of the word 'bonus' in St Gall 339. Neumes get heavier and heavier – *virga* with *episema*, *trivirga* with *episemas*, two *climacus*' with

⁶⁵⁰ A list of medieval manuscripts and their descriptions can be found in the Primary sources.

tractuli instead of *punctum* and finally *clivis* with *episema* and *tractulus*. This is a termination of a phrase and a *ritenuto* is prescribed in the notation. If we compare this to Einsiedeln 121, we see that it differs significantly. There are no *episemas* on *virga* and *trivirga* – the *ritenuto* starts later.

However, there is a feature in which all manuscripts agree. If we look at the last notes of ‘quoniam’ we see that all manuscripts give a light neume – an ordinary *clivis*, some even add ‘c’ before the last note of ‘quoniam’. After that, on the last note of ‘quoniam’ there is an emphasis in most manuscripts as the scribe has written *virga* with *episema*. The copyist stopped writing to add the *episema* – i.e. it must be somehow important. However, it is not the same everywhere. So we have in all manuscript examples a light *clivis* followed by emphasised *virga* and in some cases a light *virga* or a *punctum*.⁶⁵¹ Now the question is, should there be a *ritenuto* and a *diminuendo* on the last note and then a breath, or does the last note indicate a *crescendo* instead? The analyses of textual hierarchy showed that ‘bonus’ seems to be a more important word than *quoniam* and the basic reason for ‘quoniam’ is to lead to ‘bonus’. The connection between these two words seems to give a textual meaning to this sentence and therefore it is surprising that almost all performers make a *cesura* at this place.

A vocal aspect must also be considered when assessing this situation. Maybe there is no way they can sing so many notes with single breath. Maybe there is no place to breathe other than between ‘quoniam’ and ‘bonus’. This however is unlikely. There are three places where it is possible to take a breath and even justify it with semiological arguments. (1) The first breath is possible after the seventh note; (2) the second breath could take place after the twelfth note; (3) a third place for breathing is after the seventeenth note. The first two are especially suitable because there are two emphasised notes that allow for a slight slowing of the tempo to breathe properly. Some performers use these places for breathing. There is also a possibility for an ‘emergency’ breath during the word ‘bonus’, for example after the seventh note. Nevertheless, instead of all these options most performers prefer to rush through *quoniam* and then breathe.

⁶⁵¹ I can’t be sure about the *punctum* in Einsiedeln 121, as I could not read it from the facsimile. It could also be a *tractulus*.

The reason for this universal pattern seems neither about words nor music. Where does it originate? One suggestion comes again from historical recordings. In examples from 1904-1998, there is exactly the same phenomenon. Out of 20 commercial recordings, in only two performances is there no breathing or cesura between 'quoniam' and 'bonus'. In some performances, there is a clear intention to breathe quickly and not to disturb the phrase but in most cases there is a clear *ritenuto* ending of a phrase. This suggests that breathing between 'quoniam' and 'bonus' is another example of contemporary oral tradition or a habit that is a heritage from the pioneers of the restoration of MSLM.

The claim of this discussion is not that the phrasing of the entire community of performers of MSLM is wrong, but that breaths tend to happen in surprisingly similar places notwithstanding the multiple different possibilities. Breaths and phrasing sometimes follow a pattern that was established during the restoration of MSLM in the nineteenth and twentieth centuries. There are instances where it is not questioned and the tradition of the beginning of the twentieth century is followed. It is of course possible that the same principles were applied in the performance practice of the Middle Ages and has now come back as an archetypical value of this music, but of course, this claim is not provable. I too am following these examples probably set by the pioneers of chant restoration in the nineteenth and twentieth centuries. However, if I analyse the musical, textual, palaeographical, and semiological material from a position where I deliberately try to distance myself from any performance tradition, I will get quite different results. Unfortunately, the most interesting question here is left unanswered: is the phrasing of this music a part of our creativity and relationship to the text together with semiological analyses or is it a pattern that is given to us by those who restored this music and made the first recordings?

4.6.7 The hypothesis of ratio

4.6.7.1 Introduction

Observation of the differences between subjective evaluation and objective measurements of the recording led me to the study of ratios between two halves of a musical phrase, musical sentence, and between two musical sentences of the whole Gradual. In this study, some quite unexpected but fascinating results emerged that are formulated into the *hypothesis of ratio*.

The discussion about the hypothesis of ratio is presented through experimenting with different values and simultaneous discussion about the validity of these values for the current classification. Therefore, in the following analysis, the same data is going to be presented in different tables, which will be sorted according to different values. It must be noted that in this chapter there are so many different categories involved that it is extremely important to explain in every case clearly what these categories can tell us. This is the reason why the whole sequence of tables must be presented in full.

4.6.7.2 Presentation and analysis of the data

During the measuring of the recordings, I had to count the number of the notes in the Gradual *Haec dies*. In the first musical phrase that corresponds to the words 'Haec dies', there are 18 notes. These notes are distributed equally to both words of the phrase – 'haec' has nine notes and 'dies' also has nine. Thus, the ratio of the number of notes between two halves of the musical phrase is $9:9 = 1$. When I observed the ratio of the sums of notes corresponding to 'haec' and 'dies' I discovered that for some performers, the time ratio is very close to the ratio of the number of the notes. For example, Ulrike Heider spends 4144 msec for 'haec' and 4171 msec for 'dies'. That makes the ratio of two halves of the phrase $4144:4171 = 0.9936$. The deviation is only 27 msec or in other words 'dies' is 27 msec longer. For Godehard Joppich the ratio is 0.9881 with the deviation of 72 msec and for Mike Forbster 1.0119 with the deviation of -46 msec. It is important to point out that the durations of the notes of these performers during these 18 notes are far from equal (please consult Appendix 48, vol 2, pp 569-582 for all the lengths of the notes).

The same values can also be quite different. For example, Toivo Tulev spends 4506 msec for 'haec' and only 3608 msec for 'dies', which makes the ratio of these two words $4506:3608=1.22$ with deviation of -898 msec, which makes 'haec' 898 msec longer. An opposite example of the same kind is Dominique Minier who has a ratio of 0.85 with deviation of 881 msec. This means that his 'dies' is 881 second longer than his 'haec'.

The examples in which the ratio of the length of notes was virtually the same as the ratio of the number of the notes, inspired me to do the same calculation with all musical phrases. In the following table, the two musical sentences 'Haec dies quam

fecit Dominus' (first musical sentence) and 'exsultemus et laetemur in ea' (second musical sentence) are compared in the same fashion as the words 'haec' and 'dies'.

Table 76. BNV and values describing the ratio of the first and the second musical sentences (description of the table comes below); sorted and grouped by F1; please see the table also as Appendix 56, vol 2, p 660.

Performer	BNV	A Number of notes in the first musical sen- tence	B Number of notes in the second musical sen- tence	C Ratio of number of notes in the musical sen- tences 1 and 2 or 'ratio of notes'	D Length of all notes in the first musical sen- tence, without breaths.	E Length of all notes in the second musical sen- tence, without breaths.	F Ratio of lengths of all notes of the sen- tences 1 and 2 or 'ratio of sentences'	F1 Deviati- on of 'ratio of sentences' (F) from 'ratio of notes' (C)	G Diffe- rence from the length of the first musical sen- tence (D) that would have given a 'ratio of notes' (C)	H Diffe- rence from the length of the second musical sen- tence (E) that would have given a 'ratio of notes' (C)	I Sum of all the notes without breaths
1. Korkala	ED	49	85	0.576	25806	47093	0.548	-0.029	1342	-2328	72.899
2. Smith	1	49	85	0.576	22481	40286	0.558	-0.018	743	-1288	62.767
3. Vuori	ED	50	85	0.588	33602	57646	0.583	-0.005	308	-523	91.248
4. Joppich	ED	50	84	0.595	34664	58678	0.591	-0.004	263	-441	93.342
5. Crocker	2	50	84	0.595	22670	37228	0.609	0.014	-511	858	59.898
6. Nairis	1	48	82	0.585	21538	35852	0.601	0.015	-552	943	57.390
7. Laos	1	49	85	0.576	21178	35411	0.598	0.022	-764	1326	56.589
8. Pehta	2	50	85	0.588	22999	37645	0.611	0.023	-855	1453	60.644
9. Rowlands	1	50	85	0.588	21626	35060	0.617	0.029	-1002	1704	56.686
10. Niitvägi	1	49	80	0.613	28696	44687	0.642	0.030	-1326	2164	73.383
11. Heider	1	50	85	0.588	23968	38702	0.619	0.031	-1202	2043	62.670
12. Pranis	1	50	85	0.588	21267	34295	0.620	0.032	-1093	1858	55.562
13. Jõelegt	1	50	84	0.595	22808	36243	0.629	0.034	-1234	2073	59.051
14. Jöks	1	50	85	0.588	23448	37200	0.630	0.042	-1566	2661	60.649
15. Stritzl	1	50	85	0.588	25231	39929	0.632	0.044	-1744	2964	65.160
16. Langsepp	1	50	85	0.588	22440	35458	0.633	0.045	-1582	2689	57.898
17. Forbster	1	50	85	0.588	21671	34113	0.635	0.047	-1604	2727	55.783
18. Quesnel	2	50	85	0.588	30094	46949	0.641	0.053	-2477	4211	77.043
19. Alsdatt	1	50	84	0.595	21945	33824	0.649	0.054	-1811	3043	55.769
20. Perens	1	50	85	0.588	23547	36508	0.645	0.057	-2072	3523	60.055
21. Reznikoff	ED	46	81	0.568	31452	50040	0.629	0.061	-3034	5343	81.492
22. Boesschoten	1	48	85	0.565	24406	38871	0.628	0.063	-2455	4348	63.276
23. Helfrich	2	47	85	0.553	22821	36767	0.621	0.068	-2491	4505	59.588
24. Ollivry	1	50	85	0.588	21734	33017	0.658	0.070	-2312	3931	54.750
25. Minier	2	44	80	0.550	31527	50529	0.624	0.074	-3736	6794	82.056
26. Tulev	1	50	85	0.588	22279	33158	0.672	0.084	-2774	4716	55.436
27. Ridbek	2	45	83	0.542	24506	38899	0.630	0.088	-3416	6301	63.405
28. Kelly	1	50	85	0.588	25573	37502	0.682	0.094	-3513	5972	63.075
29. Tulve	1	50	85	0.588	24237	35008	0.692	0.104	-3644	6195	59.245
30. Hunt	2	50	85	0.588	25008	35774	0.699	0.111	-3965	6741	60.783
31. Rice	2	41	80	0.513	25988	41124	0.632	0.119	-4912	9584	67.112
32. Kopli	2	50	84	0.595	21596	30186	0.715	0.120	-3628	6095	51.781
33. McCarthy	2	41	79	0.519	25573	38676	0.661	0.142	-5501	10599	64.249
34. Kaumann	2	49	85	0.576	21968	30425	0.722	0.146	-4429	7683	52.393
35. Staak	2	43	81	0.531	24330	34806	0.699	0.168	-5853	11025	59.136

This table is quite complicated and therefore it is necessary to give a full explanation for every column. The table is divided proportionally into three segments 12/12/11 and respectively highlighted. The table is divided into two from the middle with a double line. In column 'A' there are the numbers of notes of a particular performer during the first musical sentence 'Haec dies quam fecit Dominus'. In column 'B' there are the numbers of notes of a particular performer during the second musical sentence 'exsulemus et laetemur in ea'. Numbers in columns 'A' and 'B' differ between performers, because of SNOP and other reasons of missing notes. In column 'C' there is the ratio of the number of notes in the first musical sentence and the second musical sentence or in other words $A:B=C$. This ratio is referred hereinafter to as 'ratio of notes'. In column 'D' there is the sum of the lengths of the notes during the first musical sentence. In column 'E' there is the sum of the lengths of the notes during the second musical sentence. These sums do not include breaths. In column 'F' there is the ratio of the length of the first and the second musical sentence, in other words $D:E=F$. This ratio is hereinafter also referred to as 'ratio of sentences'. The next column – 'F1' – is the most important in this and the following tables. It comprises of subtraction of columns 'F' and 'C' and this value shows how much the 'ratio of sentences' deviates from the 'ratio of notes'. This deviation is hereinafter also referred to as 'deviation index'. To explain contents of columns 'G' and 'H' I have to go back to the ratios of 'haec' and 'dies'. When I explained the ratios in the first musical phrase 'Haec dies', the two halves of the musical phrase had the same number of notes. Therefore, the deviation of the sum of the first half from the sum of the second half was easy to detect by subtracting the last from the first. In the particular case, the two halves that are under the observation are not equal. There are ~50 notes in the first musical sentence and ~85 notes in the second musical sentence. Thus, to see the deviation in real time we have to calculate how much should the first phrase be longer or shorter to gain the 'ratio of notes' and/or calculate how much should the second phrase be longer or shorter to gain the 'ratio of notes'. In other words, in column 'G' there is a number by which the first musical sentence should be longer or shorter to equal the 'ratio of notes' in column 'C'. In column 'H' there is a number by which the second musical sentence should be longer or shorter to equal the 'ratio of notes' in the column 'C'.⁶⁵² In column 'I' there is the sum of all notes of a particular performer in

⁶⁵² To show how the number in column 'G' is calculated Kadri Hunt is used as an example. (1) The length

seconds. This sum again, does not include breaths. The sum of all notes allows seeing what is the proportion of subtracted 'ratio of sentences' ('F') and 'ratio of notes' ('C') from the whole length of the piece.

Before continuing with the analysis, a very important question should be asked. Could it be possible that the data is contaminated because of SNOP? It was shown in the previous work that some performers who treat SNOP as one long note do it unintentionally. For example, McCarthy has 41 notes in the first musical sentence instead of 50 and 79 notes in the second musical sentence instead of 85. Therefore, if a performer actually means to perform SNOP as three separate notes, but for some reason it does not appear so in the analysis of the recording, there might be a contradiction in the relationship of 'ratio of notes' and 'ratio of sentences'. Differences with SNOP also possibly contaminate the results in the columns 'G' and 'H'. Thus, for an experiment another table was constructed in which the number of notes for all performers were marked 50 for the first musical sentence and 85 for the second musical sentence. This manipulation will result in a 'derived mean' that was also described and discussed on page 270. An exception was made with the performers who have different number of notes for some other reason than SNOP. For example, Joppich and Crocker have both excluded one note from notes 84-86. In the Solesmes and Vatican editions, there is an ascending three-note neume but Crocker and Joppich have followed medieval sources⁶⁵³ where the notation shows two ascending notes. There are other similar examples too.

of the second sentence is divided to the number of the notes in the second sentence $35\ 774:85=420.8$. With this operation, we get the mean value of the note in the second musical sentence. (2) The number of notes in the first musical sentence is multiplied by the previous result. $50*420.868=21\ 043.44$. With this operation, we get a hypothetical length of the first sentence as if it been performed with the same mean note value as the second musical sentence. (3) A hypothetical length of the first sentence is subtracted from the real length of the first sentence. $21\ 040.44-25009.87=-3965.43$. Thus, if the length of the first musical sentence performed by Kadri Hunt would have been 3965 milliseconds shorter the ratio on the length of the first and the second musical sentence would have been $21\ 040:35\ 774=0.59$. This value equals the 'ratio of notes' in the column 'C'.

⁶⁵³ For example Laon, Bibliothèque Municipale, 239 and St Gall, Stiftsbibliothek, 359.

Table 77. BNV and values describing the ratio of the first and the second musical sentences with number of notes 50/85 for all performers who treat SNOP as one long note; sorted and grouped by F1; please see the table also as Appendix 57, vol 2, p 661.

Performer	BNV	A Number of notes in the first musical sen- tence	B Number of notes in the second musical sen- tence	C Ratio of number of notes in the musical senten- ces 1 and 2 or 'ratio of notes'	D Length of all notes in the first musical sen- tence	E Length of all notes in the second musical sen- tence	F Ratio of lengths of all notes of senten- ces 1 and 2 or 'ratio of senten- ces'	F1 Deviati- on of 'ratio of senten- ces' (F) from 'ratio of notes' (C)	G Diffe- rence from the length of the first musical sen- tence (D) that would have given a 'ratio of notes' (C)	H Diffe- rence from the length of the second musical sen- tence (E) that would have given a 'ratio of notes' (C)	I Sum of all the notes without breaths
1. Korkala (1)	ED	50(49)	85	0.588	25806	47093	0.548	-0.040	1896	-3224	72.899
2. Smith (2)	1	50 (49)	85	0.588	22481	40286	0.558	-0.030	1217	-2068	62.767
3. Vuori (3)	ED	50	85	0.588	33602	57646	0.583	-0.005	308	-523	91.248
4. Joppich (4)	ED	50	85(84)	0.595	34664	58678	0.591	-0.004	263	-441	93.342
5. Laos (7)	1	50(49)	85	0.588	21178	35411	0.598	0.010	-348	591	56.589
6. Nairis (6)	1	50(48)	85(82)	0.588	21538	35852	0.601	0.013	-449	763	57.390
7. Crocker (5)	2	50	85(84)	0.595	22670	37228	0.609	0.014	-511	858	59.898
8. Pehta (8)	2	50	85	0.588	22999	37645	0.611	0.023	-855	1453	60.644
9. Rowlands (9)	1	50	85	0.588	21626	35060	0.617	0.029	-1002	1704	56.686
10. Niitvägi (10)	1	50(49)	85(80)	0.613	28696	44687	0.642	0.030	-1326	2164	73.383
11. Heider (11)	1	50	85	0.588	23968	38702	0.619	0.031	-1202	2043	62.670
12. Helfrich (23)	2	50(47)	85	0.588	22821	36767	0.621	0.032	-1193	2029	59.588
13. Pranis (12)	1	50	85	0.588	21267	34295	0.620	0.032	-1093	1858	55.562
14. Jöeleht (13)	1	50	85(84)	0.595	22808	36243	0.629	0.034	-1234	2073	59.051
15. Minier (25)	2	50(44)	85(80)	0.588	31527	50529	0.624	0.036	-1805	3068	82.056
16. Boeschoten (22)	1	50(48)	85	0.588	24406	38871	0.628	0.040	-1541	2619	63.276
17. Reznikoff (21)	ED	50(46)	85(81)	0.588	31452	50040	0.629	0.040	-2017	3429	81.492
18. Ridbek (27)	2	50(45)	85(83)	0.588	24506	38899	0.630	0.042	-1624	2761	63.405
19. Jöks (14)	1	50	85	0.588	23448	37200	0.630	0.042	-1566	2661	60.649
20. Rice (31)	2	50(41)	85(80)	0.588	25988	41124	0.632	0.044	-1797	3055	67.112
21. Stritzl (15)	1	50	85	0.588	25231	39929	0.632	0.044	-1744	2964	65.160
22. Langsepp (16)	1	50	85	0.588	22440	35458	0.633	0.045	-1582	2689	57.898
23. Forbster (17)	1	50	85	0.588	21671	34113	0.635	0.047	-1604	2727	55.783
24. Quesnel (18)	2	50	85	0.588	30094	46949	0.641	0.053	-2477	4211	77.043
25. Perens (20)	1	50	85	0.588	23547	36508	0.645	0.057	-2072	3523	60.055
26. Alsdatt (19)	1	50	85(84)	0.588	21945	33824	0.649	0.061	-2048	3482	55.769
27. Ollivry (24)	1	50	85	0.588	21734	33017	0.658	0.070	-2312	3931	54.750
28. McCarthy (33)	2	50(41)	85(79)	0.588	25573	38676	0.661	0.073	-2823	4798	64.249
29. Tulev (26)	1	50	85	0.588	22279	33158	0.672	0.084	-2774	4716	55.436
30. Kelly (28)	1	50	85	0.588	25573	37502	0.682	0.094	-3513	5972	63.075
31. Tulve (29)	1	50	85	0.588	24237	35008	0.692	0.104	-3644	6195	59.245
32. Hunt (30)	2	50	85	0.588	25008	35774	0.699	0.111	-3965	6741	60.783
33. Staak (35)	2	50(43)	85(81)	0.588	24330	34806	0.699	0.111	-3856	6555	59.136
34. Kopli (32)	2	50	85(84)	0.588	21596	30186	0.715	0.127	-3839	6527	51.781
35. Kaumann (34)	2	50(49)	85	0.588	21968	30425	0.722	0.134	-4071	6920	52.393

For the explanation of this table please see the description of Table 76 on page 308. In this table, there are changes in the order compared to Table 77. In the current table the performers are again segmented into three groups 12/12/11 and the groups are

respectively highlighted. The double line marks the middle of the table. In the first column, the performers are numbered chronologically according to column 'F1'. The numbers after the name of the performer represents his/her position in Table 76. Performers who have migrated away from highlighted groups in the previous table are marked with red text. After the number of the notes in columns 'A' and 'B', which are the same now for every performer, the corresponding values as marked in Table 76 are added. If the number is in italics, it means that there are notes which are omitted for reasons other than SNOP, and therefore the number in the brackets is used for further calculations.

There is not much change in the top of the table. The group 1-12, which forms the main focus of this discussion, remains almost intact. Helfrich is the only performer who has migrated into this group from twenty-third position and moved Pranis down by one position. The very bottom of the table (last eight lines) is also similar to the previous table. However, taking the issue of SNOP into consideration has moved some performers significantly higher. For example, Minier has moved from twenty-fifth position to fifteenth and Rice has moved from thirty-first positions to twentieth. It can be said that in general terms these two tables are not very different – changes for the extreme results (the top and the bottom of the table) are not so big. However, there is too much migration in the middle of the table to ignore it. In the first table, there are six performers with two BNVs at the bottom of the table. Due to recalculating, two of these performers migrated significantly higher. The issue of BNVs is very important for this research and therefore the changes in this matter cannot be ignored.

There is yet another parameter that needs correction before continuing. In column 'F1' according to which these tables are sorted are also negative values. Obviously, when the table is sorted, the negative values will appear on the top. The majority of the values in column 'F1' are positive, which means that 'ratio of sentences' is in most cases bigger than 'ratio of notes'. Correspondingly, in columns 'G' and 'H' in one column, there is a negative value and in the other, there is a positive value. However, in this case, it is not important whether the deviation is negative or positive. What is important is the *amount* of deviation. Therefore, the negative values are transformed into absolute values. The same applies in the coming tables to the negative values of difference between means of the two musical sentences. The figures that are transformed are marked with blue text.

Table 78. BNV and values describing the ratio of the first and the second musical sentences with number of notes 50/85 for all performers who treat SNOP as one long note; all negative values in 'F1' are transformed into absolute values; sorted and grouped by F1; please see the table also as Appendix 58, vol 2, p 662.

Performer	BNV	DNC	A Number of notes in the first musical sentence	B Number of notes in the second musical sentence	C A:B or 'ratio of notes'	D Length of all notes in the first musical sentence	E Length of all notes in the second musical sentence	F D:E or 'ratio of the sen- tences'	F1 F-C Devia- tion of from 'D' of senten- ces' from 'ratio of notes'	G Diffe- rence from 'D' that would have given 'ratio of notes' (C)	H Diffe- rence from 'E' that would have given 'ratio of notes' (C)	I Sum of all the notes without breaths
1. (4) Joppich (4)	ED	27	50	85(84)	0.595	34664	58678	0.591	0.004	263	-441	93.342
2. (3) Vuori (3)	ED	26	50	85	0.588	33602	57646	0.583	0.005	308	-523	91.248
3. (5) Laos (7)	1	21	50(49)	85	0.588	21178	35411	0.598	0.010	-348	591	56.589
4. (6) Nairis (6)	1	21	50(48)	85(82)	0.588	21538	35852	0.601	0.013	-449	763	57.390
5. (7) Crocker (5)	2	23	50	85(84)	0.595	22670	37228	0.609	0.014	-511	858	59.898
6. (8) Pehta (8)	2	21	50	85	0.588	22999	37645	0.611	0.023	-855	1453	60.644
7. (9) Rowlands (9)	1	16	50	85	0.588	21626	35060	0.617	0.029	-1002	1704	56.686
8. (2) Smith (2)	1	21	50 (49)	85	0.588	22481	40286	0.558	0.030	1217	-2068	62.767
9. (10) Niitvägi (10)	1	16	50(49)	85(80)	0.613	28696	44687	0.642	0.030	-1326	2164	73.383
10. (11) Heider (11)	1	19	50	85	0.588	23968	38702	0.619	0.031	-1202	2043	62.670
11. (12) Helfrich (23)	2	21	50(47)	85	0.588	22821	36767	0.621	0.032	-1193	2029	59.588
12. (13) Pranis (12)	1	17	50	85	0.588	21267	34295	0.620	0.032	-1093	1858	55.562
13. (14) Jöeleht (13)	1	18	50	85(84)	0.595	22808	36243	0.629	0.034	-1234	2073	59.051
14. (15) Minier (25)	2	29	50(44)	85(80)	0.588	31527	50529	0.624	0.036	-1805	3068	82.056
15. (1) Korkala (1)	ED	25	50(49)	85	0.588	25806	47093	0.548	0.040	1896	-3224	72.899
16. Boeschoten (22)	1	20	50(48)	85	0.588	24406	38871	0.628	0.040	-1541	2619	63.276
17. Reznikoff (21)	ED	25	50(46)	85(81)	0.588	31452	50040	0.629	0.040	-2017	3429	81.492
18. Ridbek (27)	2	21	50(45)	85(83)	0.588	24506	38899	0.630	0.042	-1624	2761	63.405
19. Jöks (14)	1	21	50	85	0.588	23448	37200	0.630	0.042	-1566	2661	60.649
20. Rice (31)	2	20	50(41)	85(80)	0.588	25988	41124	0.632	0.044	-1797	3055	67.112
21. Stritzl (15)	1	19	50	85	0.588	25231	39929	0.632	0.044	-1744	2964	65.160
22. Langsepp (16)	1	16	50	85	0.588	22440	35458	0.633	0.045	-1582	2689	57.898
23. Forbster (17)	1	20	50	85	0.588	21671	34113	0.635	0.047	-1604	2727	55.783
24. Quesnel (18)	2	27	50	85	0.588	30094	46949	0.641	0.053	-2477	4211	77.043
25. Perens (20)	1	20	50	85	0.588	23547	36508	0.645	0.057	-2072	3523	60.055
26. Alsdatt (19)	1	15	50	85(84)	0.588	21945	33824	0.649	0.061	-2048	3482	55.769
27. Ollivry (24)	1	17	50	85	0.588	21734	33017	0.658	0.070	-2312	3931	54.750
28. McCarthy (33)	2	21	50(41)	85(79)	0.588	25573	38676	0.661	0.073	-2823	4798	64.249
29. Tulev (26)	1	20	50	85	0.588	22279	33158	0.672	0.084	-2774	4716	55.436
30. Kelly (28)	1	23	50	85	0.588	25573	37502	0.682	0.094	-3513	5972	63.075
31. Tulve (29)	1	21	50	85	0.588	24237	35008	0.692	0.104	-3644	6195	59.245
32. Hunt (30)	2	20	50	85	0.588	25008	35774	0.699	0.111	-3965	6741	60.783
33. Staak (35)	2	26	50(43)	85(81)	0.588	24330	34806	0.699	0.111	-3856	6555	59.136
34. Kopli (32)	2	25	50	85(84)	0.588	21596	30186	0.715	0.127	-3839	6527	51.781
35. Kaumann (34)	2	20	50(49)	85	0.588	21968	30425	0.722	0.134	-4071	6920	52.393

This amendment made a very important correction, for example by moving Korkala, who was on the first position in the previous table, to fifteenth position. Therefore, the performers up to fifteenth had to be renumbered. Alternative number in the brackets before the performer's name represents his/her position in the previous table (Table

77). The alternative number in the brackets after the name of the performer represents his/her position in Table 76. This migration can be better understood if the values in column 'G' are observed. For Korkala, the real time value that separates her performance from equality of 'ratio of notes' and 'ratio of sentences' is 1869 msec for the first sentence and 3224 msec for the second sentence. At the top of the table, the corresponding values, for example for Joppich, are 263 msec and 441 msec. Now the table is actually sorted by the difference between the 'ratio of notes' and 'ratio of sentences'.

Among the first 12 performances in Table 78 (the last of previous three) are examples of a variety of styles. There are the longest performances like Vuori and Joppich but also shorter ones like Laos, Crocker, and Nairis; there are examples of one BNV like Rowlands-Pritchard and Niitvägi, but also with two BNVs like Crocker and Pehta and 'equal distribution' like Joppich and Vuori. Among the first 12 performers, there is also a variety of representations of performers with different note categories. For example, Rowlands-Pritchard has 16 DNC, but also Pehta with 21 DNC and Joppich with 27 DNC.

If the table is divided into two, it can be said that there are some patterns emerging. All performers with ED are in the first half of the table. There are more performers with two BNVs in the second half of the table. The concentration of this kind of performances is highest in the third group – the last four performers have all two BNVs. In the third segment, the performances tend to be of shorter length, but in the middle segment, there are still some quite long performances like Reznikoff with 81.4 seconds and Minier with 82 seconds.

To observe the table from the point of view of 'ratio of notes' and 'ratio of sentences', I first look at extreme results to see the maximum difference within the selection of performers. The table shows that the same phenomenon as with the words 'haec' and 'dies' applies also to the ratio of two musical sentences of the whole Gradual. There are performances where the 'ratio of sentences' differs significantly from the 'ratio of notes' – for example, Kaumann, whose 'ratio of notes' is 0.588 but whose 'ratio of sentences' is 0.722. In terms of difference in duration of the performance, it means that Kaumann's first sentence would have needed to be 4071 msec shorter or the second sentence 6920 msec longer to match the 'ratio of notes'.

The examples in which these two ratios are different do not form the most exciting part in this study. At the other side of the table, there are many performances where 'ratio of notes' and 'ratio of sentences' is very close. If we look at performance of Vuori, we see that her 'ratio of notes' is 0.588 and 'ratio of sentences' is 0.583. The deviation between these two values is only 0.005. In terms of difference in duration of the performance, it means that the first musical sentence performed by Vuori should have been only 308 msec longer or the second musical sentence 523 msec shorter to have exactly the same ratio as the 'ratio of notes'. If the overall length of the performance of Vuori is taken into consideration, which is 93.3 seconds, it can be said that the difference is almost non-existent.

In statistical terms, the equality of the 'ratio of notes' and the 'ratio of sentences' shows that the mean note value is similar in both sentences. For example, for Joppich the mean note value for the first musical sentence is 693, and for the second musical sentence, 699. The difference is five milliseconds. From the other end, we can observe Kopli with corresponding numbers of 432 msec and 359 msec with deviation of 73 msec. The performers who have a bigger difference between 'ratio of notes' and 'ratio of sentences' also have shorter mean note value for the second musical sentence. Please note that there are exceptions in the following table – Korkala and Smith. For these performers, the subtraction of the 'ratio of sentences' and the 'ratio of notes' was negative. Due to reasons that were explained above, the negative values were transformed into absolute values. Therefore, Korkala and Smith have longer mean value for the second musical sentence. The same applies to Joppich and Vuori, but in their cases, it is not so tangible, as their means for both musical sentences are almost equal.

Table 79. BNV, DNC, mean note value in the first musical sentence ('Mean 1'), mean note value in the second musical sentence ('Mean 2'), difference between means ('Dif') and values describing the ratio of the first and the second musical sentences; all negative values in 'DIF' and 'F1' are transformed into absolute values; sorted and grouped by F1; please see the table also as Appendix 59, vol 2, p 663.

Performer	BNV	DNC	Mean 1	Mean 2	Dif	F1 Deviation of 'ratio of sentences' from 'ratio of notes'	G Difference from 'D' that would have given 'ratio of notes' (C)	H Difference from 'E' that would have given 'ratio of notes' (C)	I Sum of all the notes without breaths
1. (4) Joppich (4)	ED	27	693	699	5	0.004	263	-441	93.342
2. (3) Vuori (3)	ED	26	672	678	6	0.005	308	-523	91.248
3. (5) Laos (7)	1	21	424	417	7	0.010	-348	591	56.589
4. (6) Nairis (6)	1	21	431	422	9	0.013	-449	763	57.390
5. (7) Crocker (5)	2	23	453	443	10	0.014	-511	858	59.898
6. (8) Pehta (8)	2	21	460	443	17	0.023	-855	1453	60.644
7. (9) Rowlands (9)	1	16	433	412	20	0.029	-1002	1704	56.686
8. (2) Smith (2)	1	21	450	474	24	0.030	1217	-2068	62.767
9. (10) Niitvägi (10)	1	16	586	559	27	0.030	-1326	2164	73.383
10. (11) Heider (11)	1	19	479	455	24	0.031	-1202	2043	62.670
12. (13) Pranis (12)	1	17	425	403	22	0.032	-1093	1858	55.562
11. (12) Helfrich (23)	2	21	456	433	24	0.032	-1193	2029	59.588
13. (14) Jõeleht (13)	1	18	456	431	25	0.034	-1234	2073	59.051
14. (15) Minier (25)	2	29	631	594	36	0.036	-1805	3068	82.056
15. Boeschoten (22)	1	20	488	457	31	0.040	-1541	2619	63.276
16. (1) Korkala (1)	ED	25	516	554	38	0.040	1896	-3224	72.899
17. Reznikoff (21)	ED	25	629	589	40	0.040	-2017	3429	81.492
18. Jöks (14)	1	21	469	438	31	0.042	-1566	2661	60.649
19. Ridbek (27)	2	21	490	458	32	0.042	-1624	2761	63.405
20. Stritzl (15)	1	19	505	470	35	0.044	-1744	2964	65.160
21. Rice (31)	2	20	520	484	36	0.044	-1797	3055	67.112
22. Langsepp (16)	1	16	449	417	32	0.045	-1582	2689	57.898
23. Forbster (17)	1	20	433	401	32	0.047	-1604	2727	55.783
24. Quesnel (18)	2	27	602	552	50	0.053	-2477	4211	77.043
25. Perens (20)	1	20	471	430	41	0.057	-2072	3523	60.055
26. Alsdatt (19)	1	15	439	398	41	0.061	-2048	3482	55.769
27. Ollivry (24)	1	17	435	388	46	0.070	-2312	3931	54.750
28. McCarthy (33)	2	21	511	455	56	0.073	-2823	4798	64.249
29. Tulev (26)	1	20	446	390	55	0.084	-2774	4716	55.436
30. Kelly (28)	1	23	511	441	70	0.094	-3513	5972	63.075
31. Tolve (29)	1	21	485	412	73	0.104	-3644	6195	59.245
33. Staak (35)	2	26	487	409	77	0.111	-3856	6555	59.136
32. Hunt (30)	2	20	500	421	79	0.111	-3965	6741	60.783
34. Kopli (32)	2	25	432	359	73	0.127	-3839	6527	51.781
35. Kaumann (34)	2	20	439	358	81	0.134	-4071	6920	52.393

In musical terms, it can be said that for those performers who have the shorter mean value for the second musical sentence, the tempo of the second sentence for the latter-described type of performers is faster. The second musical sentence is more

melismatic and it can be said that from a certain semiological point of view there are notes that are more rapid. However, we have the grand old man of semiology Godehard Joppich proving exactly the opposite – his mean note values of two musical sentences are almost equal. This table shows vividly two different understandings of semiology. On both ends of the table, we have performances that can be called semiologically well informed. For example, Godehard Joppich and Richard Crocker on the top of the table versus Columba Kelly and Jaan-Eik Tolve on the bottom of the table. The comparison is even better understandable if we compare Joppich with Kopli. The latter performer represents the school of performance ('Colette School') where the difference between 'light neumes' and 'heavy neumes' is strongly differentiated. Joppich on the other side of the table represents a point of view that the value of the 'light neume' cannot be treated temporally very differently depending on whether it is in neumatic or melismatic *factura*.

The analysis of the hypothesis of ratio was based on deviation between 'ratio of sentences' from 'ratio of notes'. This result is a purely statistical value. It appeared to be mostly adequate for analysis, but it is not the best way to understand the real differences between the performances on the scale of the hypothesis of ratio. Although the results of the real time difference were also present in the previous tables, the situation deserves another table. This table shows, in milliseconds, how much separates the first musical sentence from the situation where the 'ratio of notes' and 'ratio of sentences' between the first and the second musical sentences would be equal. For example, the first musical sentence should have been 263 msec longer for Joppich to match ideally the 'ratio of notes' between the first and the second musical sentence. There is no significant difference in order of the following table. The reason for constructing this table is to show the differences between performers in real time values rather than in purely statistical figures. If the value is printed in blue type, it means that before being transformed into absolute value it was a negative figure and shows how much the first musical sentence should have been shorter to match the 'ratio of notes'.

Table 80. Number of DNC, BNV, differences in musical sentences that separates from ideal balance of two musical sentences; sorted by 'Difference in the first musical sentence, that separates from the ideal balance of two sentences'; all negative values are transformed into absolute values and marked as blue text; please see the table also as Appendix 60, vol 2, p 664.

Performer	BNV	DNC	Difference in the first musical sentence that separates from the 'ratio of notes' of two sentences (in msec)	Percent of the difference from the length of the first musical sentence	Difference in the second musical sentence that separates from the 'ratio of notes' of two sentences (in msec)	Percent of the difference from the length of the second musical sentence
1. Joppich (1)	ED	27	263	1.3%	441	0.8%
2. Vuori (2)	ED	26	308	1.6%	523	0.9%
3. Laos (3)	1	21	348	2.8%	591	1.7%
4. Nairis (4)	1	21	449	3.5%	763	2.1%
5. Crocker (5)	2	23	511	3.8%	858	2.3%
6. Pehta (6)	2	21	855	6.3%	1453	3.9%
7. Rowlands (7)	1	16	1002	7.9%	1704	4.9%
8. Pranis (12)	1	17	1093	8.7%	1858	5.4%
9. Helfrich (11)	2	21	1193	8.9%	2029	5.5%
10. Heider (10)	1	19	1202	8.5%	2043	5.3%
11. Smith (8)	1	21	1217	9.2%	2068	5.1%
12. Jöeleht (13)	1	18	1234	9.1%	2073	5.7%
13. Niitvägi (9)	1	16	1326	7.5%	2164	4.8%
14. Boeschoten (16)	1	20	1541	10.7%	2619	6.7%
15. Jöks (19)	1	21	1566	11.3%	2661	7.2%
16. Langsepp (22)	1	16	1582	12.0%	2689	7.6%
17. Forbster (23)	1	20	1604	12.6%	2727	8.0%
18. Ridbek (18)	2	21	1624	11.3%	2761	7.1%
19. Stritzl (21)	1	19	1744	11.7%	2964	7.4%
20. Rice (20)	2	20	1797	11.8%	3055	7.4%
21. Minier (14)	2	29	1805	9.7%	3068	6.1%
22. Korkala (15)	ED	25	1896	12.5%	3224	6.8%
23. Reznikoff (17)	ED	25	2017	10.9%	3429	6.9%
24. Alsdatt (26)	1	15	2048	15.9%	3482	10.3%
25. Perens (25)	1	20	2072	15.0%	3523	9.6%
26. Ollivry (27)	1	17	2312	18.1%	3931	11.9%
27. Quesnel (24)	2	27	2477	14.0%	4211	9.0%
28. Tulev (29)	1	20	2774	21.2%	4716	14.2%
29. McCarthy (28)	2	21	2823	18.8%	4798	12.4%
30. Kelly (30)	1	23	3513	23.4%	5972	15.9%
31. Tolve (31)	1	21	3644	25.6%	6195	17.7%
32. Kopli (34)	2	25	3839	30.2%	6527	21.6%
33. Staak (33)	2	26	3856	26.9%	6555	18.8%
34. Hunt (32)	2	20	3965	27.0%	6741	18.8%
35. Kaumann (35)	2	20	4071	31.5%	6920	22.7%

4.6.7.3 Discussion and summary of the hypothesis of ratio

The hypothesis of ratio based on the results above is as follows. The phenomenon of balancing the length of two musical sentences with ~50 and ~85 notes with very close ratio of the same notes may suggest that subconscious temporal thinking in performance of MSLM might be in equal categories for most of the performers. Observing the extreme results, we can see some performers who somehow 'balance' the two musical sentences almost ideally and some who do not. Balancing musical sentences is to be understood as having a similar 'ratio of notes' and 'ratio of sentences'. Even for those who do not balance their sentences, the difference for most of them is not very big, considering the overall length of the piece. What is interesting about the results is that among those performers who balance two musical sentences almost perfectly are many with wide agogical variety. It would have been logical to see that those who have one BNV and low variety in DNC would primarily conclude with a performance that has similar means in both musical sentences.

It was not possible to establish a clear pattern of how the three groups in the table are formed. Performers in groups seem to represent different categories of temporal structure and other performance features. When the table was divided into two segments, it was seen that there are more performers with two BNVs in the lower part of the table and performers with ED are all in the higher part of the table. However, there were also performers with two BNVs in the first segment of the table.

It was noted in the analyses of BNVs that it is not always possible to detect which category a performer belongs to. Nevertheless, the histograms were categorised according to BNV because that was one of the purposes of this research. In the light of the hypothesis of ratio, a new and rather interesting question about this issue arises. I have categorised the performances according to the histograms or in other words according to objective measurements. However, there was a certain amount of subjectivity involved when the decisions about categorisation were made. Can it then be that the histogram does not actually represent an adequate picture about existence of thinking in one or two BNVs and the current table gives us a hint of actual tendencies in temporal thinking? The concentration of the performers with two BNVs is stronger at the bottom of the table. Can it be suggested that performers at the bottom of the table tend to think in two basic note values and performers in the top of the table tend to think in one basic note value? Does the fact that two performers with

ED (Joppich and Vuori) are at the very top of the table support this claim? It is completely possible that performances with equal distribution are actually based on thinking in equal durations. The agogical variety is simply much wider. But what about Crocker and Pehta who presumably have two BNVs but appear at the top of the table? Can it be a mistake of subjective judgement and these performers actually have one BNV? In this light, it is highly likely that there can be several reasons for two BNVs appearing on the histogram. For some it is clearly the result of treating SNOP as on long note, for example Rice. It can also be that the long right tail of the histogram and the second peak gave the hint of the second BNV, for example Minier. However, it must not be forgotten that Minier who is placed almost in the middle of the table does not differ very much from Joppich and Vuori in terms of real time difference that separates the performance from equality of the 'ratio of notes' and the 'ratio of sentences'. For Minier these values are 1805 msec for the first musical sentence and 3068 msec for the second musical sentence. If that is compared to the length of the piece, which is 82 seconds, the proportion is indeed very small. It can be said that Minier balances the sentences almost perfectly but his histogram suggests two BNVs. As can be seen, the top and the middle of the table suggests controversial ideas about the question of BNV(s). Does the bottom of the table clear the situation?

The idea that at the bottom of the table are performers who tend to use two BNVs is strongly supported by the five corresponding entries in the third segment of the table. Five performers out of 11 have two BNVs and six have one BNV. Among these six performers, most belong to the category that was mentioned in the subchapter 'Analysis of the results', which have a hint of the second BNV but cannot be confirmed with certainty (see page 291). These histograms indeed have quite a long right tail, which might be interpreted as a tendency towards more than one BNV. However, one exception does not fit into the presented pattern – Alsdatt. His histogram can almost be called a textbook example of one BNV. However, if we scrutinize the situation, we may have a reason to rethink it completely on the basis of this exception.

We may well say that in Alsdatt's performance as it is represented on the histogram, there is definitely one basic note value. Alsdatt has ten longer notes that are detached from the main body of the histogram. It is true that compared to the main body of the histogram, it is a relatively small group of notes and does not

constitute a second BNV. That does not prove that he is thinking in one basic category of durations. What if there simply are no more long notes in his musical perception of the Gradual *Haec dies*? If there are not more notes then they obviously cannot emerge in the histogram. It was observed in the sub chapter 'Classification according to basic note value' that musical characteristics of the Gradual *Haec dies* must be taken into consideration when talking about the issue of BNVs (see page 287). There are only four musical phrases in this Gradual and if long notes appear only at the ends of the phrases there cannot be too many. Alsdatt has supposedly one BNV and DNC 15, which is the lowest among all performers. At the same time he appears in the third segment of the table together with performers with two BNVs or at least with a hint of the second BNV.

The answer to the above-described controversies lies in the characteristics of last four performers in the table whose histograms were classified with no doubt as having more than one BNV – Staak, Hunt, Kopli, and Kaumann. These performers have in common that they have the highest deviation of 'ratio of notes' and 'ratio of sentences' and together with it the highest value in these columns that mark the real time that separates a performer from equality of 'ratio of notes' and 'ratio of sentences'. Calculating the real time difference was done through comparison of mean note values of both musical sentences (see footnote 652 on page 309). This calculation gave the key for explaining the hypothesis of ratio. The performers at the bottom of the table perform the second musical sentence significantly faster. The mean note value for the second sentence is smaller than for the first musical sentence. This happens because the second sentence is more melismatic, and for some performers it means quickening the tempo. This agogical activity in turn will produce additional shorter notes to quicken the tempo and more variety of longer notes to slow down the tempo, which all give the building blocks for multiple BNVs. Therefore, it is highly probable that the exception of Alsdatt is not an exception at all. He is in this segment of the table because he also quickens the tempo in the second sentence but he does not have so high an agogical variety (DNC=15) as the others. Thus, his histogram still appears to have one BNV.

It is highly plausible that multiple BNVs are, for most performances, a result of interpretational preference to quicken the tempo in melismatic *factura*. For some performers it is a result of SNOP and for many probably a combination of these two. In

some cases, it could simply be a wrong personal judgement of the author. There is a need for additional measurements of the same performers with different genres of chant to make further observations about the issue of BNV. This research however, is satisfied with following conclusions: (1) performances of the Gradual *Haec dies* shows that some performers use more than one BNV, which is likely a result of interpretational preference of tempo and agogics rather than subconscious temporal thinking; (2) the hypothesis of ratio suggests that most performers, including the ones with two BNV, may still 'think' in one BNV. The latter is demonstrated by balancing the 'ratio of notes' and 'ratio of sentences'. These two conclusions might sound controversial. In fact they are not – histogram analyses show a temporal structure of performance of a particular genre of chant but the hypothesis of ratio makes a suggestion about overall temporal thinking in chant performance.

4.6.8 A summary of the analysis of the recordings

There are many possible manipulations with these recordings which remain undone during this research. It would be interesting and necessary to do a detailed analysis of similarities and dissimilarities of histograms. It would be interesting to see where particular notes are situated on the histogram. It would also be fascinating to analyse the temporal structure of separate neume elements. With additional analysis, it would be possible to see whether there are particular notes about whose durations the performers tend to agree or disagree. Most certainly, the same experiment must be repeated with different genres of chant, engaging material in syllabic and neumatic style.

In the classification of the recordings, huge differences emerged. The tempo of performance varies 1.8 times – Tõnis Kaumann 55.7 seconds and Hilikka Liisa Vuori 101.1 seconds. Such large differences in tempo do not come as a surprise when considering, for example, Igor Reznikoff (87.5 sec) and Eve Kopli (56.2 sec), who represent entirely different schools of performance. However, there are substantial differences between performers who supposedly belong at least to the same branch of interpretation, for example Jean-Pascal Ollivry (57.7 sec) and Jaan-Eik Tulve (63.4 sec). In seconds, the difference is 5.7; this may not look significant at all, but if this value is considered together with the length of the piece, it acquires significant meaning. There are also logical outcomes in the category of tempo – performers who are or have been

connected through common performance practice have similar tempos. For example, Tim Pehta (64.4 sec) and Chris Helfrich (64.8), who both live in the same religious community, have very similar tempos. The mean length of all 35 performances with breaths is 68.4 seconds. Most performers have shorter length than the mean.

Agogical variety is, similarly with tempo, widely distributed. The number of different note categories (DNC) varies from John Alsdatt with 15 DNC to Dominique Minier with 29 DNC. Variety in agogics can appear on the histogram as a long right tail of the histogram (Minier) or equal distribution (Joppich). The amount of DNC does not have a static connection with the length of the piece. For example, Maria Staak has DNC 26 and the length of the piece is 64.6 sec, but Hilikka-Liisa Vuori has the same DNC but the length of the piece is 101.1 sec. The same applies to performances with low DNC.

The analysis of the BNV allowed grouping the performers into different segments. There were performers who clearly used one BNV for the performance of the Gradual *Haec dies* (19 performers). There were also performers seemed to use two BNVs (12 performers). There was no clear indication of the third BNV. The closest hint was in the histogram of Eve Kopli, where the multi peaked distribution line suggested the presence of the third BNV. A small group of four performers had so equal distribution that it was not possible to detect whether they have one or more BNV(s).

The painstaking classification according to BNV was seriously challenged by the *hypothesis of ratio*. This analysis showed that there are performers who balance two musical sentences of the Gradual almost perfectly with the ratio of notes in two musical sentences. In other word, all accelerandos were balanced with subsequent ritenutos so that the ratio of total durations of the two musical sentences was almost equal to the ratio of the number of the notes in sentences. Most 'balanced' performances were Joppich (DNC 27), Vuori (DNC 26), and Laos (DNC 21). On the other end of the table were Kaumann (DNC 20), Kopli (DNC 25), and Staak (DNC 26). All these six performers except Kaumann have DNC on the level of the mean (21) or higher. In other words, performers with wide agogical variety appear on the both sides of the chart.

Scrutinising the values in the table of the hypothesis of ratio opened the issue of BNV from a new point of view. Calculation of the real time difference that separates a performer from the equality of 'ratio of sentences' and 'ratio of notes' used the

comparison of the mean note values of two musical sentences. This calculation showed that the performers who tend not to balance the sentences according to the 'ratio of notes' perform the second musical sentence faster. This happens due to specific interpretational preference for performing melismatic *factura* with a faster tempo. This find suggested that the reason of two BNVs for some performers is not behind their thinking in several durational categories, but rather in the speciality of the genre that they are performing. In syllabic or neumatic style, the result might be altogether different. If the performers who supposedly have two BNVs because they quicken the tempo in the second musical sentence are excluded, and these performers who have two BNVs due to SNOP are also left out, there are not many performers left with two BNVs. The combined analysis of the histograms and the study of the hypothesis of ratio suggest that although in the performance of the Gradual *Haec dies* there are performers who use more than one BNV, there is not enough evidence to claim that these performers 'think' in two BNVs in the performance of MSLM. The hypothesis of ratio suggests that most, if not all performers may actually 'think' in one BNV.

The analysis of subjective description and actual performance of the first 18 notes of the Gradual gave some interesting results. Firstly, no two subjective descriptions were identical. It was possible to group the description according to similarity, but none were identical. Secondly, there was a big difference between subjective descriptions of the length of the notes and the actual performance. In the most extreme cases, the difference is more than three times. An interesting contradiction that emerged from this analysis was theoretical knowledge in semiology versus tradition of performance of the beginning of the twentieth century. Many performers described the first two notes as being of equal duration. This temporal solution is also supported by semiological research – there is a *clivis* with *episema* for these notes. However, most of these performers actually perform the first note significantly longer. This is a performance tradition that was used before the findings in semiology that suggested *clivis* with *episema* to be treated as equal notes.

Observation of phrasing in the Gradual *Haec dies* showed several interesting patterns that give further support to the importance of oral tradition in learning performance of MSLM. During the analysis, it was established that there are aspects in phrasing and articulation that are almost universal. There are places where most of the

performers tend to breathe and some musical aspects that performers prefer. Closer analysis showed that these regularities do not have a straightforward and unanimous possibility for interpretation. There are other plausible possibilities for interpretation but for some reasons these are not considered in most cases. It can be said that personality in performance emerges more in agogical variety than in musical phrasing. The reason behind these widely used patterns in phrasing seems to be located in the performance tradition that was established in the beginning of the twentieth century. The performance tradition that was established by the pioneers of the restoration of Gregorian chant is most certainly dictating at least some of the performance rules, even if the performers want to distance themselves from this tradition. This claim is supported by a selection of commercial recordings of the twentieth century.

4.7 Connections between conceptualisation and practice – a heuristic experiment

4.7.1 Introduction

In this subchapter I am trying to locate whether it is possible to establish significant correlations between subjective evaluations given through the questionnaire (conceptualisation) and objective measurements of the recordings (practice). As the title of this subchapter implies the search for connections between conceptualisation and practice is purely heuristic – there is no algorithm to calculate this kind of connections. However, the results of the questionnaire and measuring of the solo recordings offer a good chance to conduct this interesting experiment. The purpose of this analysis is not so much to explain the nature of the connections, but rather to establish a link between the results of the questionnaire and the measuring of the recordings. My expectation is that it will give some interesting potential for further developments in this area of research.

Some of the work in comparing conceptualisation and practice has already featured in the previous chapter. This was a comparison of temporal structure as it appeared in the subjective descriptions of the performers and in their actual performance (see page 293). It was observed that although some performers may describe the temporal structure of their performance fairly accurately, the main tendency is quite the opposite. The difference between the lengths of the notes in the subjective description and objective measuring was, at its most extreme, more than three times (see page 324).

In the chapter that was dedicated to the analyses of the recordings, it was observed that performances could be grouped according to certain objective parameters. The same categories are taken as the base for the comparison: (1) tempo; (2) agogic variety; (3) number of basic note values.

The analysis goes through a two-step procedure – firstly, correlation analysis and secondly, comparison of means. The first step involves results that are not yet divided into groups: (1) length of the piece for tempo; (2) standard deviation (StDev) and the number of different note categories (DNC) for agogical variety. Correlation analysis of this data is done with the scale questions: set 1-27, set 42-71, set 85-93, set 107-109, and question 146. This analysis shows which arguments in the questionnaire are sensitive to aspects that are represented by this data. Secondly, the groups that can be

formed based on tempo and agogical variety are analysed with the method of comparison of means to determine the proportions between different groups in the cases of significant correlations. For example, if there is a positive correlation between the tempo and 'How important is excellent articulation for a good performance of Gregorian chant?', then how does it show in difference of means of the groups formed according to the length of the piece? In the comparison of means, the partition according to BNV also steps in. This feature is better analysable with the 'compare means' method because it already represents groups that are formed according to certain parameters.

Effectively, 32 recordings can be included in the analysis, because three recording respondents did not answer the questionnaire. Nevertheless, all performers appear in the tables that present the data about performances.

4.7.2 Connections between the results of the questionnaire and tempo of the recordings

4.7.2.1 Correlation analysis

The correlation matrix of the length of the piece and the questions 1-27, 42-71, 85-93, 107-109, and 146, show altogether eight correlations. In the chapter 'Observations on the results of the questionnaire', only the correlations that were significant at least at the level of 0.01 were considered (for example see page 177). In this case, there are so many less correlations that the significance level is lowered. In other words, all correlations that are significant at least at the 0.05 level are considered. If the level is 0.05, it means that the probability of this correlation appearing randomly is less than five in a hundred.

Table 81. Correlations between the length of the piece and the questions 1-27, 42-71, 85-93, 107-109, and 146 which are significant at least at the 0.05 level; please see the table also as Appendix 61, vol 2, p 665.

Argument	Pearson Correlation	Significance index	Number of respondents
Gregorian chant, for me, means inspiration for my musical activities.	-0.486**	0.007	32
Gregorian chant, for me, means a broad based domain of musicology and liturgics.	0.362*	0.042	32
Gregorian chant, for me, means a method of composing liturgical music.	0.375*	0.034	32
How important is excellent articulation for a good performance of Gregorian chant?	0.424*	0.017	31
How important is the knowledge of the historical background for a good performance of Gregorian chant?	0.490**	0.005	31
How important is respecting of the 8 mode system for a good performance of Gregorian chant?	0.367*	0.042	31
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	0.480**	0.006	31
How important is theoretical knowledge of semiology for a good performance of Gregorian chant?	0.413*	0.021	31

From eight correlations, one is negative and seven are positive. When I explained correlations between scale questions I wrote that if two variables correlate, it shows that their means increase or decrease together (see page 174). In the current case, there is a length of the piece as one variable and an answer to the scale questions as second variable. Thus, if the correlation is positive it means that the respondents who have slower tempo (the length of the piece is higher) also tend to agree with the particular argument. If the correlation is negative, the situation is the other way round. The difference between performers with slower tempo and faster tempo will be seen in analysis of the comparison of the means.

All eight correlations are from the sets of questions 1-27 (What does Gregorian chant mean?) and 42-71 (What is important for a good performance of Gregorian chant?). In the set of questions 1-27 there are three correlations and in 42-71 five correlations. There are no correlations with sets of questions that asked about the relationship between the text and music (set 85-93), the issues of authenticity (set 107-109), and the question about religiousness of the performer (question 146). From the set of questions 1-27, two variables have a similar undercurrent: 'inspiration for my musical activities'⁶⁵⁴ and 'a method of composing liturgical music'.⁶⁵⁵ Neither is

⁶⁵⁴ Question 7

⁶⁵⁵ Question 14

straightforwardly connected with the repertoire itself. In fact, this can even be said about the third variable that talks about Gregorian chant as ‘a broad based domain of musicology and liturgics’.⁶⁵⁶ This variable is clearly more connected with the repertoire but definitely not so much with its specific musical values.

Five variables from the set of questions 42-71 are mostly about historical or musical theoretical values: ‘the knowledge of the historical background’,⁶⁵⁷ ‘respecting of the eight mode system’,⁶⁵⁸ ‘theoretical knowledge of paleography’,⁶⁵⁹ ‘theoretical knowledge of semiology’.⁶⁶⁰ The only variable about actual musical interpretation that has a significant correlation is ‘excellent articulation’.⁶⁶¹ Although the purpose of this analysis is not to explain the connections, it is tempting to say that a certain logic is emerging here: to articulate ‘properly’ may take a little longer and therefore the tempo gets slower.

4.7.2.2 Comparison of means

Comparison of means widened the variety of arguments that are connected with the length of the piece. Most of the variables that were listed in Table 81 were confirmed by the significance index of the ANOVA test (for explanation on ANOVA see page 213). The significance index has the same principal meaning as in the correlation analysis: in other words, it shows the possibility of this kind of result appearing randomly. The significance index of the same variable is dissimilar in the correlation analysis and the ANOVA test because the circumstances and the procedure of these two analyses are different. In the following table, these dissimilarities can be seen. It is very important to stress again that if the ANOVA test gives a significant result, and there are means of more than two groups involved, the significance index applies only to the difference between two groups. In the first part of the table (up from the double line) are the variables in which the comparison of means is significant according to the ANOVA test. In the second part of the table are the variables that showed as significantly connected in the correlation matrix, but which were not confirmed by the ANOVA test. However, as can be seen, the two first variables out of four in the lower part of the table have a

⁶⁵⁶ Question 13

⁶⁵⁷ Question 49

⁶⁵⁸ Question 51

⁶⁵⁹ Question 66

⁶⁶⁰ Question 67

⁶⁶¹ Question 43

significance index quite close to the 0.05 level: ‘a broad-based domain of musicology and liturgics’⁶⁶² (0.051) and ‘a method of composing liturgical music’⁶⁶³ (0.061).

Table 82. Comparison of the results of the correlation analysis and the ANOVA test (length of the piece); please see the table also as Appendix 62, vol 2, p 666.

Argument	Significance in the correlation	Significance in the ANOVA test
Gregorian chant, for me, means inspiration for my musical activities.	0.007	0.022
Gregorian chant, for me, means medieval monodic liturgical chant of the Western church based on the Roman rite.	0.914	0.004
How important is excellent articulation for a good performance of Gregorian chant?	0.017	0.011
How important is the knowledge of the historical background for a good performance of Gregorian chant?	0.005	0.042
How important is imitation of one’s teacher for a good performance of Gregorian chant?	0.108	0.025
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	0.006	0.031
Gregorian chant, for me, means a broad-based domain of musicology and liturgics.	0.042	0.051
Gregorian chant, for me, means a method of composing liturgical music.	0.034	0.061
How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?	0.042	0.314
How important is theoretical knowledge of semiology for a good performance of Gregorian chant?	0.021	0.115

In the following table, the results of the comparison of means are presented. The performers are divided into three groups according to tempo: fast (11 performers); medium (14 performers); slow (6 performers) (see Table 68 on page 271 or Appendix 49 vol 2, p 583).⁶⁶⁴ The previous table showed only six variables that have a confirmation of significance from both correlation analysis and the ANOVA test. However, it is important to observe also the variables that have confirmation from only one of these tests. For example, ‘Gregorian chant, for me, means medieval monodic liturgical chant of the Western church based on the Roman rite’⁶⁶⁵ does not show significant connection in the correlation test but has quite a high significance level in the ANOVA test. The means of the different tempo groups are indeed different: (1) for the performers with fast tempo the mean is 7.00; (2) for the performers with medium tempo the mean is 4.86; (3) for the performers with slow tempo the mean is

⁶⁶² Question 13

⁶⁶³ Question 14

⁶⁶⁴ There are differences between the groups in Table 68 and groups used for the current comparison, because not all respondents in the Table 68 answered the questionnaire. For example, in Table 68, the group of slow tempo consists of 7 performers but in the current comparison, there are only 6 performers in this group.

⁶⁶⁵ Question 19

6.50. The mean is clearly higher for the performers with fast tempo and with slow tempo. Therefore, the correlation analysis cannot show significant correlation – the length of the piece does not increase linearly with the mean of the variable. However, it is still a significant difference.

Table 83. Comparison of means according to the length of the piece; please see the table also as Appendix 63, vol 2, p 667.

	Argument	Fast tempo	Medium tempo	Slow tempo	Significance (corr)	Significance (ANOVA)
1	Gregorian chant, for me, means inspiration for my musical activities.	5.25	5.29	2.83	0.007	0.022
2	Gregorian chant, for me, means medieval monodic liturgical chant of the Western church based on the Roman rite.	7.00	4.86	6.50	0.914	0.004
3	How important is excellent articulation for a good performance of Gregorian chant?	5.64	6.57	7.17	0.017	0.011
4	How important is the knowledge of the historical background for a good performance of Gregorian chant?	4.09	4.93	6.33	0.005	0.042
5	How important is imitation of one's teacher for a good performance of Gregorian chant?	3.09	3.86	1.83	0.108	0.025
6	How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	3.64	4.36	6.50	0.006	0.031
7	Gregorian chant, for me, means a broad-based domain of musicology and liturgics.	4.92	4.43	6.50	0.042	0.051
8	Gregorian chant, for me, means a method of composing liturgical music.	4.08	3.36	6.00	0.034	0.061
9	How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?	5.18	5.93	6.33	0.042	0.314
10	How important is theoretical knowledge of semiology for a good performance of Gregorian chant?	3.91	4.57	6.17	0.021	0.115

There are different patterns emerging here. The explanation of different patterns is necessary to show that there is a variety in the dynamics of the results and the current grouping is adequate, although the groups according to tempo are not equal.

(1) The mean of the groups of fast tempo and medium tempo differs from the group of slow tempo, for example '1'. In example '1', the mean for the group of slow tempo is lower, but it can also be the other way round, for example '7'.

(2) The mean of the groups of medium and slow tempo differs from the group of fast tempo, for example '3'.

(3) The mean of the group of medium tempo differs from the means of the groups of fast and slow tempo, for example '2'.

(4) The means of the groups increase linearly with the length of the piece. There is a significant difference between the groups of fast and slow, but the group of medium

tempo does not clearly belong to either side. This feature is shown by a fact that the significance index of the correlation analysis is significant but the significance index of the ANOVA test is not. Examples of this feature are '9' and '10'.

It must be admitted that there is no simple explanation for some of these results. For example, why does Gregorian chant signify less 'medieval monodic liturgical chant of the Western church based on the Roman rite'⁶⁶⁶ to performers with medium tempo (4.86) than to performers with fast (7.00) and slow (6.50) tempos? Some of the results are more easily explainable. The appreciation of the importance of 'excellent articulation',⁶⁶⁷ 'the knowledge of the historical background',⁶⁶⁸ 'theoretical knowledge of paleography',⁶⁶⁹ 'theoretical knowledge of semiology',⁶⁷⁰ 'respecting the individualities of the eight modes'⁶⁷¹ rises together with the length of the piece. This makes it possible to speculate that if somebody is going deeper into paleography, semiology, the eight mode system, and so on, it inevitable affects the length of the piece. It simply takes more 'time' to do things 'properly'.

It is very important to stress in this analysis that these methods deal with tendencies, not opinions of individuals. In lots of these calculations, the arithmetical average (mean) is used. Therefore, if a performer who took part in this project for example looks at this work and finds himself/herself among performers with fast tempo, it does not necessarily mean that he/she does not value theoretical knowledge of paleography and semiology. These results show trends rather than absolute cases.

4.7.3 Connections between the results of the questionnaire and agogic variety of the recordings

4.7.3.1 Correlation analysis using standard deviation

To find connections between the results of the questionnaire and agogic variety, I started by correlating standard deviation with the results of the scale questions. In the chapter that was dedicated to the analysis of the recordings, I analysed the recordings from the point of view of agogical variety by counting the number of different note categories (DNC). At the end of this analysis, it was observed that the relationship

⁶⁶⁶ Question 19

⁶⁶⁷ Question 43

⁶⁶⁸ Question 49

⁶⁶⁹ Question 66

⁶⁷⁰ Question 67

⁶⁷¹ Question 51

between the DNC and StDev is not static but it basically follows the same dynamics (see page 277).

The correlation matrix of StDev the questions 1-27, 42-71, 85-93, 107-109, and 146, show altogether five correlations. All these correlations are significant on at the level 0.05. Two of these correlations are negative and three are positive.

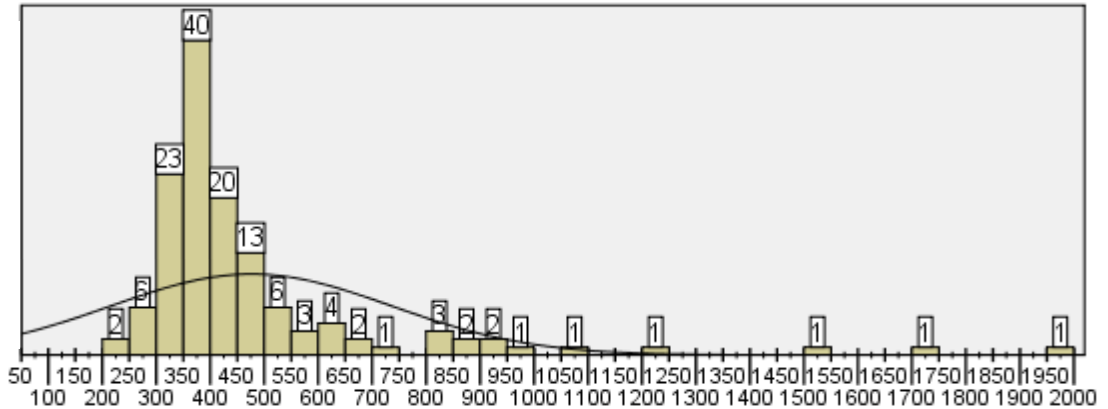
Table 84. Correlations between the StDev and the questions 1-27, 42-71, 85-93, 107-109, and 146 which are significant at least at the 0.05 level.

Argument	Pearson Correlation	Significance index	Number of respondents
Gregorian chant, for me, means inspiration for my musical activities.	-0.418*	0.017	32
Gregorian chant, for me, means sacred text, illuminated by music.	0.355*	0.046	32
How important is the knowledge of the historical background for a good performance of Gregorian chant?	0.363*	0.045	31
How important is imitation of one's teacher for a good performance of Gregorian chant?	-0.429*	0.016	31
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	0.454*	0.010	31

In principle, it would have been adequate from the point of view of the purpose of this subchapter to be satisfied with these results, and abandon the analysis with a conclusion that agogic variety simply does not correlate with the opinions of the performers. However, in the process of this research it has become evident what an immensely important feature agogics is in the performance of MSLM, and thus it is not logical that there are only five significant correlations. Therefore, the issue of connection between agogical variety and answers to the scale questions was additionally scrutinised.

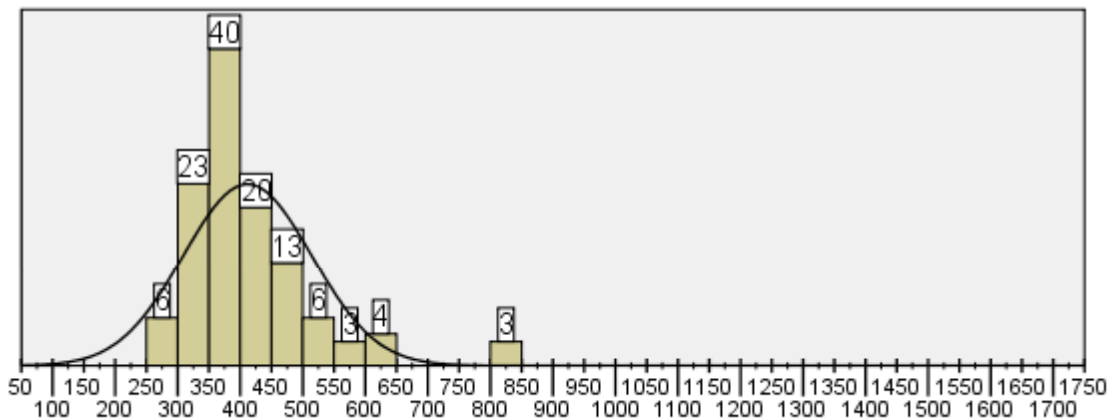
In the process of writing the chapter about the recordings, some notes were removed from the histograms as possible 'noise'. The reason for the removals was that these notes formed bins in the histograms with only very few notes. Two filtrations were carried out: (1) bins with less than three notes were extracted (henceforth also '>3') and (2) bins with less than five notes were extracted (henceforth also '>5'). For all relevant histograms please see Appendix 51, vol 2, page 585-655. Similarly to the data with all notes included (henceforth also referred to as 'all notes'), it was possible to calculate the standard deviation of the data from which some notes were extracted. It is very important to understand what this extraction means. In the following three examples, it can be seen how the histogram and standard deviation changes in the course of the extraction.

Figure 53. Temporal structure of the Gradual *Haec dies* performed by Gereon van Boeschoten; all notes; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC=20.



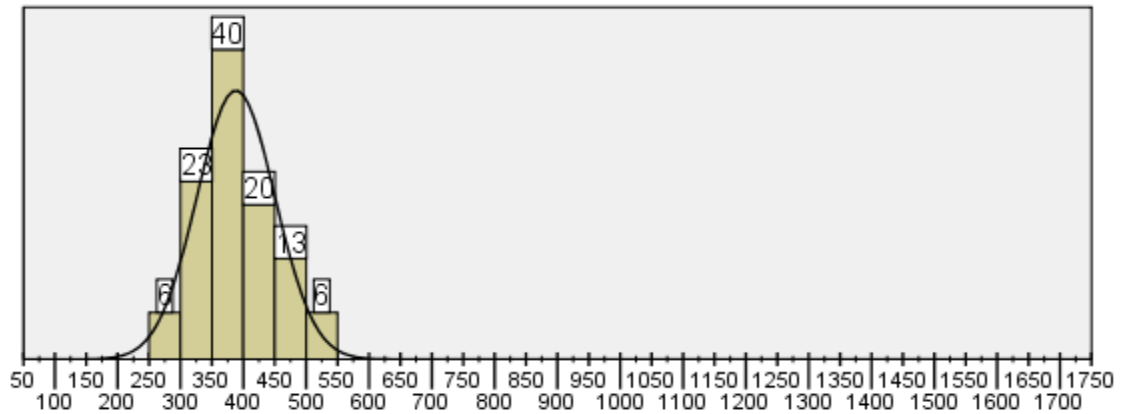
N	Range	Min.	Max.	Sum (msec)	Mean	StDev
133	1774	210	1984	63276	476	260

Figure 54. Temporal structure of the Gradual *Haec dies* performed by Gereon van Boeschoten; bins with less than five notes excluded; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC=9.



N	Range	Min.	Max.	Sum (msec)	Mean	StDev
118	584	266	850	48568	412	103

Figure 55. Temporal structure of the Gradual *Haec dies* performed by Gereon van Boeschoten; bins with less than five notes excluded; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC=6.



N	Range	Min.	Max.	Sum (msec)	Mean	StDev
108	280	266	546	41922	388	62

These examples show that extracting the bins with only a few notes dramatically changes the StDev and this will undoubtedly affect the results of the correlation analysis. Therefore, the correlation analysis was repeated with two additional values: (1) StDev of notes without bins with less than three notes and (2) StDev of notes without bins less than five notes. The results are in Table 85.

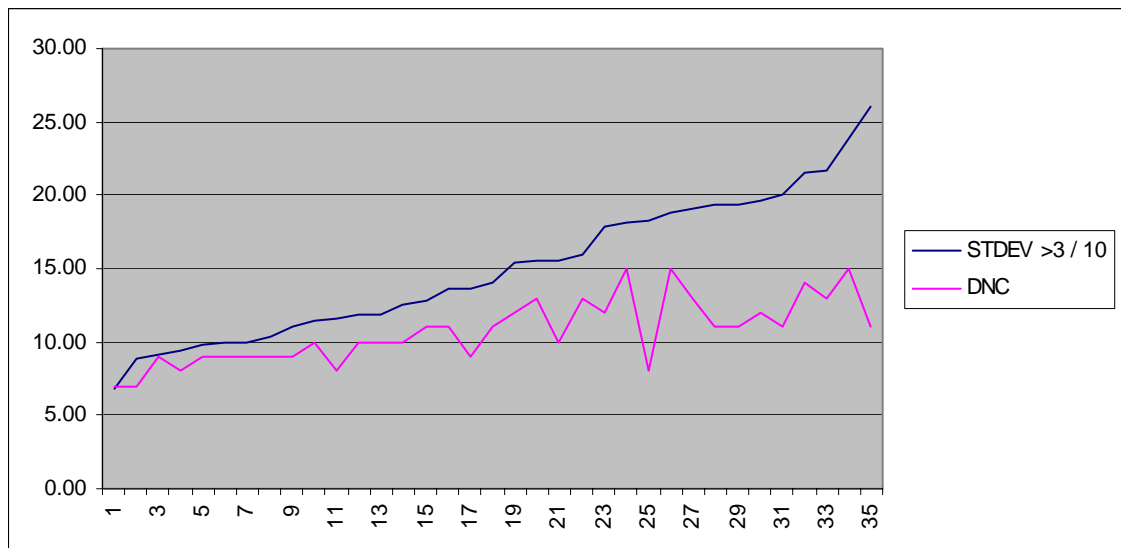
As it can be seen, there are many more correlations in this table. With all notes, there are five correlations; when bins with less than three notes are excluded, there are ten correlations; when bins with less than five notes are excluded, there are eight correlations. In other words, filtering out the 'noise' increased correlations with standard deviation.

Table 85. Correlation analysis of StDev of all notes ('StDev all notes'), StDev of notes without bins, which contain less than three notes ('StDev >3'), StDev of notes without bins, which contain less than five notes ('StDev >5'); in the order of the questions in the questionnaire; please see the table also as Appendix 64, vol 2, p 668.

Argument	StDev all notes		StDev > 3		StDev > 5	
	PC	Sig	PC	Sig	PC	Sig
Gregorian chant, for me, means Franco-Roman chant, a part of Latin sacred monody.			0.350*	0.050		
Gregorian chant, for me, means inspiration for my musical activities.	-0.418*	0.017				
Gregorian chant, for me, means a broad-based domain of musicology and liturgics.					0.370*	0.037
Gregorian chant, for me, means a method of composing liturgical music.					0.440*	0.012
Gregorian chant, for me, means sacred text, illuminated by music.	0.355*	0.046				
How important is excellent articulation for a good performance of Gregorian chant?			0.516**	0.003		
How important is musical phrasing for a good performance of Gregorian chant?			0.418*	0.019		
How important is excellent diction for a good performance of Gregorian chant?			0.388*	0.031		
How important is the knowledge of the historical background for a good performance of Gregorian chant?	0.363*	0.045			0.407*	0.023
How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?					0.478**	0.007
How important is general musicality for a good performance of Gregorian chant?			0.548**	0.001		
How important is imitation of one's teacher for a good performance of Gregorian chant?	-0.429*	0.016				
How important is religious intention for a good performance of Gregorian chant?			-0.367*	0.042		
How important is semiological precision for a good performance of Gregorian chant?					0.438*	0.014
How important is textual narrative for a good performance of Gregorian chant?				0.027	0.396*	0.027
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	0.454*	0.010	0.585**	0.001	0.360*	0.047
How important is theoretical knowledge of semiology for a good performance of Gregorian chant?					0.450*	0.011
How important is excellent intonation for a good performance of Gregorian chant?			0.464**	0.009		
This relationship means that music and text are different structures, which have been combined together.			0.368*	0.042		
How important is religion for you?			-0.373*	0.042		

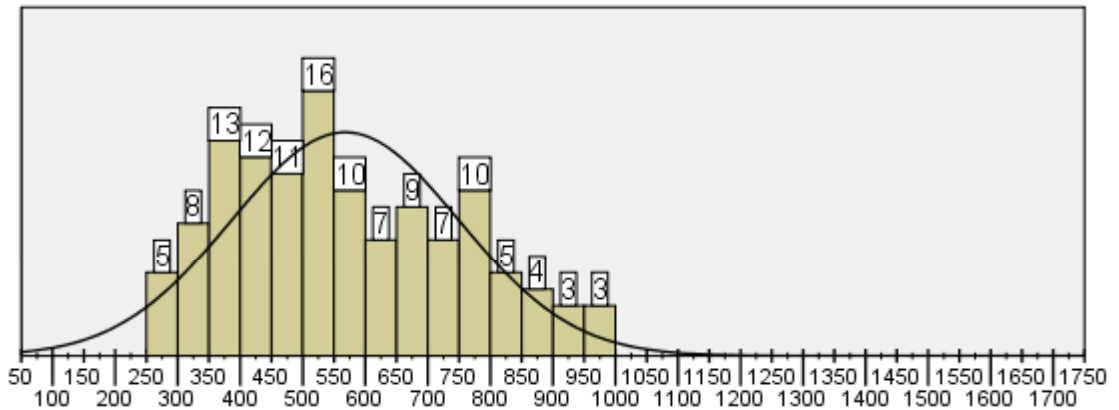
However, it was established in the previous work that with all notes included, the number of DNC and StDev follow the same dynamics (see page 277). Therefore, it was concluded that StDev represents the agogical variety of the performances. When I repeated the test with StDev of filtered data the result was different. The dynamics with data from which bins with less than five notes were extracted was fairly similar to the data with all notes. However, the data from which bins with less than three notes were excluded differed significantly.

Figure 56. Dynamics of different note categories (DNC) and standard deviation (for better observation qualities the StDev is divided with 10) of notes of 35 performers (bins with less than three notes are excluded).



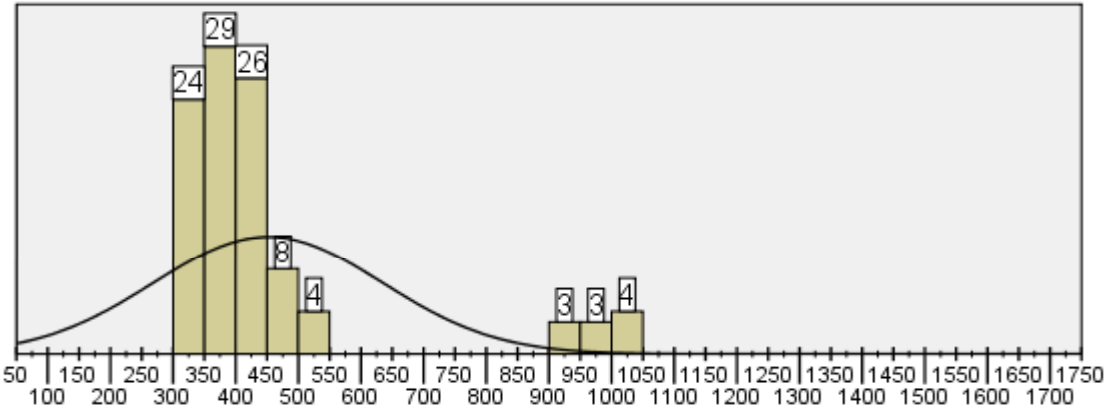
The basic trend is still quite similar but at the last third of the chart, the DNC has different dynamics than increasing StDev. For example, Vuori has StDev 182 and DNC 15; McCarthy has almost the same StDev (183) but DNC is eight. The reason for the difference can be seen when both histograms are looked at together.

Figure 57. Temporal structure of the Gradual *Haec dies* performed by Hilikka-Liisa Vuori; bins with less than three notes excluded; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC=15.



N	Range	Min.	Max.	Sum (msec)	Mean	StDev
123	718	256	974	69843	568	182

Figure 58. Temporal structure of the Gradual *Haec dies* performed by Kerry McCarthy; bins with less than three notes excluded; horizontal axis = milliseconds, vertical axis = number of notes of a particular length; DNC=8.



N	Range	Min.	Max.	Sum (msec)	Mean	StDev
101	702	310	1013	45602	452	183

This is obviously a contradiction. The StDev is almost equal but these histograms are evidently very different from the point of view of agogical variety. McCarthy has three bins that are separated from the main body of the histogram and this feature creates the problem. The problem is less significant when bins with less than five notes are excluded, because in most cases that eliminates bins that are separated from the main body of the histogram. If the bins with less than five notes are excluded, the StDev for

McCarthy would be 46 and for Hilikka-Liisa Vuori 154. This difference describes their difference much more adequately.

It is clear that StDev correlates with the results of the questionnaire. These correlations are interesting and in many ways inspiring. However, it was shown in previous examples that it is not entirely clear how adequately StDev as a statistical parameter actually represents agogic variety. In the process of creating the methodology for analysis of the recordings it was concluded that many purely statistical parameters are not sufficient to be used for categorization (see page 269). At this stage, I thought that StDev might make an exception. The previous analysis however shows that StDev is also not fully sufficient on its own. This does not mean that the correlation analysis done with StDev has no meaning at all. It means that this analysis includes inaccuracies and that fact has to be taken into consideration. What needs to be done in the future research is to find a way to integrate StDev, DNC and perhaps other relevant values into one parameter that would take all these factors into consideration. As a preliminary suggestion, I made one additional experiment and ran the correlation analysis with the ratio of StDev and DNC.

This experimental parameter (StDev/DNC) in Table 86 takes into consideration both values. To be sure, this method is not fully developed and needs more work; but even so, the results of this correlation analysis are intriguing. Most correlations (ten) are in the column 'StDev/DNC>3' and they include five religion/spirituality related arguments. This confirms once more that different aspects of agogic variety can reveal interesting connections with the opinions about aspects of the repertoire. It is not possible within the timeframe of this research project to develop this methodology any further.

Table 86. Correlation analysis of the ratio of StDev and DNC of all notes ('StDev /DNC all notes'), notes without bins, which contain less than three notes ('StDev /DNC >3'), notes without bins, which contain less than five notes ('StDev/DNC >5'); in the order of the questions in the questionnaire.

Argument	StDev /DNC all notes		StDev /DNC > 3		StDev /DNC > 5	
	PC	Sig	PC	Sig	PC	Sig
Gregorian chant, for me, means prayer.			-0.374*	0.035		
Gregorian chant, for me, means a form of teaching about the Word of God and what the teaching expresses.			-0.369*	0.038		
Gregorian chant, for me, means one vocal repertoire among others.					0.370*	0.037
How important is singer's belief in the text that is performed?			-0.470**	0.008		
How important is general musicality for a good performance of Gregorian chant?			0.453*	0.011	0.380*	0.035
How important is imitation of one's teacher for a good performance of Gregorian chant?	-0.356*	0.049				
How important is religious intention for a good performance of Gregorian chant?			-0.414*	0.021		
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?			0.433*	0.015		
How important is theoretical knowledge of semiology for a good performance of Gregorian chant?					0.390*	0.030
How important is excellent intonation for a good performance of Gregorian chant?			0.363*	0.045		
This relationship means that text and music in Gregorian chant are related as much as in any other vocal repertory.					0.391*	0.030
This relationship means that music and text are different structures, which have been combined together.			0.382*	0.034		
This relationship means that music has been forced upon the text and earns its merits at the expense of the text.			0.411*	0.021		
How important is religion for you?			-0.417*	0.022		

4.7.3.2 Correlation analysis using the number of different note categories

Taking into consideration the analysis and discussion in the previous subchapter, it must be admitted that from the point of view of the methodology of this project the only more or less 'fool proof' parameter for correlation analysis is DNC. However, the question rises again – which partition of three ('all notes', '>3', '>5') should be used? Therefore, the procedure is again done in three partitions. In the following table the significant correlations are listed.

Table 87. Correlation analysis of the DNC of all notes ('DNC all notes'), notes without bins, which contain less than three notes ('DNC >3'), notes without bins, which contain less than five notes ('DNC >5'); in the order of the questions in the questionnaire; please see the table also as Appendix 65, vol 2, p 669.

Argument	DNC All notes		DNC > 3		DNC > 5	
	PC	Sig	PC	Sig	PC	Sig
Gregorian chant, for me, means inspiration for my musical activities.	-0.433*	0.013				
Gregorian chant, for me, means a broad-based domain of musicology and liturgics.	0.358*	0.044			0.424*	0.016
Gregorian chant, for me, means a method of composing liturgical music.					0.410*	0.020
Gregorian chant, for me, means boring duty that I need to do routinely.					-0.413*	0.019
How important is excellent articulation for a good performance of Gregorian chant?			0.486**	0.006		
How important is variety of dynamics for a good performance of Gregorian chant?			0.376*	0.037		
How important is musical phrasing for a good performance of Gregorian chant?			0.428*	0.016		
How important is excellent diction for a good performance of Gregorian chant?			0.375*	0.038		
How important is the knowledge of the historical background for a good performance of Gregorian chant?	0.459**	0.009	0.416*	0.020	0.362*	0.046
How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?			0.405*	0.024	0.454*	0.010
How important is general musicality for a good performance of Gregorian chant?			0.373*	0.039		
How important is imitation of one's teacher for a good performance of Gregorian chant?	-0.400*	0.026				
How important is avoiding a routine interpretation for a good performance of Gregorian chant?			0.408*	0.023		
How important is semiological precision for a good performance of Gregorian chant?			0.408*	0.023	0.477**	0.007
How important is textual narrative for a good performance of Gregorian chant?					0.513**	0.003
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	0.497**	0.004	0.426*	0.017		
How important is theoretical knowledge of semiology for a good performance of Gregorian chant?	0.379*	0.035	0.443*	0.012	0.410*	0.022
How important is excellent intonation for a good performance of Gregorian chant?			0.366*	0.043		
How important is understanding of what the text means for a good performance of Gregorian chant?			0.368*	0.042	0.391*	0.030
This relationship means that music has been forced upon the text and earns its merits at the expense of the text.					-0.397*	0.027

The partition 'all notes' has six correlations, '>5' has ten correlations, and '>3' has 13 correlations. Five variables have correlations in two partitions and two variables have correlations in all three partitions. It seems that from three partitions the '>3' always tends to have most correlations. It is probable that this is actually the optimal partition, as in the 'all notes' partition there is too much 'noise' and in '>5' too much

data is filtered out with 'noise'. Therefore, the '>3' partition is observed in the further analysis.

All correlations are positive. This means that appreciation of these values tend to raise together with the number of DNC. This does not mean that performers with fewer note categories definitely do not appreciate for example, 'excellent intonation'.⁶⁷² Correlation analysis does not concentrate on persons, but rather on tendencies. Correlations in the partition '>3' are surprisingly logical – it includes variables only from the set of questions that deal with interpretational preferences. It is not hard to connect higher agogical variety with any of these values.

⁶⁷² Question 68

4.7.3.3 Comparison of means

Comparison of means in this case is based on groups that are formed of DNC as in the partition '>3'. In the following table also the results of the partitions 'all notes' and '>5' are presented for comparison purposes.

Table 88. DNC in all partitions and groups formed on the base of 'DNC>3'; sorted by 'DNC>3'; please see the table also as Appendix 66, vol 2, p 670.

Performer	DNC >3	Groups	DNC all	DNC>5
Lilian Langsepp	7	1	19	7
Mike Forbster	7	1	20	5
Kerry McCarthy	8	1	21	4
Eerik Jöks	8	1	21	7
Maile Nairis	8	1	21	8
John Alsdatt	9	1	15	7
Taivo Niitvägi	9	1	16	6
Lydia Stritzl	9	1	16	7
John Rowlands-Pritchard	9	1	16	7
Lauri Jöeleht	9	1	18	7
Peeter Perens	9	1	20	6
Gereon van Boesschoten	9	1	20	6
Jean-Pascal Ollivry	10	2	17	7
Guntars Pranis	10	2	17	7
Toivo Tulev	10	2	20	8
Chris Helfrich	10	2	21	7
Indrek Laos	10	2	21	10
Ulrike Heider	11	2	19	9
Tõnis Kaumann	11	2	20	7
Tim Pehta	11	2	21	8
Andrew Smith	11	2	21	10
Columba Kelly	11	2	23	6
Richard Crocker	11	2	23	6
Martin Quesnel	11	2	27	6
Riho Ridbek	12	3	21	6
Eve Kopli	12	3	25	10
Maria Staak	12	3	26	10
Kadri Hunt	13	3	20	9
Jaan-Eik Tulve	13	3	21	8
Richard Rice	13	3	23	8
Dominique Minier	13	3	29	8
Igor Reznikoff	14	3	25	11
Marja Korkala	15	3	25	11
Hilkka-Liisa Vuori	15	3	26	12
Godehard Joppich	15	3	27	12

In this table, the groups are formed proportionally: group 1 – low DNC; group 2 – medium DNC; group 3 – high DNC. The mean DNC in the partition '>3' is 10.7. Therefore, it can also be said that the grouping is according mean: group 1 –

performers below the mean; group 2 – performers about the mean; group 3 – performers above the mean. In the following table there are (1) the variables that that showed positive correlation with the partition '>3' and (2) variables that proved to be significant according to the ANOVA test during the comparison of means.

Table 89. Comparison of means according to the groups formed on the base of DNC (>3); please see the table also as Appendix 67, vol 2, p 671.

	Argument	Low DNC	Medium DNC	High DNC	Sig (corr)	Sig (ANOVA)
1	How important is excellent articulation for a good performance of Gregorian chant?	5.56	6.75	6.60	0.006	0.030
2	How important is variety of dynamics for a good performance of Gregorian chant?	3.22	4.50	4.60	0.037	0.310
3	How important is musical phrasing for a good performance of Gregorian chant?	4.89	7.17	6.40	0.016	0.001
4	How important is excellent diction for a good performance of Gregorian chant?	5.67	6.33	6.60	0.038	0.304
5	How important is the knowledge of the historical background for a good performance of Gregorian chant?	4.33	4.50	5.90	0.020	0.098
6	How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?	4.89	5.67	6.60	0.024	0.058
7	How important is general musicality for a good performance of Gregorian chant?	5.67	6.50	6.70	0.039	0.083
8	How important is avoiding a routine interpretation for a good performance of Gregorian chant?	4.89	6.67	6.80	0.023	0.042
9	How important is semiological precision for a good performance of Gregorian chant?	4.00	6.33	6.00	0.023	0.005
10	How important is accurate venue for a good performance of Gregorian chant?	3.89	3.33	5.30	0.323	0.050
11	How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	2.78	5.67	4.70	0.017	0.008
12	How important is theoretical knowledge of semiology for a good performance of Gregorian chant?	3.11	5.17	5.40	0.012	0.033
13	How important is excellent intonation for a good performance of Gregorian chant?	5.44	6.75	6.80	0.043	0.097
14	How important is understanding of what the text means for a good performance of Gregorian chant?	6.56	7.50	7.50	0.042	0.049
15	How important is animated performance for a good performance of Gregorian chant?	4.56	6.67	5.20	0.367	0.047
16	How important is religion for you?	***	***	***	0.830	0.041

Similarly to the comparison of means based on tempo, different patterns also appear in this table. Some variables increase gradually together with DNC (for example 2, 4-7, 13). In some variables, means of two groups tend to belong together. For example, in '1' and '8' the groups of medium and high DNC have similar values and for '15' the mean of the groups of low and high DNC seem to belong together. In all previous

tables, there were answers from various sets of questions. Now only the variables from the set of questions 42-71 are left. This is logical, because this set deals with the question of interpretational preferences and is most likely to affect agogical variety. In addition, there is also a question 'How important is religion for you?'.⁶⁷³ Comparison of means in the table gives many fascinating ideas for interpretation. Most of the results are easily connectable with the issue of agogic variety. For example, the means for the question about the importance of 'musical phrasing'⁶⁷⁴ are: low DNC – 4.89; medium DNC – 7.17; high DNC – 6.40. Clearly, the mean for those who have more agogical variety is higher. This is again logical – if one pays more attention to musical phrasing or other features of phraseology and articulation, the agogical variety has to be more elaborate. This also applies to, for example, 'excellent articulation'⁶⁷⁵ and 'excellent diction'.⁶⁷⁶ Also, if 'avoiding routine interpretation'⁶⁷⁷ is important, more sophisticated agogic variety will clearly follow. An interesting result is 'variety of dynamics'⁶⁷⁸ which has the following means: low DNC – 3.22; medium DNC – 4.50; high DNC – 4.60. In some sense, this result is also predictable – phrasing and dynamics are connected, and phrasing and agogics are connected. Thus, agogics and dynamics are also connected.

There is a whole group of variables in the table connected with the necessity for a knowledge of paleography, semiology, and the historical background of performed repertoire. There is a big difference between means in 'theoretical knowledge of paleography'⁶⁷⁹: low DNC – 2.78; medium DNC – 5.67; high DNC – 4.70.

One unexpected variable concerns the importance of an 'accurate venue for performance'.⁶⁸⁰ This is an exceptional example because performers with low and medium DNC have an equally low mean, respectively 3.89, and 3.33. Performers with high DNC have a significantly higher mean – 5.30. This suggests that more elaborate agogics is better accomplishable at the proper venue – in other words, the acoustics have to be right.

The ANOVA test also revealed one significant difference in means between respondents who consider religion more important and less important for them. These

⁶⁷³ Question 146

⁶⁷⁴ Question 45

⁶⁷⁵ Question 43

⁶⁷⁶ Question 46

⁶⁷⁷ Question 61

⁶⁷⁸ Question 44

⁶⁷⁹ Question 66

⁶⁸⁰ Question 64

results however could not be made public, because it would violate the agreement between the respondents and me (see Appendix 6, vol 2, pp 420-421 and 431).

4.7.4 Connections between the results of the questionnaire and number of basic note values of the recordings

4.7.4.1 Comparison of means

To find connections between the results of the questionnaire and number of basic note value(s) it is not practical to conduct a correlation analysis. Classification according to number of BNV(s) is a formation of groups that are compiled by several parameters and are suitable better for comparison of means. The analysis of BNVs that was mainly based on visual observation of the histogram and listening to the recordings concluded with the following table.

Table 90. Number of BNVs; sorted by 'BNV'.

ID	Name	BNV
2	Lauri Jõelet	1
4	Lilian Langsepp	1
5	Maile Nairis	1
6	Jean-Pascal Ollivry	1
7	Peeter Perens	1
9	Jaan-Eik Tulve	1
11	Taivo Niitvägi	1
12	Mike Forbster	1
14	Columba Kelly	1
15	Gereon van Boeschoten	1
17	Guntars Pranis	1
23	Lydia Stritzl	1
25	Ulrike Heider	1
26	Andrew Smith	1
27	John Rowlands-Pritchard	1
28	John Alsdatt	1
31	Indrek Laos	1
32	Toivo Tulev	1
35	Eerik Jõks	1
1	Kadri Hunt	2
3	Eve Kopli	2
8	Maria Staak	2
10	Riho Ridbek	2
13	Chris Helfrich	2
20	Martin Quesnel	2
21	Richard Crocker	2
22	Richard Rice	2
24	Tim Pehta	2
30	Kerry McCarthy	2
33	Tõnis Kaumann	2
34	Dominique Minier	2
16	Godehard Joppich	ED
18	Hilkka-Liisa Vuori	ED
19	Igor Reznikoff	ED
29	Marja Korkala	ED

There are three groups: (1) 1 BNV – 19 performers; (2) 2 BNVs – 12 performers; (3) equal distribution – four performers.

Table 91. Comparison of means according to the groups formed on the base of BNVs.

Argument	1 BNV	2 BNVs	ED	Significance (ANOVA)
Gregorian chant, for me, means a method of composing liturgical music.	4.18	3.18	6.75	0.046
How important is the knowledge of the historical background for a good performance of Gregorian chant?	4.56	4.45	7.50	0.004
How important is respecting the individualities of the eight modes for a good performance of Gregorian chant?	5.44	5.45	7.75	0.020
How important is singing from memory for a good performance of Gregorian chant?	4.31	3.64	6.50	0.012
How important is textual narrative for a good performance of Gregorian chant?	4.69	3.09	5.75	0.041
How important is theoretical knowledge of paleography for a good performance of Gregorian chant?	4.00	4.36	7.00	0.046

According to the ANOVA test, five variables in this table have significant differences in means between different groups of BNV. One aspect of the results however demands a critical approach to this particular table. All differences in means are very similar – ED has a significantly higher mean than other groups. If one takes into consideration that the third group, that of performers with equal distribution, is proportionally so much smaller than the others, the results of this comparison are very likely not plausible. To see whether there is a significant difference between means of performers with 1 BNV and 2 BNVs, I made another comparison of means – and this time I excluded performers with equal distribution. The results confirm that there is not much difference between performers with 1 BNV and 2 BNVs. There was only one significant difference – the variable ‘This relationship means that text and music in Gregorian chant are related as much as in any other vocal repertory’.⁶⁸¹ The mean for performers with one BNV was 2.50 and for performers with 2 BNVs was 4.09. Beside that variable, the closest to the level of significance of 0.05 were importance of ‘textual narrative’⁶⁸² (sig 0.055) and ‘excellent intonation’⁶⁸³ (sig 0.053). Additionally, I made two comparisons: (1) between 1 BNV and other performers (2 BNV + ED) and (2) between 2 BNV and other performers (1 BNV + ED). These comparisons were done based on a

⁶⁸¹ Question 89

⁶⁸² Question 65

⁶⁸³ Question 68

suggestion that performers of ED may actually be part of either group – it is not possible to detect how many BNV there are in the performances of ED. In both comparisons, there was only one significant variable.

There are two possible explanations in this situation. Firstly, there is no significant connection between number of BNV(s) and opinions of the performers; and secondly, the categorisation according to BNV is not adequate. I tend to agree with the second explanation. In the analysis of hypothesis of ratio, the grouping according to BNV(s) was seriously challenged and an alternative idea was proposed that in fact, all performers tend to perceive the performed music in one durational category (see page 324). Comparison of means seems to support this idea. Why else are there no connections between the results of the questionnaire and the histograms, whereas in the previous two comparisons there were connections? At the stage of the categorisation of the histograms, the principle of classification was justified. At this stage however, it must be admitted that it is highly probable that second note values on the histograms are not a result of perception of the music in two durational categories. Rather it seems to be a result of agogical differences and differences in treatment of SNOP (see page 321).

4.7.5 A summary of the analysis of connections between conceptualisation and practice

From three categories – tempo (length of the piece), agogical variety (different note categories), and basic note value, in two first categories it was possible to establish a plausible connection between conceptualisation and practice. From these two, the agogical variety showed more significant connections with the results of the questionnaire. In the third category, this aspiration failed. A probable reason for the failure to establish a link between the groups formed according to BNV(s) and the results of the questionnaire is that in fact, all performers have only one durational category. This claim is also supported by the hypothesis of ratio (see page 324).

In the comparison of conceptualisation and practice according to tempo, in the final comparison of means there were four variables from the set of questions 1-27 (what does Gregorian chant mean) and six variables from the set of questions 42-71. The variables from the set of questions 1-27 were mostly not straightforwardly Gregorian-chant-related, with one exception – ‘Gregorian chant, for me, means

medieval monodic liturgical chant of the Western church based on the Roman rite'.⁶⁸⁴ From six variables from the set of questions 42-71, three are MSLM specific and three are of more a general nature. Only one of these six variables is clearly musical performance related – 'How important is excellent articulation for a good performance of Gregorian chant?'.⁶⁸⁵

In the comparison of conceptualisation and practice according to agogical variety, in the final comparison of means there were variables mainly from the set of questions 42-71 (15 out of 16), representing a wide variety of general performance aspects and MSLM-specific theoretical and practical features. Interestingly, agogic variety also showed sensitivity to the issue of religiousness.

Some variables showed sensitivity to both aspects – tempo and agogics: 'excellent articulation',⁶⁸⁵ 'knowledge of the historical background',⁶⁸⁶ 'theoretical knowledge of paleography',⁶⁸⁷ theoretical knowledge of semiology',⁶⁸⁸ and 'respecting the individualities of the eight modes'.⁶⁸⁹

⁶⁸⁴ Question 19

⁶⁸⁵ Question 43

⁶⁸⁶ Question 49

⁶⁸⁷ Question 66

⁶⁸⁸ Question 67

⁶⁸⁹ Question 51

5 Final synopsis

This dissertation has fulfilled one of its main purposes and demonstrated how fruitfully a multidisciplinary methodology can be applied to the study of Gregorian chant. The methodological discussion and the analysis also pointed out possible misinterpretations in several instances when analysing recordings digitally. There were three stages in this research: study of conceptualisation, study of practice, and study of connections between these two. The first two stages were considerably more rewarding and explicable in terms of results than the latter one. However, even in the third, most experimental stage, there were plausible results that demonstrated the connection between conceptualisation and practice from a very interesting point of view.

5.1 Synopsis of the results and conclusions

5.1.1 Conceptualisation

The analysis of the results of the questionnaire showed the understanding of Gregorian chant from many different perspectives. In many cases, the results leave room for multiple interpretations. They revealed different aspects, which are described in the analysis and the summaries of the chapter 'Observations on the results of the questionnaire'. Some general points can be made from the results. For the sets of questions 1-27 and 42-71, tables that are sorted by subtraction of mean and variance are used.⁶⁹⁰ In the set of questions that asked 'what does Gregorian chant mean',⁶⁹¹ the respondents agreed largely,⁶⁹² that Gregorian chant for them means 'prayer'.⁶⁹³ Considering this result, one should expect that in the set of questions that asked about interpretational preferences, the most favoured argument would have been religion related – for example, 'singer's belief in the text that is performed'.⁶⁹⁴ However, this variable was only in the twentieth position in the table. In the first position was an argument 'understanding of what the text means',⁶⁹⁵ followed by

⁶⁹⁰ Table 27 on page 136 for 1-27 (also Appendix 13, vol 2, p 469) and Table 30 on page 146 for 42-71 (also Appendix 16, vol 2, page 499).

⁶⁹¹ Set of questions 1-27

⁶⁹² The mean for this argument was 7.14. The respondents (126) replied on the eight-point scale as follows: 8 – 79 respondents (62.7%); 7 – 23 respondents (18.3%); 6 – 9 respondents (7.1%); 5 – 6 respondents (4.8%); 4-1 – 9 respondents (7.1%).

⁶⁹³ Question 18

⁶⁹⁴ Question 53

⁶⁹⁵ Question 70

'passive comprehension of the Latin language'.⁶⁹⁶ The first clearly religion-related argument in the table was 'liturgical environment'⁶⁹⁷ in eleventh position. This result suggests that 'prayer',⁶⁹⁸ in the respondents' understanding within a context of Gregorian chant evaluation, does not clearly associate with belief. The tendency is more towards 'understanding'. This result is quite explicable: the whole issue of Gregorian chant has been so strongly related to scholarship. It was inevitable because the restoration process in the nineteenth and twentieth centuries was strongly connected with various sub-disciplines of different scholarships. Thus, the need for knowledge tends to put rational understanding before belief. For example, one cannot 'believe' semiology; one must understand semiology. The need to 'understand' and 'know' has put Gregorian chant into a rather rational and technical context – a danger of which Eugène Cardine was aware and which he warned of in his 'musicological will', saying that the performance of Gregorian chant must aim 'beyond the sign' He urged us to forget knowledge at once when it is acquired: 'After having pleaded for respect for the sign, we must beg gregorianists to surpass it!' (Cardine, 1984: xxxi).

This is an important challenge for future performance directions. Performers of Gregorian chant have learned so much from scholarly achievements of Eugène Cardine; now, I believe, it is time to go the next level and learn from his words from his last will and testament – forget the 'signs' and aim 'beyond the sign'.

The issue of 'technicality' was also supported by the results of the analysis of 'core values', which is no doubt of a hypothetical nature (see page 177). It might be that 'that religious/spiritual understanding follows a basic musical understanding about what Gregorian chant is, not the other way round' (see page 197). This feature is apparent through observing which arguments are 'more correlative'. In other words, it shows the means by which arguments tend to rise together. 'This suggestion proposes a very interesting question about Gregorian chant as an archetype. 'Can it be that Gregorian chant leads to spirituality rather than simply being a practice of spirituality? Can it be that in this repertoire there is not only the archetype of Western notation but also a substantial part of an archetype of Western spirituality?' (see page 197).

A clear tendency was the respondent's affiliation with text. This was demonstrated by answers to the sets of questions 1-27 and 42-71 – in the results of

⁶⁹⁶ Question 52

⁶⁹⁷ Question 55

⁶⁹⁸ Question 18

both sets, the arguments about text are in the high positions. As I said before, the tendency is clearly towards ‘understanding’. Thus, it can be said that the respondents consider text important. However, there is no such clear consensus about the nature of this connection. Consensus was much higher for example in the set of questions 1-27. It is known that many performers and specialists think that music and text in Gregorian chant are inseparable. The results of this set of questions supported this belief – the mean for the argument ‘music and text are inseparable, i.e. they absolutely belong together’⁶⁹⁹ had a mean of ‘6’. Yet, the answers to the question ‘If, in your opinion, the logic of the text diverges from the logic of the music, which of the two would you prefer?’⁷⁰⁰ showed that the inseparability of text and music is not self-evidently clear. It might be that “‘special relationship’ of text and music is a dogma rather than an understanding’ and ‘can be a result of artistic imagination or religious belief’ (see page 158). It was also pointed out by many respondents that the connection between text and music might not be universal and have different characteristics in different genres.

Issues of authenticity were analysed through three sets of questions.⁷⁰¹ I tried to establish (1) which form of authenticity is most important to the respondents;⁷⁰² (2) how precisely it is possible to restore historically authentic performance practice of Gregorian chant;⁷⁰³ and (3) where the respondents would travel ‘back in time’ to study Gregorian chant performance’.⁷⁰⁴ (1) All three forms of authenticity⁷⁰⁵ had similar means – none of them was clearly predominant. Historical authenticity had the lowest mean. (2) The set of questions about restoration possibilities of historically authentic performance practice of Gregorian chant showed that ‘most of the respondents believe in a possibility of the restoration of historically authentic performance at least to “some extent”’ (see page 171). (3) The most popular destination of ‘time travel’ was St Gall and Rome. Time preferences clustered around the tenth century. In these results it was interesting to see that the preference was more to the period of

⁶⁹⁹ Question 85

⁷⁰⁰ Question 96

⁷⁰¹ Sets of questions 107-109; 97-106; 117-119

⁷⁰² Question 107-109

⁷⁰³ Question 97-106

⁷⁰⁴ Questions 117-119

⁷⁰⁵ ‘Singing exactly the same way as in the time when the music was created’ (mean=4.09); ‘singing in a way that music fits well into the context where it is performed’ (mean=4.68); singing in a way that the music, precisely at the time of performance, sounds honest and genuine’ (mean=5.01).

transition from oral tradition to written tradition than to the period of formation of the repertoire.

From these three sets of questions, an interesting and significant contradiction arose. It 'suggests that the conscious understanding of real possibilities of restoration of historical authenticity is rationally understood to be quite unlikely, and therefore it is not considered as the most important form of authenticity; however, there is an understandable longing for historically authentic performance' (see page 172).

The factor analysis of the sets of questions 1-27 and 42-71 was in my opinion one of the most successful analyses of this thesis. The analysis separated in the set 1-27 four components that characterise different approaches to Gregorian chant: 'Christian approach', 'spiritual approach with Christian tendencies', 'pragmatic approach', and 'religious non-Christian approach' and in the set 42-71 four components: 'a highly knowledgeable performer', 'a knowledgeable performer', 'a pragmatic performer', and 'a religious performer'.

A common signal in this dissertation was the existence of a spiritual approach to Gregorian chant that is different from denominational Christian ethos. This suggestion was not very strong, but considering the selection – most of the respondents are Christians – it was noticeable. It was expressed in different instances but the best signal of this kind of approach was seen in the factor analysis that 'besides knowledgeable scholarly, musical-aesthetical and Christian approaches' described 'another spiritual-religious understanding that does not have the same characteristics as the Christian approach' (see page 235).

The analysis of a 'family tree' of Gregorian chant performers showed an interesting feature that an understanding, of who can be considered as a teacher of Gregorian chant is not unanimous. Some respondents understand 'teacher' to be a person with whom he/she has a formal student-teacher relationship. The others think of a teacher as somebody who has influenced his/her performance, although there is no formal student-teacher relationship. The 'family tree' also gives another reason to understand the variety of performance practices and treatments of Gregorian chant – there are interesting and complicated relations between different schools of performance. Through these relations – it seems – different schools of performance have interesting connections.

One of the most surprising results of the questionnaire was the feature that ‘in the chart of key figures of all times there are only three entries not from the nineteenth to twenty-first century’ (see page 204). This suggests that ‘in many respects, the term “all times” in Gregorian chant performance can with some reservations be bordered with beginning of the nineteenth century’ (see page 204). I expected Eugène Cardine to have an important role for performers and specialists of Gregorian chant; but I was not aware the magnitude of this importance. Cardine was on the top of both charts, ‘beating’ in the chart of all times all pioneers of Gregorian chant who actually introduced this repertoire to us, not to mention the ‘godfather’ of the repertoire Gregory the Great.

Qualitative additions to all quantitative questions of the questionnaire showed the depth and complexity of respondents’ understanding of Gregorian chant and its performance aspects. If we add qualitative additions to already shown diversity in quantitative results, it is not surprising that there are so many different scholarly treatments and performance practices of Gregorian chant.

Comparison between different sets of data gave some interesting results. The analysis was accomplished using comparison of means. The results of the comparison of means can be divided into two basic categories: predictable and unpredictable. For example, it is quite predictable that the respondents who participate more in the church services consider Gregorian chant more as ‘prayer’.⁷⁰⁶ Most of religion-related comparisons gave predictable results, which assures the validity of the questionnaire. However, it is not so easily explicable why, for example, non-European respondents consider Gregorian chant significantly more to be beautiful melodies than European respondents.

In the comparison of means in the set of questions 1-27, the most influential factors are religion related. For example, ‘Other than at church services, how often do you pray?’,⁷⁰⁷ ‘Do you belong to a parish or congregation?’,⁷⁰⁸ and ‘How important is religion for you?’.⁷⁰⁹ In evaluation of interpretational preferences (41-71) the most influential factor by far was nationality followed by two religion-related comparison

⁷⁰⁶ Question 18

⁷⁰⁷ Question 147.1

⁷⁰⁸ Question 149

⁷⁰⁹ Question 146.1

variables like ‘How important is religion for you?’⁷¹⁰ and ‘Do you sing more at concerts or at church services?’.⁷¹¹

Differences in opinions between nationalities are in some examples quite predictable. For example, in the set 1-27 it appeared that ‘for European respondents (6.41), Gregorian chant means significantly more “the foundation of European professional musical culture”⁷¹² than for non-Europeans (4.91)’ (see page 217). In some cases the result however, is not so predictable. For example, why do Estonians (6.05) consider Gregorian chant more as ‘a form of teaching about the Word of God’ than Americans (4.68)? The fact that nationality influences opinions so strongly suggests possibilities for further study on these bases, which might reveal new information about the formation of different dialects of medieval liturgical chant.

5.1.2 Practice

This research has shown that all performers who participated in this project tend to think in one durational category or basic note value (BNV) when solo performing the Gradual *Haec dies*. In the initial analysis of the histograms it was concluded that some performers have two BNVs but scrutinising the hypothesis of ratio showed that the second BNV is probably a result of agogical preferences in the more melismatic part of the Gradual, rather than ‘thinking’ in two different durational categories. Appearance of the second BNV in the histogram may also be a result of treatment of successive notes prescribed to be performed on the vowel on the same pitch (SNOP) as single longer note. The hypothesis of ratio showed that ‘there are performers who balance two musical sentences of the Gradual almost perfectly with the ratio of notes in two musical sentences. ‘In other word, all accelerandos were balanced with subsequent ritenutos so that the ratio of the sums of the notes in two musical sentences was almost equal to the ratio of the number of the notes in sentences’ (see page 323).

The tempo of different solo performances of the Gradual *Haec dies* varies 1.8 times from 55.7 seconds to 101.1 seconds. Agogical variety among performers is also very wide. Number of different note categories that are used vary from 15 to 29. ‘The amount of DNC does not have a static connection with the length of the piece’ (see page 323).

⁷¹⁰ Question 146

⁷¹¹ Question 127

⁷¹² Question 2

This research has pointed out the importance of oral tradition in contemporary performance of Gregorian chant. The solo performances and commercial recordings revealed that the phrasing on most recordings follow a predictable pattern that was established at the beginning of the twentieth century by the pioneers of Gregorian chant restoration. Although there are numerous possibilities for interpretation, which also have semiological and textual justifications, the usual pattern of phrasing is followed with surprising constancy.

The other aspect that refers to the importance of oral tradition is SNOP. Many performers perform SNOP as one long note although they perceive it as separate notes. SNOP can appear as a repercussive neume element or a succession of certain neume elements. In the Gradual *Haec dies*, for example, notes 27 and 28 (see Figure 18 on page 255 or Appendix 46, vol 2, p 532). In this particular case, a *torculus* (d-e-c) is followed by a *climacus* (c-a-g) and SNOP is formed on 'c' note from the last note of *torculus* and the first note of *climacus* and is prescribed to be performed on vowel 'i' (fe-cit). 'Some performers treat in the same manner all SNOP, notwithstanding whether it is a result of repercussion or succession of certain neume elements' (see page 263). 'Performers have heard somebody treating this kind of musical element in a certain way. He/she adapts the principle notwithstanding that a written source can be expounded in different way' (see page 264).

It was also observed that most performers perform the first two notes of the Gradual *Haec dies* so that the first note is significantly longer. This feature is significant, because there were many performers who stated that they perceive these two notes as equal. The principle that *clivis* with *episema* is to be performed as equal notes was a result of semiological research, which was not known in the beginning of the twentieth century. This time the first note was performed longer as is also marked in the quadratic notation of Vatican and Solesmes editions. Following this performance principle by those performers who perceive first two notes as equal also refers to the importance of oral tradition in learning Gregorian chant performance in the twentieth and twenty-first centuries.

5.1.3 Connections between conceptualisation and practice

It was not possible to establish a plausible connection between conceptualisation and practice in terms of performances with different number of BNVs, because it is very likely that in all 35 solo performances of the Gradual *Haec dies* there is actually one durational category or basic note value. The initial groups that were formed based on the analysis of histograms – before coming to a conclusion described in the previous sentence – did not show significant connections with the results of the questionnaire.

However, it can be said that it was possible to establish a plausible connection between other aspects of conceptualisation and practice. This connection is strongest between interpretational preferences (conceptualisation) and agogical variety (practice). It was demonstrated with correlation analysis that the performers who have higher DNC (more agogical variety) appreciate more certain interpretational qualities. For example, ‘musical phrasing’,⁷¹³ and ‘excellent articulation’,⁷¹⁴ (see also Table 87 on page 341 or Appendix 65, vol 2, p 669). Comparison of means revealed that the performers with medium and high DNC consider ‘variety of dynamics’⁷¹⁵ more important than the performers with low DNC and the performers with low and high DNC consider ‘animated performance’ less important than the performers with medium DNC. The analysis also showed significant connection between agogical variety and performers consideration ‘how important is religion’⁷¹⁶ for him/her (for all examples about agogical variety see also Table 89 on page 344 or Appendix 67, vol 2, p 671).

There was also a connection between the tempo of the performance and evaluations about the repertoire. In addition to interpretational preferences, there were also significant connections with respondents’ opinions about ‘what Gregorian chant means for them’. For example, performers with faster and medium tempo consider Gregorian chant more as ‘inspiration for my musical activities’⁷¹⁷ than performers with slow tempo. It was also interesting to see that considering Gregorian chant as ‘a method of composing liturgical music’⁷¹⁸ rises together with the length of the performance. There were also some significant connections between

⁷¹³ Question 45

⁷¹⁴ Question 43

⁷¹⁵ Question 44

⁷¹⁶ Question 146

⁷¹⁷ Question 7

⁷¹⁸ Question 14

interpretational preferences and the length of the piece. The correlation analysis showed that for example ‘theoretical knowledge of paleography’⁷¹⁹ and ‘theoretical knowledge of semiology’⁷²⁰ rise together with the length of the piece. Comparison of means demonstrated that performers with fast and medium tempo consider ‘imitation of one’s teacher’⁷²¹ more important than performers with slow tempo (for all examples about tempo see also Table 83 on page 331 or Appendix 63, vol 2, p 667).

There were some arguments that emerged in both comparisons – tempo andagogical variety. It was interesting to see that among these variables were ‘theoretical knowledge of paleography’⁷²² and theoretical knowledge of semiology’.⁷²³

The conceptualisation of temporal structure and the actual performance appeared to be quite different. In most examples, ‘there was a big difference between subjective descriptions of the length of the notes and the actual performance. In the most extreme cases, the difference is more than three times’ (see page 324).

⁷¹⁹ Question 66

⁷²⁰ Question 67

⁷²¹ Question 56

⁷²² Question 66

⁷²³ Question 67

5.2 The meaning of this research to me

When I started this research, I was aware of diversities in Gregorian chant performance, as well as diversity in understandings about the subject. However, after this project, I realised that my awareness was not even remotely in the right part of the scale. When I started this project, I was worried that there would not be enough material for this project. Now, at the end this project I am convinced that there are not enough resources to analyse even a little part of this material. This research project also carried me through a huge change in my own interpretational preferences. There are many aspects that caused that: (1) working together with outstanding singers and composers; (2) cooperation with world-renowned chant scholars; (3) going into the analysis of the repertoire with thoroughness that I never did before; (4) reading the opinions of all these 127 performers and experts; (5) listening to solo recordings of Gregorian chant that were not acoustically clothed as is usual with commercial recordings; (6) living at the Community of the Resurrection in Mirfield for one year and experiencing the role of liturgical chanting in monastic environment.

After finishing this project, I am seriously worried about the lack of scholarly useable information about person of Eugène Cardine. His work as a scholar is quite well known, but his personality, which must not be underestimated, is not well known. I believe that Cardine's spiritual heritage is as important as his scholarly heritage. There are now two main sources to be studied to continue research about him: (1) recordings from Michiko Hirayama's sound archive and (2) oral history. During this research I was confronted with problems in collecting oral history – many aspects from recent history are very personal and are not very willingly shared. However, time is strongly against us in this case and we must make serious efforts to collect oral history about Eugène Cardine.

The biggest eye-opener for me in performance aspects was the aesthetic quality of the solo recordings that were specially made for this project. When I received the recordings, I understood immediately the immense value of the material with which I was entrusted. It took some time for me to understand the overwhelming beauty of these recordings. I was able to understand the beauty after I had 'sweated off' a lot of what Peter Jeffery calls 'controversial baggage' (Jeffery, 1999: 483) and appreciate what the recordings actually represent – 'naked chant', a close connection between the performer and the repertoire. This connection is not usually heard on commercial

schola recordings of Gregorian chant. I started to appreciate the huge 'intimacy' of these performances. I also realised that this 'intimacy' has been actually ignored in performance study of Gregorian chant, because most of this work is done on the basis of commercial schola recordings. I have mostly analysed temporal aspects of these recordings, but it is also possible and indeed necessary to analyse these kinds of recording from an aesthetical point of view – 'there is no ambience, no long echo, no silk-smooth male schola sound – just the performer and the music' (see page 252).

5.3 What are the future challenges of this area?

I hope that the results of this research will encourage further discussion and research on Gregorian chant from a different point of view. The application of interdisciplinary methodologies is far more complicated than sticking to one well-known discipline. It may also not give as straightforward and explainable results as are usually expected. However, this research has proved that it is worth trying.

For future research, it is necessary to develop different statistical manipulations with data that is acquired from digital measurements of sound recordings. The results of these manipulations can then be compared to conceptualisation of the repertoire, and more knowledge about connections between conceptualisation and practice can be obtained.

Closer study of different forms of Gregorian chant reception should be conducted. For contemporary musicology, a study about 'reception through contemporary Western notation', 'reception through composition', and 'reception through imitation' would be particularly interesting.

It is necessary to study the temporal structure of performances of different genres of Gregorian chant. In this research, the material was an example of melismatic style. It would be interesting to see how much the temporal structure of performances of syllabic and neumatic styles differs from performance of melismatic style.

Study of a personal relationship between one performer and the repertoire would be an up-to-date qualitative way to study Gregorian chant. It would not only lead to an understanding of the musical perception of that performer but also information about the repertoire would be gained through it.

5.4 Final words

Gregorian chant repertoire holds the archetype of musical notation and perhaps other archetypes too: archetypes of melodic thinking, musical phrasing, and perhaps even spirituality. However, the common conception of medieval sacred Latin monody is too heavily dependent on nineteenth and twentieth-century restorations. This process of restoration, which actually represents merely one reception of our common musical past, has blurred the conception of Gregorian chant. Thus, the repertoire is widely seen through the prism of this process, result of which wrongly identifies itself with Gregorian chant. If we add a competition in explaining what Gregorian chant 'actually is' and how it should be 'actually performed', it is naïve to hope for a comprehensive treatment of this subject. This research has vividly shown the differences in understanding this repertoire and performing it. For a better understanding of so important an element in our musical history, there is a desperate need for a comprehensive treatment of Gregorian chant. This means distancing the repertoire (musical and non-musical information) from its receptions. This separation is especially important when talking about teaching Gregorian chant to musical student whose field of speciality is not the performance of medieval repertoires. I believe it would also benefit the community of chant performers and scholars. This kind of treatment would give a common ground or a common denominator to those who value this repertoire. It would help to introduce Gregorian chant to even more people, either for performance of this wonderful music or reference for performance of other repertoires of Western music.

Besides separating Gregorian chant from its different forms of reception, it is also necessary at least to try to distance chant scholarship from personal spirituality. If dealing with Gregorian chant is a part of religious activities for someone, this person surely must understand that it might be so for somebody else. We are living in a multi-religious and multi-cultural society; it is our duty to approach the heritage passed to us with dignity and respect. One way to approach the repertoire with dignity is to try to appreciate different understandings of this repertoire. This gives us a chance to preserve that heritage for coming generations and preserve the experience and knowledge that it has given us. I have chosen to conclude this dissertation with the words of Arvo Pärt, who has in my opinion described perfectly how one should approach Gregorian chant.

Gregorian chant can be approached only with a pure heart. Anyone who undertakes to sing or study Gregorian chant must feel that he/she is not worthy to open this book [Arvo points to the *Graduale Triplex* on the table]. Who else could help here but the One? It cannot be accomplished overnight; we should acknowledge our imperfection and impurity and hope that we can be relieved of that. Maybe we will never be worthy to open this book [Arvo taps on *Gradual Triplex* on the table]. Yet, God will see if you have good will and He will meet you half way. He will tell to these notes in this book, "Listen, go and meet him, go a few steps towards him." And then ... a miracle happens ... [a long pause, yet filled with music]. This music is a miracle. A miracle can be touched only through another miracle. It is always a gift – a miracle is needed to open access to this [Gregorian chant]. However, you need to believe in miracles for that to happen; you generally need to have faith and hope. You should be like a child, without preconceptions. You should have a simple mind and you should be prepared to suffer for this. (Pärt, 2005, interview transcript: 9) (Original text in Estonian, translated by Alar Helstein.)

List of abbreviations

AMP – arithmetical middle point (for an explanation see page 133)

ANOVA – analysis of variance (for an explanation see page 213)

BNV – basic note value (for an explanation see page 241)

Corr – correlation

DNC – different note categories (for an explanation see page 272)

ED – equal distribution (for an explanation see page 279)

F₀ – fundamental frequency

Freq – frequency

Gr – group

L- – no deviation towards shorter durations (for an explanation see page 282)

L+ – deviation towards shorter durations (for an explanation see page 282)

M – mean or arithmetical average

M/V – ratio of mean and variance (for an explanation see page 137)

Max – maximum

Min – minimum

Msec – millisecond

MSLM – medieval sacred Latin monody (for an explanation see page 50)

M-V – subtraction of mean and variance (for an explanation see page 137)

N – number of respondents or notes

P – position of an argument in a table

PC – Pearson Correlation (for an explanation see page 173)

q – a question results of which are regrouped (for an explanation see footnote 181)

Q – question

R – a number of respondents who answered to a particular question

Sec – second

Sig – significance index (for an explanation see page 173)

SNOP – successive notes prescribed to be performed on the vowel on the same pitch (for an explanation see page 253)

SPL – sound pressure level

SPSS – Statistical Package for The Social Sciences

StDev – standard deviation

TOA – tables that appear only in the appendix (for an explanation see page)

V – variance

Primary sources

Medieval manuscripts

Laon 239

Laon, Bibliothèque Municipale, 239. Gradual from the region of Laon; early 10th century. 89 ff. (ed. in PalMus; 178 pp.). Messine neumes with significative letters. Offertories with verses. Masses are numbered. (Boorman et al., 2001: on-line, accessed 9 November 2009).

St Gall 359

St Gallen, Stiftsbibliothek, 359. Cantatorium from St Gallen; dated very early 10th century (before 920). 171 pp. (167–71 are paper); 28 × 12.5 cm. St Gallen neumatic notation with significative letters. Cantatorium contains only the soloist's chants: graduals, alleluias and tracts (Boorman et al., 2001: on-line, accessed 9 November 2009).

Bamberg 6

Bamberg, Staatsbibliothek, Liturg.6 (Ed.III.7). Gradual and proser from St Emmeram, Regensburg; late 10th century. 98 ff.; 29.2 × 24.4 cm. German neumes with significative letters. Offertories with verses (Boorman et al., 2001: on-line, accessed 9 November 2009).

St Gall 376

St Gallen, Stiftsbibliothek, 376. Calendar, troper, kyriale, gradual, processional and proser from St Gallen; c1070. 435 pp.; 19.5 × 16.7 cm. St Gallen neumes with significative letters. Offertories with verses (Boorman et al., 2001: on-line, accessed 9 November 2009).

Einsiedeln 121

Einsiedeln, Benediktinerkloster, Musikbibliothek, 121(1151). Gradual, processional antiphons and proser, from Einsiedeln; late 10th century. 600 pp.; 15.3 × 11 cm. St Gallen neumes with significative letters. Offertories with verses (Boorman et al., 2001: on-line, accessed 9 November 2009).

St Gall 339

St Gallen, Stiftsbibliothek, 339. Calendar, gradual and sacramentary from St Gallen; early 11th century. 550 pp.; 25.3 × 17.8 cm. St Gallen neumes. Offertories with verses (Boorman et al., 2001: on-line, accessed 9 November 2009).

Montpellier H.159

Montpellier, Bibliothèque Inter-Universitaire, Section Médecine, H.159. Tonary of Mass chants from St Bénigne, Dijon; 11th century. 163 ff.; 30.4 × 23.3 cm. Double notation: French neumatic and alphabetical (musical scale letters a–p) (Boorman et al., 2001: on-line, accessed 9 November 2009).

Contemporary publications

Graduale triplex

Roman gradual; edited and printed in France, by Abbey St Pierre at Solesmes in 1979; square notation on four line staff, rhythmic signs of Solesmes, Messine neumes from Laon Bibliothèque municipale 239, St Gall neumes from Einsiedeln Stiftsbibliothek 121, St Gall Stiftsbibliothek 359 and 339, etc.; moveable C and F clef; 918 pp; 14'21cm (described by Eerik Jõks).

Specially made solo recordings

- Alsdatt, John. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Forbster, Mike. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Heider, Ulrike. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Helfrich, Chris. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Hunt, Kadri. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Jõeleht, Lauri. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Jõks, Eerik. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Joppich, Godehard. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Kaumann, Tõnis. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Kelly, Columba. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Kopli, Eve. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Korkala, Marja. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Langsepp, Lilian. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of a *cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks

- Laos, Indrek. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- McCarthy, Kerry. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Minier, Dominique. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Nairis, Maile. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Niitvägi, Taivo. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Ollivry, Jean-Pascal. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Pehta, Tim. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Perens, Peeter. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Pérès Marcel Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Pranis, Guntars. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Quesnel, Martin. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Reznikoff, Igor. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Rice, Richard. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks

- Ridbek, Riho. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Rowlands-Pritchard, John. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Smith, Andrew. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Staak, Maria. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Stritzl, Lydia. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Tulev, Toivo. Gradual *Haec dies* and verse Unpublished private recording of *a cappella* solo performance, 2006. The recording is situated in the private archive of Eerik Jõks
- Tulve, Jaan-Eik. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Van Boeschoten, Gereon. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks
- Vuori, Hilikka-Liisa. Gradual *Haec dies* and verse *Confitemini Domino* Unpublished private recording of *a cappella* solo performance, 2005. The recording is situated in the private archive of Eerik Jõks

Interviews

- Berry, Mary. Interview with Mary Berry on 16 March 2005. Cambridge. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: English.
- Colette, Marie-Noel. Interview with Marie-Noel Colette on 21 June 2005. Paris. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: English.
- Joppich, Godehard. Interview with professor Godehard Joppich in Frankfurt, on 1 March 2005. Godehard Joppich's home, Frankfurt, Germany. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: English. Transcript by Eerik Jõks. Written transcription was approved by the interviewee on 28 April 2009.
- Joppich, Godehard. Interview with professor Godehard Joppich in Frankfurt, on 20 December 2008. Godehard Joppich's home, Frankfurt, Germany. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: English. Transcript by Eerik Jõks. Written transcription was approved by the interviewee on 28. October 2009.
- Hirayama, Michiko. Interview with Michiko Hirayama in Rome, on 8-9 March 2006. Michiko Hirayama's apartment, Trastevere, Rome, Italy. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: English. Transcript by Eerik Jõks. Written transcription was approved by the interviewee on 27.01.2009.
- Pärt, Arvo. Interview with Arvo Pärt in Spring 2005. Laulasmaa, Estonia. Other participants: Nora Pärt. Original format: Digital recording, located in Personal Archive of Eerik Jõks. Language: Estonian. Transcript by Eerik Jõks. Written transcription was approved by the interviewee on 16 October 2009.

Other recordings

In the following list are the recordings of the Gradual *Haec dies* that were used in this research. If the actual recording that used for this research is a reissue, the information is added.

- Beltraminelli, Eros, conductor and Ensemble I Cantori della Turrita. Gradual *Haec dies*. Track 13 on Red Line 47541-2, **1997**.
- Bihlmeyer, Pius, conductor and Monks of St Martin Archabbey, Beuron. Gradual *Haec dies*. Track 1 on Electrola EH 457, **1929**. Reissued as track 12 on *Gregorian Chant: The Early Recordings*. Two CDs, Parnassus PACD 96015/6, 1998.
- Boesschoten, Gereon van, conductor and Gregoriaans Abdijkoor Grimbergen. Gradual *Haec dies*. Track 15 on Eufoda 1220, **1983 and 1987**
- Brüning, Eliseus, conductor and Franciscan Fathers of Venray, Holland. Gradual *Haec dies*. Track 4 on Columbia DHX8 (mx:FX250) **1930**. Reissued as track 19 on *Gregorian Chant: The Early Recordings*. Two CDs, Parnassus PACD 96015/6, 1998.
- Capella Gregoriana. Gradual *Haec dies*. Track 9 on Laserlight 14 157, **1997**.
- Choeur des Moines de l'Abbaye de Saint-Wandrille Gradual *Haec dies*. Track 15 on Studio SM 1218.00 SM 62, **1990**.
- Crocker, Richard, soloist. Gradual *Haec dies*. Tracks 1-6 on A Gregorian Archive 39002, Emeritus Press, **2001**.
- Gajard, Joseph, conductor, Monks of Solesmes Abbey. Gradual *Haec dies*. Track 2 on Decca FAT 173691, 1955. Reissued as track 2 on Decca LXT 5171.
- Göschl, Johannes Berchmans , conductor and Schola Gregoriana Monacensis. Gradual *Haec dies*. Track 3 on Ars Musici AM232339, **1992**.
- Joppich, Godehard, conductor and Choir of the Benedictine Abbey Munsterschwarzach Gradual *Haec dies*. Track 8 on Archiv 2565201, **1981**. Reissued as track 6 on the second CD of *Gregorian chant*. Panorama 469241, 2001.
- Mocquereau, Andre, conductor and Choir of French seminarians. Gradual *Haec dies*. Track 1 on Gramophone 54789 (mx: 2226h:C3725:62110:P333), **1904**.
- Mustonen, Andres, conductor and Ensemble Hortus Musicus. Gradual *Haec dies*. Track 3 on Melodya 33C 10-06499, **1977**. Reissued as track 4 on *Gregorianische Chorale Plainchants*. Erdenklang 40712, 1994.
- Orlando Consort. Gradual *Haec dies*. Track 1 on CD for Richard Crocker's *An Introduction to Gregorian Chant*, Yale Univeristy Press 2000.
- Page, Christopher, conductor and Ensemble Gothic Voices. Gradual *Haec dies*. Track 9 on Hyperion CDA 67039, **1998**.
- Pérès, Marcel artistic director, Lycourgos Angelopolous, soloist, and Ensemble Organum. Gradual *Haec dies*. Track 3 on Harmonia Mundi HMC 901218, **1986**.
- Questa, Ismael Fernández de la conductor The Benedictine Monks of Santo Domingo de Silos. Gradual *Haec dies*. Track 2 on EMI Angel CDC 5 55504 2, 1995. (This CD is a reissue of **1972** recording. I was nor able to obtain details of the original recording.)

- Randon, Alessio, conductor and Ensemble Aurora Surgit. Gradual *Haec dies*. Track 10 on Naxos 8.553697, **1995**.
- Ruhland, Konrad, conductor and Ensemble Capella Antiqua de Munich. Gradual *Haec dies*. Track 12 on Harmonia Mundi FR HM 5113, **1972-1973**. Reissued as track 12 on Chant Grégorien pour le temps pascal. Harmonia Mundi HMC 905113, 1982.
- Tulve, Jaan-Eik, conductor and Ensemble Vox Clamantis. Gradual *Haec dies*. Track 19 on Caroo Music, **1998**.
- Velten, Hubert, conductor and Ensemble CantArte Regensburg. Gradual *Haec dies*. Track 4 on Capriccio C10566, **1995**.

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