

MUSIC OF THE SPHERES: ASTRONOMY AND SHAMANISM

IN THE MUSIC OF URMAS SISASK

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In 1619, Johannes Kepler published his magnum opus *Harmonices mundi* in which the astronomer derived distinct pitches and scales for each known planet in the solar system from calculations of various aspects of their orbital motions. This was the first theoretical realization of the ancient tradition of *musica universalis* (also called *musica mundana*), or music of the celestial bodies. It was not until the Estonian composer Urmas Sisask (b. 1960) began his compositional career by deriving his own “planetary scale,” however, that the theoretical *musica universalis* came into audible existence. Sisask’s work represents a distinctive musical voice among today’s choral composers, and although he is steadily gaining attention for his unique compositional style, only limited information exists about the specifics of his background, his interest in astronomy and shamanism, and the subsequent influence these interests have had on his choral music. At once traditional and modern, he bridges the gap between ancient Estonian folk song and the present. Through an application of exotic techniques including extreme repetition, ritualistically driving rhythms and sudden changes in timbre and texture; coupled with his own peculiarly crafted “planetary scale,” Urmas Sisask has created a completely unique body of work which is examined in this study by looking at representative works from his choral oeuvre including *Gloria Patri...24 hymns for mixed choir*, *Magnificat*, *Ave Sol*, and *Benedictio*.

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CHAPTER 1

INTRODUCTION

In 1619, Johannes Kepler published his magnum opus *Harmonices mundi* (The Harmony of the World) in which the astronomer derived distinct pitches and scales for each known planet in the solar system (at that time six in all) from calculations of various aspects of their orbital motions.¹ This was the first theoretical realization of the ancient tradition of *musica universalis* (also called *musica mundana*), or music of the celestial bodies. Though Kepler posed a challenge to the musicians of his day—to create a sacred work utilizing these measureable harmonies²—it would be nearly four hundred years³ before any musician claimed to successfully accomplish such a feat. Even Paul Hindemith, in his opera *Die Harmonie der Welt* which follows the events of Kepler’s research and discoveries, did not try to realize these ‘celestial’ elements in his own music. It was not until the Estonian composer Urmak Sisask (b. 1960) began his compositional career by deriving his own “planetary scale” that the theoretical *musica universalis* came into audible existence.

In a 2002 *Choral Journal* article, Vance Wolverton described Urmak Sisask’s music by saying:

His work is important because, although firmly grounded in the great European choral tradition, it represents an imaginative approach to harmonic constructions, innovative applications into established genres, and exciting combinations of old and new instruments with voices resulting in a fascinating new timbral palate. In addition his works are representative of the reawakened interest among all the Baltic peoples in shamanism and animism (the belief that all natural objects have souls).³

¹ See Bruce Stephenson, *The Music of the Heavens: Kepler’s Harmonic Astronomy* for an in depth discussion on the

² John Rodgers and Willie Ruff, “Kepler’s Harmony of the World: A Realization for the Ear,” *American Scientist* 67, no. 3 (May-June 1979): 286.

³ Wolverton, 31.

Sisask's work represents a distinctive musical voice among today's choral composers, and although he is steadily gaining attention for his unique compositional style, only limited information exists about the specifics of his background, his interest in astronomy and shamanism, and the subsequent influence these interests have had on his choral music.

1.1 The Power of Song in Estonia

In 1991 the Baltic nation of Estonia won its freedom from Soviet rule. Before that time, Estonia endured millennia of persecution and oppression at the hands of countless dictators and repressive governments. In the last century alone, Estonia was ruled by the tsars of the Russian Empire (stretching back to 1760 and ending in 1917), the Bolsheviks (1918-1920), its own provisional government (for one day in 1925), the German Empire (for nine months during World War I), the independent Republic of Estonia (intermittently between 1920 and 1940), Nazi Germany (1941-1944), the Soviet Union (1940-1991 interrupted only by the Nazi occupation of WWII), and finally by its own government again, becoming the Republic of Estonia once more on August 20, 1991.⁴ Each time the balance of power shifted, it was accompanied by terrible consequences. Massed killings and deportations tragically became part of the Estonian way of living in the twentieth century.

As a byproduct of this tumultuous history, the people of Estonia have established and upheld, what has become today, one of the grandest displays of national identity seen anywhere in the world: the *Laulupidu*, or National Song Festival. At their height, these festivals (which have been held almost without interruption every five years since the first such event in 1869)

⁴Toivo U. Raun, *Estonia and the Estonians* (Stanford, California: Hoover Institution Press, U.S., 1987) gives a detailed account of the history and pre-history of the Estonian nation and its people. The dates of occupation referenced here can all be found in this work except the final emancipation from Soviet rule, which occurred after the book's publication.

have gathered as much as one-third of the nation's entire population, who come together both as the performers in the event and its audience members. By some estimates, the most well-attended festivals have attracted as many as 300,000 audience members.⁵ As professor and conductor David Puderbaugh writes, "the National Song Festival is inextricably tied to Estonian national identity in a manner seldom observed in world history."⁶ He later adds that from its inception the Song Festival has, "represented a primary thread of Estonian cultural, ethnic, and national solidarity," and that, "history has seldom witnessed such an intersection between music and politics."⁷ In fact, the Estonian uprising of 1987 against the Soviet Union is now known as the "Singing Revolution" due to the incredible impact singing had in Estonia's journey toward freedom. In the words of historian and author Toivo U. Raun, "it is safe to say that no other Estonian cultural tradition of the past century and a quarter has proved as powerful and as durable."⁸

The Estonian song festivals have not only created national identity and solidarity among the country's general population, they have also helped to shape the national music during the last 150 years. The inaugural festival in 1869 was inspired by similar events in Germany and Switzerland. On the program for this first *Laulupidu* there appeared only two pieces by Estonian composers, the rest were of German origin. In subsequent festivals, however, the trend moved toward a gradual increase in the inclusion of Estonian music. This increased demand for Estonian music spurred on a budding national school of composition, as David Puderbaugh describes, "the experience of the Song Festival gave Estonian composers a new impetus to

⁵ Ibid, 218. This audience estimate is from the 1980 festival, just a few years prior to the major escalation of tensions between Estonia and the USSR. The most recent festivals regularly include as many as 25,000-30,000 participants and 80,000-100,000 audience members.

⁶ David Puderbaugh, "How Choral Music Saved A Nation: the 1947 Estonian National Song Festival and the Song Festivals of Estonia's Soviet Occupation," *Choral Journal* 49, no. 4 (October 2008): 30.

⁷ Ibid.

⁸ Raun, *Estonia and the Estonians*, 218.

develop their craft.”⁹ He goes on to describe the birth of this fledgling Estonian “school” of choral music:

Although the five festivals that followed the 1869 festival took place during a period of intense “Russification” in all phases of Estonian life, they reflected the emergence of the modern Estonian musical movement. As the years progressed, the festivals’ repertory contained a steadily growing proportion of native Estonian works up to the 1910 festival, which was overwhelmingly Estonian in origin.¹⁰

Since that time Estonia has produced a multitude of accomplished composers and conductors including Arvo Pärt, Veljo Tormis, Cyrillus Creek, Erkki-Sven Tüür, Tõnu Kaljuste and Urmas Sisask. Due to Estonia’s long history of occupation, however, it has only been in the last two decades—since their newfound independence from Soviet Russia—that the western world has truly had the opportunity to experience this small nation’s rich musical traditions which reach back more than two thousand years.¹¹ Urmas Sisask’s music began to make an appearance on commercial recordings in Eastern Europe and Scandinavia in the early 1990s. Since that time, Sisask has become “among the most recorded and performed of all Estonian composers,”¹² with fourteen albums comprised exclusively of his works, and over forty compilation recordings containing a variety of his pieces.¹³

1.2 Early Studies, Enrichment Period and the Planetary Scale

Growing up in the 1960s and 70s in Soviet Estonia, Sisask, like many ethnic Estonians, continually searched for ways to connect with the national identity of his native country. Sisask took a cue from two of the most prominent composers in the country—Veljo Tormis and

⁹ Puderbaugh, “How Choral Music Saved a Nation,” 31.

¹⁰ Ibid.

¹¹ Raun, *Estonia and the Estonians*, 12.

¹² Vance Wolverton, “Baltic Portraits: Urmas Sisask: Estonia’s Composer/Astronomer,” *Choral Journal* 42, no. 8 (March 2002): 31-35.

¹³ Klassika Raadio, “Musician of the Year 2010 is Urmas Sisask,” http://klassikaraadio.err.ee/uudised?news=75&lang=_eng (accessed April 5, 2012).

Cyrillus Kreek—in their outlook on Estonian history and folk music, by seeking his connection with the nation’s identity through the ancient cultures from Estonia’s past. Tormis described his own sense of this ancient culture in an interview conducted with author Martin Anderson in 2000:

Old Estonian folk songs are an intact part of an ancient culture where all components are combined in structure: the melody, the words, the performance, etc. ...it is a very old pre-Christian culture which is shamanistic in substance, and extremely close to nature in the ecological sense.¹⁴

On the importance of these ancient cultures and their music for modern Estonians, Tormis then added, “We should know who we are and where our roots lie. Then it is easier to set up goals for the future.”¹⁵ Sisask has indeed taken this world-view as his own. As a perpetual student of astronomy, a practitioner of shamanic performance techniques and even as an advocate for environmental preservation,¹⁶ Sisask embodies many of the ideals of his ancient Estonian ancestors and there is an “Estonian root” clearly present in his work.¹⁷

The international attention Urmas Sisask has garnered is in large part due to the distinctive voice with which he composes. He is often called “Estonia’s Composer-Astronomer” in reference to his deep interest in astronomy.¹⁸ Sisask is now considered to be a “very advanced amateur astronomer,”¹⁹ and in 1996 he constructed Estonia’s only Musical Planetarium in the

¹⁴ Martin Anderson and Veljo Tormis, “We Should Know Who We Are: Veljo Tormis in Conversation,” *Tempo (New Series)* no. 211 (2000): 25.

¹⁵ *Ibid.*, 26

¹⁶ Sisask’s work *Spell of the Tuhala Witch’s Well* (2010) was written for and performed as part of the “Help the Tuhala Witch’s Well” project, which aimed to stop an Estonian mining company from opening a quarry near an ancient geologic feature called the Tuhala Witch’s Well. The publicity performance in which several Estonian media personalities participated, was televised and can now be viewed online at: <http://www.youtube.com/watch?v=LvtLPhKgDKw> (accessed March 31, 2012).

¹⁷ Personal interview with Gary Graden, American-born conductor of S:t Jakobs Kammarkör (Stockholm) and frequent collaborator with Urmas Sisask, April 13, 2012.

¹⁸ See Wolverton, “Baltic Portraits,” 31 as one example.

¹⁹ Laurits Leedjärv, “Astronomy in the society and culture of Estonia” (proceedings IAU Symposium No. 260, Tartumaa, Estonia, 2009).

town of Jäneda, where he still gives frequent demonstrations and lecture-concerts.²⁰ Sisask is a founding member of both the Estonian Astromusic Society and the Estonian Astronomers Community Ridamus, and is considered to be “quite famous”²¹ throughout Estonia for his reputation as an amateur stargazer.

Born and raised in the rural village of Rapla, Estonia, (approximately 30 miles south of Estonia’s capital, Tallinn) it is perhaps not altogether surprising that Urmas Sisask would later harbor such a fascination with nature. Even as a youth, Sisask began composing music that displayed a balanced sense of traditional formal elements combined with programmatic elements relating to aspects of nature and the universe. Sisask’s earliest compositional studies were with René Eespere at the Tallinn Music High School, from which Sisask graduated in 1980. He then matriculated to the Estonian Academy of Music and Theater (at that time called Tallinn Conservatory) where he continued to study with Eespere. At the time of his graduation at the age of 25, Urmas Sisask had already composed several works in various genres including pieces for piano, choral music, and an oratorio.

Already apparent in his earliest pieces is Sisask’s fascination with the interplay of astronomy and music. His *Starry Sky Cycle I* “Northern Sky” *Op. 10*, composed between 1980 and 1987 while he was still a student, was “inspired by the devotion to the universe of stars around us.”²² This collection and its follow up cycle, “Southern Sky” *Op. 52*, written in 1994-1995²³ have become two of the most representative pieces in Sisask’s oeuvre, appearing on a host of international recordings and displaying his earliest forays into the world of what he

²⁰ A charming anecdote of how Sisask placed all 2000 stars visible in the Estonian night sky up on the planetarium ceiling can be found in Wolverson, “Baltic Portraits,” 32.

²¹ Personal interview with Gary Graden, April 13, 2012.

²² Mikk Sarv, “Introduction to the collection of pieces of music for the piano Tähistaeva Tsükkel – Starry Sky Cycle “Northern Sky” (Karlsruhe, Germany: edition49, 2002), 3.

²³ During this time Sisask travelled to Canberra, Australia to spend time at the Mount Stromlo Observatory. He then used his personal astronomical observations of the southern sky as inspiration for his *Southern Sky* cycle. While in Australia he also studied and witnessed aboriginal rituals.

would eventually term “astromusic”. These “mood” pieces may be seen as direct antecedents to Sisask’s use of more deliberately astronomical features such as his planetary scale.

In 1987, upon completion of his first *Starry Sky Cycle*, Urmas Sisask entered into what he himself termed his “enrichment period.”²⁴ For two years he immersed himself in further studies of a variety of musical styles. These studies ranged from Gregorian chant, to Baroque, to the music of fellow Estonian composers including Arvo Pärt and his own teacher René Eespere. This was also a time of rising tensions with the Soviets regarding Estonian sovereignty, and in this time of crisis Sisask further deepened his study of shamanism and the pre-Christian people’s of Estonia. Through participation in massed political movements and the *Laulupidu* he also came to a greater appreciation of the power of ritual.

Concurrent with this deeper study of musical style and national folk history, Sisask calculated theoretical fundamental frequencies for the orbital periods of each of the planets in our solar system.²⁵ These calculations became the basis for his most identifiable compositional feature: the planetary scale. The following description outlines the basic calculations used by Sisask to create the scale.²⁶

1. Each planet’s sidereal orbital period (one revolution around the sun) is figured in seconds.

ex: Earth’s orbit = 365.256days = 8,766.144hrs = 525,968.64mins = 3,1558,118.4secs

²⁴ Wolverton, “Baltic Portraits,” 32.

²⁵ At that time, Sisask included nine planets in his calculations. In 2006 the International Astronomical Union (IAU) passed Resolution 5A, which redefined the criteria for the category of “planet” in our solar system. Pluto, not having met these criteria, was subsequently reclassified as a “dwarf planet” bringing the total number of planets in our solar system to eight. This resolution can be found on NASA’s National Space Science Data Center online at: http://nssdc.gsfc.nasa.gov/planetary/text/pluto_iau_res_20060824.txt (accessed April 14, 2012)

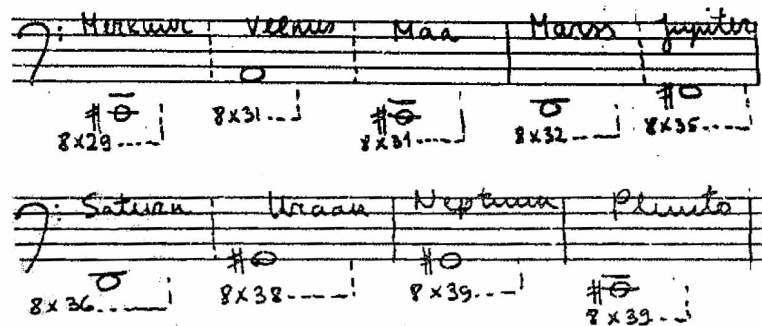
²⁶ The original calculations appear in APPENDIX A with English translation.

2. The standard frequency (with A=440Hz) for each discrete pitch between middle C (listed as C¹) and the octave above, inclusively, is listed.
3. These orbital periods are then “divided by octaves” and the results are given under the heading “Pitches of the Planets”²⁷
4. Each planet’s orbital period is then listed again, this time with the attending approximate pitch correlating to the given frequency.

ex. Mercury’s orbital period = 7,600,521.6secs ~> C# (28 octaves below middle C)

5. The following “theoretical” pitches are derived from these calculations (Example 1):

Example 1. Detail from Sisask’s calculations showing the “theoretical” pitches for each planet’s rotation. “8x29” indicates a sounding pitch 29 octaves below the written pitch



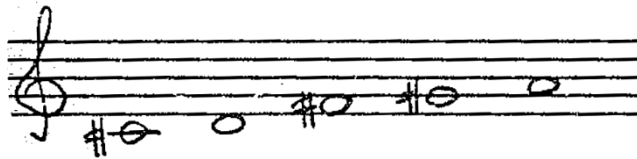
6. These “theoretical” pitches are then transposed into a nine-note tone row, each pitch lying in the octave below middle C.²⁸ (To these nine pitches Sisask adds the text “Pater noster, qui es in caelis”)
7. By eliminating pitch class repetitions this nine-note row is reduced to five: C#, D, F#, G# and A (Example 2). An indication is made that this is the same scale as the Japanese

²⁷ See APPENDIX A, top of page 343.

²⁸ With the exception of the G# of Neptune for which Sisask parenthetically adds the lower octave creating, as the penultimate pitch in the tone row, the hint of a tonal progression akin to I6/4 – V – I.

Kumayoshi pentatonic scale, and a closing remark is given describing the use of this scale as “the foundation from which all the songs are made.”²⁹

Example 2. Detail from Sisask’s calculations showing the final “planetary scale”



²⁹ See APPENDIX A, bottom of page 345.

CHAPTER 2

SISASK'S MUSIC OF THE SPHERES

2.1 *Gloria Patri...24 hymns for mixed choir*

Sisak's last comment may be taken as directly related to his *Gloria Patri...24 hymns for mixed choir*. Composed in 1988 shortly after Sisask derived his planetary scale, *Gloria Patri* is a collection of small-scale works for unaccompanied mixed choir, the order of which may be freely varied for performance.³⁰ Since its completion, *Gloria Patri* has become Sisask's most recorded work, appearing on no fewer than 18 commercial recordings as of this writing.³¹ The entire collection, approximately ninety minutes of music, is constructed using only the five pitches of the planetary scale. Many of the pieces employ shifting "tonal" centers among those five pitches, and several pieces utilize various traditional forms representing the "innovative applications into established genres" which Wolverton described above including fugues, responsorial chants, Venetian polychoral works, and passacaglia.³² Sisask then infuses these established genres with his peculiar compositional style through several techniques; among them are a unique sense of modality (resulting from the planetary scale), rhythm (i.e. his revamped use isorhythm), and a pervasive use of silence. Each of these characteristics may be seen in the examples below and have, in part, come to typify Sisask's genre of composition he has termed "astromusic," of which the *Gloria Patri* is perhaps the most salient work in his oeuvre.

"Pater noster" ("Our father") contains the most overt use of Sisask's planetary scale in the entire *Gloria Patri* collection and as such, may be taken as a reasonable starting point for an

³⁰ Kristel Pappel, *Gloria Patri...24 hymns for mixed choir*. Introductory notes (Helsinki: Fennica Gehrman, 1996), 3.

³¹ See the Eesti Muusika Infokeskus (Estonian Music Information Center) website for a complete list of Sisask's works and discography at:

<http://www.emic.ee/?sisu=heliloojad&mid=58&id=88&lang=eng&action=view&method=teosed>

³² I am aware that this list does not all fall under the category of "genres" per se, but this description suffices for the purposes of the present discussion.

analysis of the salient features of the cycle. Strictly chant-based, the piece is divided into eleven phrases. Each voice part enters with an individual chant melody to open the piece. The first of these entrances, sung by the bass, is in fact the exact nine-note tone row which would ultimately be reduced to Sisask’s planetary scale (Example 3):

Example 3. *Gloria Patri – VIII Pater noster* m. 1 Bass entrance of planetary scale.



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After subsequent entrances by the alto, tenor and finally the soprano, the piece moves ahead (*più mosso*) in a heterophonic fashion. The alto and bass lines echo the opening motif and continue in strict unison until the final cadence. The tenor and soprano match these parts with only slight adjustments to the line in the form of octave displacements. On the surface, one might conjecture that these alterations to the melody might have been made for voice-leading reasons or two avoid difficult *tessiture*. Lines such as those shown in Example 4, however, discount such a hypothesis. In the highlighted portions below, this example shows areas where other more obvious options were available to the composer had he displaced these octaves solely to make the line move in a more conjunct manner. Instead, all four voice parts continually fluctuate between a one-octave and two-octave texture giving the line a sense of continual expansion and retraction, imbuing the music with spaciousness, breath and life. This flexibility, enhanced by the chant-like nature of the piece, culminates in a final phrase of strict unison on the text “sed libera nos a malo” (“but deliver us from evil”) followed by the concluding plagal

resolution on “amen,” which cadences on the open fifth C# and G# leaving out the third of the chord altogether. Additionally, each successive phrase ends on the following pitches: m. 1-4 C#; m.5 G#; m. 6 A; m. 7 D; and m. 8 F#, returning to C# for the closing phrase and “amen” cadence. These finals outline Sisask’s planetary scale and further enhance the overall architecture of the piece.

Example 4. *Gloria Patri* – “Pater Noster” m. 7

The image shows a musical score for the 'Pater Noster' section of the Gloria Patri, specifically measure 7. It consists of four staves of music, each with a treble clef and a key signature of one sharp (F#). The lyrics are written below each staff: 'si-cut et nos dí-mít-tí-mus de-bí-to-ri-bus nostrís.' The music is written in a style that suggests a specific rhythmic pattern, with notes and rests clearly marked. The lyrics are hyphenated to indicate syllable placement.

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Movemnet XXIII “Oremus” (“let us pray”) is, perhaps ironically, completely textless. Instead, the choir is directed to hum through the first twenty-two measures and then the following indication is given: “(U – O – A – E – I – Ü – Ö) *ad libitum*.” The constantly shifting vowel sounds, though devoid of any extra-musical meaning, give the impression of hearing an amalgamation of countless prayers without words blending together into one “human” prayer

lifted to the cosmos.³³ After a long and gradual crescendo climaxes to *ff* at m. 140, the subsequent closing section returns to the humming of the opening bars, facilitating the diminishing dynamic which fades into silence at the conclusion of the work.

Like the “Pater noster,” “Oremus” also calls on established techniques of early music. In this case, the piece utilizes four different miniature *taleae*; recurring rhythmic configurations originally employed in the isorhythmic motets of the fourteenth and early fifteenth centuries. In “Oremus,” these rhythmic configurations reinforce the major structural points in the music. Written in a two-four meter, Sisask avoids writing the pervasive tied notes by simply using a black, stemless notehead followed by a horizontal squiggle to mark out the duration of the pitch (Example 5). Only the equivalents of half- and quarter-notes are used throughout the piece. As an echo of the earliest forms of western musical notation, a simple neume-like, square notehead is used for each initial “half-note” (i.e. any pitch arrived at on the first beat of the bar) and a diamond notehead for an initial “quarter-note” (i.e. any pitch arrived at on the second beat of the bar). Within this limited palette of only half- and quarter-notes, Sisask creates a subtle rhythmic structure that reinforces the over-arching form and enhances the steady buildup to the climax of the piece.

Example 5. “Oremus” example of notation taken from the tenor and bass mm. 80-83.



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³³ This device also shows a clear influence from Arvo Pärt and Veljo Tormis.

Each *talea* spans just two measures, and unlike the original use of the term which denoted purely rhythmic structures occurring primarily in the tenor, Sisask's *taleae* are created by the harmonic rhythm created by the entire choral texture. Each of the four *taleae* is illustrated below by providing two consecutive iterations of the rhythmic pattern and by indicating the harmonic rhythm above each excerpt. (Example 6a - d). These *taleae* (Table 1) outline the main structural divisions of the piece:

Table 1. *Taleae* found in "Oremus"

<i>Talea 1</i>	mm. 1-23
<i>Talea 2</i>	mm. 24-59
<i>Talea 3</i>	mm. 60-79
<i>Talea 4</i>	mm. 80-111

At m. 112, Sisask begins to incorporate a modified *stretto* technique in which he incrementally increases the harmonic rhythm by one quarter-note until there is a chord shift on every beat of the eight measures leading to the sustained *ff* chord of mm. 140 and 141. The harmonic rhythm of this *stretto* section is shown in Table 2.

Example 6a. *Gloria Patri* – "Oremus" mm. 1-8 first *talea*.

Talea

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Example 6b. *Gloria Patri* – “Oremus” mm. 24-31 second *talea*.

Talea

p cresc. poco a poco

(U-O-A-E-I-Ü-Ö) *ad libitum*

p cresc. poco a poco

(U-O-A-E-I-Ü-Ö) *ad libitum*

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Example 6c. *Gloria Patri* – “Oremus” mm. 60-67 third *talea*.

Talea

p

p

p

p

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Example 6d. *Gloria Patri* – “Oremus” mm. 80-87 fourth *talea*.

Talea

The image shows a musical score for a section of a Gloria Patri. At the top, the word "Talea" is written. Below it, there are two lines of musical notation representing a vocal line, each consisting of a series of quarter notes. Below the vocal lines are three staves for instruments. The first instrument staff has a piano (p) dynamic marking and a wavy line underneath, indicating a tremolo effect. The second and third instrument staves also have piano (p) dynamic markings and wavy lines underneath. The score is divided into two measures by a vertical bar line.

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Table 2. Increasing harmonic motion building toward climax.

mm. 112-119	♩	♩	♩	♩	♩	♩
mm. 120-131	♩	♩	♩	♩	♩	♩
mm. 132-139	♩	♩	♩	♩	♩	♩

Sisask then reverses this rhythmic contraction by incrementally removing the quarter-note harmonic motion. Eight measures before the final chord of the piece, this rhythm returns to the constant half-note iterations of the first *talea*. The soprano drops out followed by the alto, tenor and finally bass, creating the impression that the transcendent prayer has gradually returned to the earth and evaporated. The piece concludes with four full bars of silence.

This device of purposeful silence seen everywhere in the collection, and is most prevalent in two pieces from the collection: “Omnis una” and “Agnus Dei”. In each of these pieces, the

choral fabric is steadily unwoven until the voices dissolve into nothing. As in “Oremus,” each of the voices in “Omnis una” is peeled away one by one, until the bass voice alone completes the piece. Over the last 23 bars, the main melodic themes of the piece are fragmented and separated by measures of rest as the texture slowly disintegrates (Example 7).

Example 7.
Omnis una mm. 68-83

The musical score consists of four systems of staves, each with a vocal line and a bass line. The key signature is one sharp (F#) and the time signature is 4/4. The lyrics are in Latin. The first system shows the beginning of the piece with the lyrics: "Qui na-tus est de vir-gi-ne" and "Chris-to lau-des re-fe-ra-mus." The second system continues with "O-mnis u-na gau-de-a-mus Chris-to lau-des". The third system continues with "i-lux-it nobis ho-di-e" and "re-fe-ra-mus O-mnis u-na gau-de-". The fourth system continues with "re-fe-ra-mus O-mnis u-na gau-de-". The score includes dynamic markings such as *p* (piano) and rests for some of the voices.

Qui na-tus est de vir-gi-ne
 Qui na-tus est de vir-gi-ne
 Chris-to lau-des re-fe-ra-mus.
 Chris-to lau-des re-fe-ra-mus.

O-mnis u-na gau-de-a-mus Chris-to lau-des
 O-mnis u-na gau-de-a-mus Chris-to lau-des

i-lux-it nobis ho-di-e
 re-fe-ra-mus O-mnis u-na gau-de-
 re-fe-ra-mus O-mnis u-na gau-de-

8 - a - mus Chris - to lau - des
- a - mus Chris - to lau - des re - fe - ra - mus.

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An even clearer example of Sisask’s use of silence appears in the final piece of the collection, XXIV “Agnus Dei” (“Lamb of God”). As the last movement heard in most familiar musical settings of the Ordinary of the Catholic Mass, the “Agnus Dei” provides a symbolically fitting conclusion to the work as a whole. At m. 80, the dynamic peak of the piece, a canonical ostinato is established. The theme is heard in canon beginning with the soprano, then alto, tenor and finally bass. Each entrance appears one beat apart.

Example 8. *Gloria Patri – Agnus Dei* “Dona nobis pacem” echo pattern.

mp
Dona nobis, dona nobis pa - cem.
mp
Do-na nobis, dona nobis pa - cem.
mp
Do-na nobis, dona nobis pa - cem.
mp
Do-na nobis, dona nobis pa - cem.

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The final words of the three-fold supplication “dona nobis pacem” (“grant us peace”) are seized upon by the choir and are repeatedly chanted in an echo pattern (Example 8). This echo motive soon takes on the nature of a mantra continually chanted by the choir in the same pattern, each voice following one beat after the other.

As in “Omnis una,” Sisask again slowly unravels his texture, in this case by steadily increasing the beats of rest between each group of entrances while simultaneously removing one vocal part at a time (Example 9).

Example 9. *Gloria Patri* – “Agnus Dei” mm. 101-115 showing the increasing durations of silence and the removal of voices

Example 9 shows the first three vocal parts of the three-fold supplication. Each part begins with a piano (*p*) dynamic. The lyrics are: "Do-na nobis, dona nobis pa-cem." The score illustrates the increasing durations of silence and the removal of voices over time.

Example 9 shows the final two vocal parts of the three-fold supplication. The first part begins with a pianissimo (*pp*) dynamic. The lyrics are: "Dona nobis, dona nobis pa-cem." The score illustrates the increasing durations of silence and the removal of voices over time.

pa—cem. Dona nobis pa—cem.

nobis pa—cem. Dona nobis pa —

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Between the first three echo patterns sung by the full choir, there are no rests and each pattern overlaps the one preceding it (mm. 88-93). Following this group, Sisask inserts one beat of rest before the next echo group. In the next entrance, however, only two echo patterns are heard, followed by three beats of rest (mm. 94-97). One pattern is subsequently heard followed by an increasing number of beats of rests in mm. 100-131: first five beats of rest, then eight, eleven, thirteen, fifteen, and nineteen beats of rest. The bass is removed in m. 102, the tenor in m. 106; the alto and soprano continue through m. 116 after which the alto is removed as well. The final pattern, sung only by the soprano, is itself followed by twenty one beats of rest ending the piece in long silence.

The remaining pieces of the collection show Sisask both as a student of the past and an innovator of new approaches. Movements such as the *Alleluia* (fugue), *Benedicamus* (*cori spezzati*), *Kyrie* (responsorial chant), and *Deo gratias* (passacaglia) each represent new and imaginative approaches to each of these established forms, all the while utilizing only the five tones of his planetary scale. Though limited to these melodic constraints Sisask is able to create,

through his “prodigious inventiveness,”³⁴ innovative and imaginative soundscapes in each of the twenty-four pieces of the *Gloria Patri*.

2.2 *Magnificat, Ave Sol* and Other Planetary Works

Following on the heels of *Gloria Patri*, Sisask composed another relatively large-scale project also utilizing his new-found planetary scale. His setting of *Magnificat* (1990) is scored for four-part unaccompanied mixed chorus and lasts about thirty minutes in performance. Most of its thirteen movements are performed *attacca* and Sisask modifies his five-note tone row for each successive movement, at times creating interesting harmonic juxtapositions. Through these seemingly arbitrary adjustments of one or two pitches in each movement, Sisask eventually employs all twelve pitches of the chromatic scale, though never in the same movement³⁵

As with many of Sisask’s works, the *Magnificat* opens with just one voice, in this case the alto, intoning the opening chant-like phrase. This first movement, “Magnificat anima mea Dominum,” utilizes the planetary scale in its original form: C# - D - F# - G# - A. This fugally driven movement contains a clear subject and countersubject, all drawn from the five-note scale (Example 10). Of special note is the relative looseness with which Sisask treats his otherwise rigid scale toward the end of this first movement. In m. 79 he incorporates the pitch E, thereby anticipating the modification to the scale that is to come in the second movement (C# - E - F# - G# - A). In this way, Sisask smoothes over the transition from one movement to the next.

³⁴ Mike Seabrook, “CD Review: Urmas Sisask: Starry Sky Cycle,” *Tempo (New Series)* 200 (1997): 58.

³⁵ See APPENDIX B for a complete layout of each movement’s scale pattern.

Example 10. *Magnificat* mm. 1-11. Subject and Countersubject.

Tempo ad libitum ♩ = 84

S

A

T

B

Countersubject

Subject

Ma - gni - fi - cat a - ni - ma me - a Do - mi - num

Do - mi - num

Do - mi - num Do - mi - num Do

Subject

Ma - gni - fi -

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Vertical sonorities and purely homophonic texture encountered at the outset of the next movement, “Et exultavit spiritus meus in Deo, salutari meo,” starkly contrast the first movement’s chant-based material. In m. 127, this texture is gradually whittled away as Sisask moves back into a linear emphasis with short homophonic punctuations. A new subject is introduced as well as new supporting material. Countering this new subject is a melodic line that seems to echo Pärt’s *tintinnabulum* style (Example 11).

Example 11. *Magnificat* mm. 159-167 showing *tintinnabulum*.

159 *legato* *pp* *cresc. poco a poco*

pp *cresc. poco a poco*

pp *cresc. poco a poco*

pp *cresc. poco a poco*

164

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The second movement is performed *attacca* into the third, making for a somewhat abrupt harmonic shift from the final $c\#$ minor chord of movement II to the G major triad at the open of the third movement. Especially unique in the final three movements is Sisask's treatment of the tonal material. In "Suscepit Israel, puerum suum" a four-note scale is used instead of the typical five. Additionally, regardless of the number of voices singing at any one time, all four pitches of this truncated scale are present in every measure of the piece. In closing the movement, Sisask again adds space to the music by fragmenting the melody with rests, as encountered in episodes

from *Gloria Patri*, then he seamlessly melds into the following movement, “Sicut locutus est ad Patres nostros” by overlapping the harmonic and melodic material from one movement into the next.

It is in this movement that there is for the first time a markedly tonal section at m. 725. This section then goes through a clear progression leading to a passage at m. 729 which is firmly in D major (Example 12). So unique is this tonal structure that it makes quite an impression on the listener after twenty-five minutes of the previous modality and pentatonicism:

Example 12.
Magnificat mm. 725-732
with roman numeral analysis

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A - bra-ham et se - mi-ni, se - mi-ni,
A - bra-ham et se - mi-ni, se - mi-ni,
A - bra-ham et se - mi-ni, se - mi-ni,
A - bra-ham et se - mi-ni, se - mi-ni,
D: V V6 V/V vi6

727 e - jus in sae - cu - la. Aa
e - jus in sae - cu - la. Aa
e - jus in sae - cu - la. Aa
e - jus in sae - cu - la. Aa
V/vi ii V I

The indication for the scale used in the “Gloria Patri” (XI) is given in the introductory notes to the work as follows (Example 13):

Example 13. *Magnificat*. Performance notes

A E H Fis
a e h fis

GLORIA PATRI ET FILIO
ET SPIRITUI SANCTO

Instead of designating actual scale pitches, however, this somewhat cryptic figure outlines the tonal structure for the majority of the movement. This fact is made apparent upon examination of the opening bass line (Example 14) in which the melody clearly outlines the root movements indicated below:

Example 14. *Magnificat* mm. 745-748. Implied tonal structure of “Gloria Patri et Filio”

The image shows a musical staff in bass clef with a 2/2 time signature. The melody begins with a piano (*p*) dynamic. The notes are: A2, A2, A2, A2, B2, C3, D3, E3, F#3, G3, A3, B3, C4, D4, E4, F#4, G4, A4, B4, C5. Below the staff, the lyrics are: "Glo - ri - a Pa - tri et Fi - li - o et spi - ri - tu - i San - cto, San - cto." Underneath the lyrics, four tonal centers are indicated: "A" under "Glo", "E" under "Fi", "B (H)" under "et spi", and "F# (Fis)" under "San".

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This pattern occurs a total of eleven times before breaking down in the final eleven bars of the movement. The other information presented in the above diagram is less obvious, but becomes evident after a closer inspection of the work as a whole. If the capital letters are taken to mean major tonalities or chords, and the lower case letters represent their minor counterparts, then this opening instructional figure might represent the tonal argument for the entire movement. In the above example, the listener might expect to hear the ascending 5th root movement A – E – B – F# and place the piece squarely in A major with one possible progression sounding as in the following example (Example 15). This is not, however, what the listener hears. Instead, as successive voices enter with the bass’s strophic variations outlining these somewhat ambiguous tonal schemes, Sisask returns to a strong sense of modality, at times including G naturals (in e minor sonorities) juxtaposed with F# major sonorities and their requisite A#’s (though still with E naturals).

Example 15. *Magnificat* mm. 745-748. Possible tonal scheme.

Possible harmonic progression implied by bass

Possible completion of progression

A I E V b ii f# vi A I D IV A 16/4 E V A I

Glo ri-a Pa - tri et Fi - li-o et spi - ri - tu - i San - cto, San - cto.

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This fact further sets up the final return to a secure tonality at the Coda (m. 844) and its clear D major tonality. One last tonal argument ensues here between C natural and C# in mm. 845-848 and again at mm. 852 before finally settling into D major for the last few bars of the triumphant closing “amen.”

In a number of other choral works, Sisask clearly displays his interest in astro-musical elements. His *Missa Nr. 1* (1990) begins with the very same nine-note planetary scale encountered in many other works. *Venus* (2011), subtitled “Ave, maris stella”, simply bears the astrological symbol for both the planet and for the mythological goddess in place of a written out title. In this way, Sisask draws a comparison between the Christian belief in the Virgin Mary and the pre-Christian beliefs in the sacred feminine. *Venus*, too, utilizes just five pitches throughout: C – D – E flat – G – A flat (a transposed version of the planetary scale). Furthermore, *Ave Maris Stella* utilizes only one *melody* for its entire opening section based on this scale (Example 16).

Example 16. *Venus: Ave, maris stella* mm. 24-26 theme from opening section

The musical score for Example 16 consists of three staves. The first staff is the vocal line, starting at measure 24 with a *pp* dynamic. It features a melodic line with lyrics: "A - ve ma - ris stel - la, a - ve ma - ris stel - la." The second staff is a piano accompaniment with lyrics: "a - ve ma - ris stel - la. A - ve ma - ris stel - la a - ve ma - ris stel - la. A - ve ma - ris". The third staff continues the piano accompaniment with lyrics: "stel - la. A - ve ma - ris stel - la, a - ve ma - ris stel - la." Dynamic markings include *pp*, *p*, and *cresc.*. Three diagonal arrows labeled "Theme" point to specific melodic motifs in the vocal line.

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Sisask's *Ave Sol* makes prominent use of the planetary scale as well (Example 17a).

This piece also includes an astronomical calendar of sorts, ascribing each measure to a month of the year in a recurring cycle, indicating throughout the work the passage of time beginning January 1970 and concluding May 1988, when the piece was completed (Example 17b). As in many of his other choral works, Sisask interjects silence into *Ave Sol* as the musical fabric slowly dissolves.

Example 17a. *Ave Sol*. Planetary scale with corresponding astrological symbols

The musical score for Example 17a shows a planetary scale across three staves. The first staff has a *ff* dynamic and the lyrics "A - ve sol. A - ve sol. A - ve sol." The second staff has a *ff* dynamic and the lyrics "A - ve sol. A - ve sol. A - ve sol." The third staff has a *ff* dynamic and the lyrics "A Merkury ve Venus sol. Earth A Mars ve Jupiter sol. A Uranus ve Neptune sol. Pluto". Below the lyrics are the corresponding astrological symbols for each planet: Merkury (♿), Venus (♀), Earth (♁), Mars (♂), Jupiter (♃), Saturn (♄), Uranus (♅), Neptune (♆), and Pluto (♇).

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Example 17b. *Ave Sol*. Astrological “calendar” printed below mm. 387-401.

m. 387

Oct. Nov. Dec. 1987 Jan. 1988 Febr. March April May 1988
piece finished

m. 395

(June) (July) (Aug.) (Sept.) (Oct.) (Nov.) (Dec.)
1988

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Whether this silence appears at the structural markers in the music or is included at the opening or closing of a piece, the use of space is prevalent throughout his oeuvre. In all of the above-mentioned works both repetition and silence play an integral part, and it is precisely these techniques that have also earned Sisask the title of “Musical Shaman.”³⁶ By spinning out great lengths of music from simple phrases that continually repeat with only slight variations, or by interjecting silence into the music and allowing, “space for the sounds of nature to add their side of the conversation,”³⁷ Sisask adds yet another unique dimension to his compositional style in the form of shamanistic elements.

2.3 The Musical Shaman

Concomitant to his activities with astronomical phenomena, Sisask has taken a deep interest in Estonian folklore, pagan rituals, and shamanistic practices. As in the music of Veljo Tormis (b. 1930), Urmas Sisask’s works are often characterized as rhythmically driving, ritualistic, even ecstatic music.

³⁶ Normet, “Urmas Sisask”.

³⁷ Kira van Deusen, *Singing Sotry, Healing Drum: shamans and storytellers of Turkic Siberia* (Montreal & Kingston: McGill-Queen’s University Press), 109.

In early February 1992, at the height of winter, a group of Urmas Sisask's friends gathered in his hometown of Jäneda. After getting themselves into the mood by listening to his improvisations at the piano, accompanied from time to time by shaman drum, they set off for a thickly wooded hillock with slippery paths...they called a halt at a place where, one thousand years ago, a stronghold had stood – one of those sites that our ancestors discovered could infuse them with physical and metaphysical strength. Three bonfires were lit and Urmas Sisask established a rhythm on the shaman drums, beating them towards the sky, towards the earth and towards the East. A mythical incantation was taken up from one bonfire to the next.³⁸

It is descriptions such as these that tie Sisask's music to its shamanistic roots—the word “ecstasy” (and its counter-term “trance”) being common parlance in the study of shamanism.³⁹ Several video recordings are also now available showing the composer playing the drum, the piano and various other instruments as he improvises vocal incantations over the top of the instrumental sounds further displaying his shamanistic musical practices.⁴⁰

It is perhaps not all that remarkable that Urmas Sisask is an adherent to such a system of beliefs which many outside of Estonian might consider quite exotic. A recent study showed Estonia's population as having the lowest percentage of those who believe in God in the whole of the European Union.⁴¹ This same study also revealed, however, that Estonia has the highest percentage of any country in the EU of believers in “some sort of spirit or life force” apart from

³⁸ Leo Normet, *Urmas Sisask - A Musical Shaman* (Helsinki: Fazer Music News, 1998).

³⁹ For a brief overview of these terms as they relate shamanism and altered states of consciousness see Piers Vitebsky, *Shamanism* (Norman: University of Oklahoma Press, 2001), 64-65. For a much more thorough comparison of these two terms see Gilbert Rouget, *Music and Trance: a Theory of the Relations between Music and Possession* (Chicago: University Of Chicago Press, 1985), 3ff.

⁴⁰ One such recording shows Sisask improvising in this manner for the Annual Meeting of Astronomy Enthusiasts in Tihemetsa, Estonia in 2010. In the video Sisask plays various instruments including piano, shaman drum, and rattle. In addition, he sings and chants while moving around the performance area. Also visible is an unidentified woman who sits at the piano during the performance to hold down the sustain pedal to employ sympathetic vibrations of the strings as Sisask sings and plays at times directly at the piano. Part I:

http://www.youtube.com/watch?v=eRP1yCPNnhk&list=PL6D1AAE1B507E3D88&index=3&feature=plpp_video
Part 2:

http://www.youtube.com/watch?v=c6mlK5AGcPg&list=PL6D1AAE1B507E3D88&index=4&feature=plpp_video

⁴¹ European Commission: Special Eurobarometer 225/Wave 63.1 TNS Opinion & Social, January-February 2005. *Social Values, Science and Technology* (Brussels: European Commission, 2005), 6. Just 16% of Estonians polled answered “yes” to the question: do you believe there is a God?

God.⁴² In another survey a representative group of Estonians were asked: which of these statements comes closest to your beliefs: (1) personal God, (2) spirit or life force, (3) don't know what to think, or (4) no spirit, God or life force. Those polled answered by an overwhelming majority that their beliefs most aligned with the idea of a spirit or life force.⁴³ The prevalence of this pre-Christian belief stretches back thousands of years to the earliest periods of recorded history in Estonia⁴⁴ and today there is an ever-increasing trend toward a reawakening of these belief systems from Estonia's past including animism, shamanism, earth worship, New Age and various forms of paganism or personal spirituality.⁴⁵ Piers Vitebsky describes this phenomenon by writing:

Western industrial culture has begun to suffer an increasing loss of confidence in Christianity and the scientific world-view. A similar disillusionment has taken place in the former Communist world. This process has led to a spiritual quest which has been met by diverse forms of religion...Among these, shamanism is seen as a non-institutionalized, undogmatic form of spirituality which offers considerable scope for personal creativity.⁴⁶

To a typical westerner, however, the word "shaman" might conjure images of magic and make believe. Indeed, shamans in many societies do attempt to interact with spirits and heal the sick by incantation and magic, but shamanism is far more complex than this two-dimensional, myopic viewpoint suggests. Today shamans even live and practice their craft in urban settings, many going through formal education systems and having "modern"

⁴² Ibid. 54% of Estonians polled answered in affirmative to the question: do you believe there is some sort of spirit of life force?

⁴³ Aleš Črnič, "New Religions in 'New Europe'," *Journal Of Church and State* 49, no. 3 (Summer 2007): 517-51, <http://libproxy.library.unt.edu:2175/pqdlink?did=1368713151&Fmt=2&rqt=309> (accessed May 22, 2012). The results of this poll indicated the following percentages of positive responses to the four choices: (1) 15.9% (2) 49.3% (3) 20.5% (4) 14.2%.

⁴⁴ Raun, *Estonia and the Estonians*, 12-13.

⁴⁵ See Lea Altnurme, "Changes in Mythic Patterns in Estonian Religious Life Stories," *Social Compass* 58, no. 1 (2011): 77-94 for a novel investigation of the changing religious attitudes in Estonian through an analysis of individuals' religious life stories.

⁴⁶ Vitebsky, *Shamanism*, 150.

careers apart from their ancient practices.⁴⁷ Perhaps the best way to describe what shamanism is, is to describe what shamanism is not. Vitebsky states, “Shamanism is not a single, unified religion.”⁴⁸ He goes on to add, “Shamanism...should perhaps not be called an “-ism” at all. There is no doctrine, no world shamanic church, no holy book as a point of reference, no priests with the authority to tell us what is and what is not correct.”⁴⁹ Mircea Eliade, in her seminal work, *Shamanism: Archaic Techniques of Ecstasy* takes an even broader view of shamanism and world religion by writing:

The same individual can have an infinite variety of religious experiences, from the “highest” to the most undeveloped and aberrant. This is equally true from the opposite point of view: any cultural moment whatever can provide the fullest revelation of the sacred to which the human condition is capable of acceding.⁵⁰

Musician and author Kira van Deusen adds further to this view by describing shamanism as, “part of the complex of spiritual and religious beliefs and practices that have evolved from ancient times in relation to the natural environment and way of life.”⁵¹ She then concludes, “everything is imbued with spirit – people, animals, rocks, trees, sky, mountains, sacred springs, lakes, rivers – all part of the living essence of the planet.”⁵²

It is this last point by van Deusen that is clearly evinced by Leo Normet’s story related above displaying Sisask’s strongly held belief in the energy of people, animals and the planet as a living system. This system of faith is often referred to as “animism”. Like shamanism, animism (from the Latin *anima*, meaning “soul”) is not a religion in and of itself. Rather, it is an ancient world view which holds that the physical and spiritual worlds are two sides of the same coin and are inextricably linked. Animists ascribe a “soul” to all physical entities—animals,

⁴⁷ van Deusen, *Singing Story healing drum*, 164.

⁴⁸ *Ibid.*, 11.

⁴⁹ *Ibid.*

⁵⁰ Mircea Eliade, *Shamanism: Archaic Techniques of Ecstasy* (Princeton: Princeton University Press, 1964), xviii.

⁵¹ van Deusen, *Singing Story, healing drum*, xii.

⁵² *Ibid.*

rocks, trees, the sun, even the universe as a whole. The fact that both shamanism and animism are not recognized as religions in the traditional sense of the word allows them to exist in many cultures alongside various religious belief systems. This explains how Sisask can work with overtly Christian texts such as *Magnificat*, *Benedictio*, and the selections from *Gloria Patri* and still imbue the music with these shamanistic elements without supplanting one belief system with another.

How then, do these shamanistic traits manifest themselves in Urmas Sisask's music? Like many of his Estonian colleagues, Sisask writes choral music which includes a part for shaman drum in several of his works and, as mentioned above, he often plays the shaman drum in performances of his own works.⁵³ The significance of the drum in shamanic rituals cannot be overstated. Mircea Eliade describes the drum as occupying, "a role of the first importance in shamanic ceremonies,"⁵⁴ and he goes so far as to say, "the shamanic drum is distinguished from all other instruments...precisely by the fact that it makes possible an ecstatic experience."⁵⁵ Vitebsky says of the drum's importance, "The experience of the spirit realm in shamanism is closely tied to music. In particular, there is a powerful connection between trance and the rhythmic regularity of percussion instruments. In virtually every region where shamanism is found, the drum is the shamanic instrument par excellence."⁵⁶ The shaman's drum, or *dungur*, is often referred to as the shaman's horse on which he or she can ride to the spirit world or facilitate, "opening connections to the cosmos,"⁵⁷ to accomplish the spiritual journey.

⁵³ Several video recordings of Sisask playing the shaman drum in performances of his own music can be viewed online.

⁵⁴ Eliade, *Shamanism*, 168.

⁵⁵ *Ibid.*, 174.

⁵⁶ Vitebsky, *Shamanism*, 79.

⁵⁷ Ken Hyder, "Shamanism and Music in Siberia: Drum and Space" (paper presented at the symposium "Shamanism: Siberia at the Center of the World", London, September 25, 2007), <http://www.soas.ac.uk/musicanddance/projects/project6/essays/file45912.pdf> (accessed March 20, 2012).

While the prominence of the drum is primary in shamanic rituals, Sisask's inclusion of this instrument in his music is just one surface-level example of the shamanistic character of his music. Sisask creates driving, ritualistic figures throughout his works and utilizes abrupt shifts in texture and timbre recalling the improvisatory nature of shamanic ritual. He spins out incredible spans of music through relentless repetitions of small melodic or harmonic cells that continually adapt and develop incrementally throughout their life span in the piece. For each of these devices, Sisask's *Benedictio* may serve as a prime example.

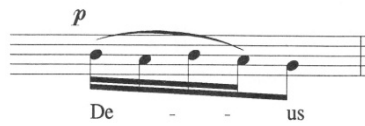
2.4 *Benedictio*

Benedictio (1991) for eight-voice mixed choir was written shortly after *Gloria Patri* and *Magnificat*, but makes no apparent use of the planetary scale on which both of these earlier works are based. Instead, Sisask progressively creates more and more layers of sound while constantly shifting the textural and timbral palette, and employing tiny musical cells to spin out vast lengths of music. In this minimalistic fashion, he creates a musical experience for the listener that at once seems improvised and yet is highly structured.

In the opening section of *Benedictio*, a parallel fifths figure in the bass lays the initial foundation. Each subsequent voice, built from the bottom up (e.i. tenor, then alto, and finally soprano), contributes one small piece of the choral puzzle that Sisask creates through the first 25 measures. Each small musical cell is altered slightly as the harmonic palette expands and the tessitura gradually rises. The tenor motive, clearly displays this device of developing variation in the first section (Example 18):

Example 18. *Benedictio*. Tenor iterations of opening musical motive.

first iteration m. 4



second iteration m. 6



third iteration m. 8



fourth iteration m. 15



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At m. 25 an abrupt change in texture, dynamic and timbre occurs as Sisask introduces a new musical motive led by the sopranos and altos. This motive is itself loosely based on the opening figure in the women's parts from mm. 1-25. At the outset of the piece, the sopranos and altos sing sustained major seconds entering exclusively on syncopated beats. In the opening section these motives served largely an accompanimental role to the more melodic tenor and bass lines. Here, however, at measure 26 this new theme bursts open the texture with driving rhythms and a variation on the major seconds from the beginning of the piece (Example 19). This abrupt shift is an example of the interplay of timbres from which, as van Deusen points out, "much of the spiritual effect of shamanic music comes from."⁵⁸

⁵⁸ van Deusen, *Singing Story healing drum*. 109.

Example 19. *Benedictio* mm. 26-29. Abrupt shift into second main motive (sopranos and altos)

Pa - ter et Fi - li - us et Spi - ri - tus San - ctus. Pa - ter, et San - ctus.

De - us. Et Fi - li - us et Spi - ri - tus

De - us.

Pa - ter et Fi - li - us et Spi - ri - tus San - ctus.

De - - - us.

San - ctus.

Be - ne - di - cat vos om - ni - po -

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After a brief transitional passage, a new ostinato is set up in the men which is based on the women's motive above. This ostinato is then moved somewhat to the background as the alto joins in an accompanimental fashion, and the soprano sings in m. 41 what will become the cell for the rest of the composition. At this point, the soprano becomes the main player in the ritual of the song, as it were, and the other voices provide the soundscape over which the soprano almost seems to improvise the melody. The melodic motion in the tenor is simplified to create a

new accompanimental figure (Example 20) used intermittently between the soprano's short melodic outbursts. Continually changing meters and fragmentation of the soprano melody through varying amounts of rests enhances the improvisational feeling of this section.

Example 20. *Benedictio*. Simplification of tenor and bass mm. 60-61 and 62-63

The image shows a musical score for a tenor and bass part. The tenor part is written in a treble clef with a key signature of one flat (B-flat) and a 2/2 time signature. The melody consists of eighth and quarter notes with lyrics: "Fi - li - us et Spi - ri - tus." The bass part is written in a bass clef with the same key signature and time signature, providing a rhythmic accompaniment of eighth and quarter notes.

Becomes this:

The image shows a simplified version of the musical score. The tenor part is written in a treble clef with a key signature of one flat and a 2/2 time signature. The melody is simplified, with lyrics: "Pa - ter et Fi - li - us,". The bass part is written in a bass clef with the same key signature and time signature, providing a simplified rhythmic accompaniment.

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During this simplification in the tenor, the bass two-bar ground figure stays completely static, and is repeated a total of twenty-nine times. The soprano then carries on in a solo capacity, the accompanying figures of the others voices lying tacit for 15 bars. Here the soprano melody is disassembled in mm. 86-98 and gradually built back up again in mm. 99-114 culminating in a comparatively long nine-measure phrase beginning at m. 106 built from repetitions of one small melodic cell (Example 21).

CHAPTER 3

CONCLUSIONS

Urmas Sisask sees his life mission to be a “transcriber” of this celestial music rather than an actual composer, per se. He has said of his work:

“Our 14 billion years old Universe is a huge organ invented by Jehova. Due to the force of gravity galaxies, stars, planets, comets and other constellations form gigantic organ pipes. That is the Credo of my life and work. To learn the harmony of the musical instrument of the Universe and to make it heard to the people is my mission. Thus, I do not consider myself a composer but a recorder of music.”⁶⁰

Urmas Sisask’s exceptional approach is clearly evinced in works such *Magnificat, Ave Sol, Gloria Patri* and *Benedictio*. Through a combination of astronomical and shamanistic elements, Sisask draws on an extremely wide palette of compositional devices with which he creates unique and innovative soundscapes in his choral works. At once traditional and modern, he bridges the gap between ancient Estonian folk song and the present. Through an application of exotic techniques including extreme repetition, ritualistically driving rhythms and sudden changes in timbre and texture; coupled with his own peculiarly crafted “planetary scale,” Urmas Sisask creates a completely unique body of work that is only now beginning to receive the attention it deserves from musicians and audiences outside of Estonia and Scandinavia.

⁶⁰ Leedjärv, “Astronomy,” 531.

APPENDIX A
ORIGINAL CALCULATIONS FOR SISASK'S PLANETARY SCALE
(with English translation⁶¹)

⁶¹ English translation by Jan Urke. Used by permission.

Laadi tuletamise skeemid

Nature of the derivation of the schemes

Planeetide sideraalne perioodid =
perioodid sekundites : (sec)

Sidereal period of orbit of the planets in
seconds (sec)

1. Merkuuri	= 7600521,6 sec.
2. Veenus	= 19414166,4 sec.
3. Maa	= 31558118,4 sec.
4. Mars	= 59355072 sec.
5. Jupiter	= 374335776 sec.
6. Saturn	= 929595744 sec.
7. Urana	= 2651356800 sec.
8. Neptuun	= 5199897600 sec.
9. Pluuto	= 7836480000 sec.

Mercury	= 7,600,521.6 sec
Venus	= 19,414,166.4 sec
Earth	= 31,558,118.4 sec
Mars	= 58,355,072 sec
Jupiter	= 374,335,776 sec
Saturn	= 929,595,744 sec
Uranus	= 2,652,356,800 sec
Neptune	= 51,998,987,600 sec
Pluto	= 7,836,480,000 sec

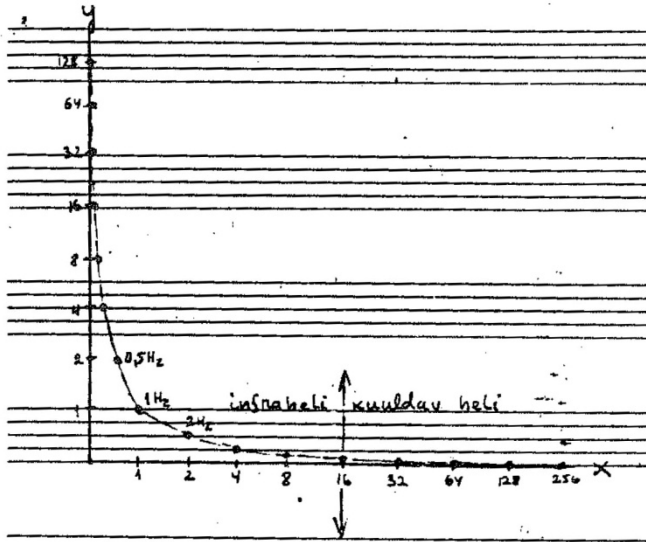
I oktaavi helide võnkesagedused (Hz)

The frequency of the pitches (Hz)

$c^1 = 261,6 \text{ Hz}$	$g^1 = 392 \text{ Hz}$
$cis^1(d^b)^1 = 277,2 \text{ Hz}$	$g^{\flat 1}(a^b)^1 = 415,3 \text{ Hz}$
$d^1 = 293,7 \text{ Hz}$	$a^1 = 440 \text{ Hz}$
$dis^1(e^b)^1 = 311,1 \text{ Hz}$	$a^{\flat 1}(b^b)^1 = 466,2 \text{ Hz}$
$e^1 = 329,6 \text{ Hz}$	$b^1 = 493,9 \text{ Hz}$
$f^1 = 349,2 \text{ Hz}$	$c^2 = 523,2 \text{ Hz}$
$f^{\flat 1}(g^b)^1 = 369,9 \text{ Hz}$	

Planeteide harmoonia graafiline
kuulatusala:

Graphical derivation of the harmony of the planets



Infrasound | audible sound

$x =$ võnnete arv 1 sekundis

$x =$ number of oscillations per second [Hz]

$y =$ sekundite arv 1 võnkes

$y =$ number of seconds in one vibration

• • • helid jagatud oktaavi kaupa

...pitches are divided by the octaves

Planeetide helid

planeetide sideline tiirlemisperiood
(sekundites) = 1 kuu ümber pöörde
(sekundites) = 1 võnge (sekundites)

Planeetide kiirte kiirte kiirte kiirte kiirte
teoreetiline helid:

1. Merkuur = 7600521,6 sec (1 võnge)

→ Cis₂₉

2. Veenus = 19414166,4 sec (1 võnge)

→ A₃₁

3. Maa = 31558118,4 sec (1 võnge)

→ Cis₃₁

4. Mars = 59355072 sec (1 võnge)

→ D₃₂

5. Jupiter = 374335776 sec (1 võnge)

→ Fis₆₅

-343-

Pitches of the planets

Sidereal rotation of the planets
(in seconds) = 1 rotation around the sun
(in seconds) = 1 vibration (in seconds)

The rotation of the planets creates the
following theoretical pitches:

Mercury = 7,600,521.6 sec
~> C sharp [25 octaves below middle C]

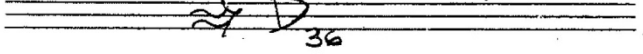
Venus = 19,414,166.4 sec
~> A [31 octaves below middle C]

Earth = 31,558,118.4 sec
~> C sharp [31 octaves below middle C]

Mars = 58,355,072 sec
~> D [32 octaves below middle C]

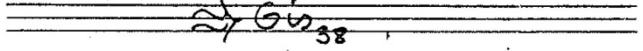
Jupiter = 374,335,776 sec
~> F sharp [35 octaves below middle C]

6. Saturn = 929595744 sec (1 vöinge)



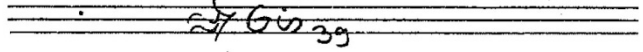
Saturn = 929,595,744 sec
~> D [36 octaves below middle C]

7. Uran = 2651356800 sec (1 vöinge)



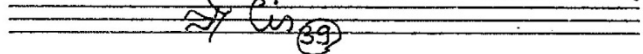
Uranus = 2,652,356,800 sec
~> G sharp [38 octaves below middle C]

8. Neptun = 5199897600 sec (1 vöinge)



Neptune = 51,998,987,600 sec
~> G sharp [39 octaves below middle C]

9. Pluuto = 7836480000 sec (1 vöinge)



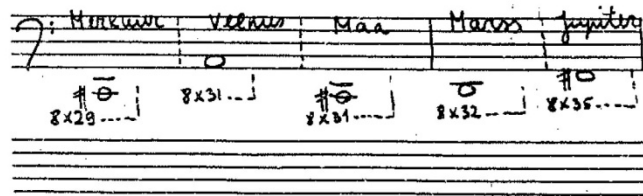
Pluto = 7,836,480,000 sec
~> C sharp [octaves below middle C]

~> lig. lähedased helid

(39) - oktaavide arv suurtest oktaavist
infraheli suunas.

~> [indicates] approximate pitches

(39) [indicates] the number of octaves
below the large octave [i.e. two octaves
below middle C]



Saturn Uranus Neptun Pluto

8x36 8x38 8x39 8x39

tegelik teoreetiline rida

väikeses oktaavis resonanceeriv planeetide helinida

Pa-ter no-str, qui es in cae-lis

vt. lk. 83

Realized theoretical pitches

Tone row of the planets in the small octave

Koondatud helinida → Kumayoshi pentatoonika:

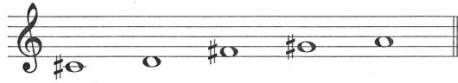
Reduced tone row → kumayoshi pentatonic scale

antud helilaad on kõikide laulude aluseks

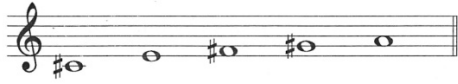
The given tone row is the foundation from which all the songs are made

APPENDIX B

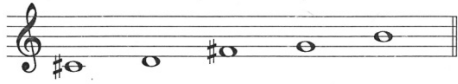
MODIFICATIONS TO PLANETARY SCALE IN *MAGNIFICAT*



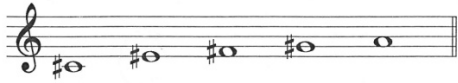
MAGNIFICAT ANIMA MEA DOMINUM



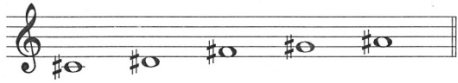
ET EXULTAVIT SPIRITUS MEUS IN DEO,
SALUTARI MEO



QUIA RESPEXIT HUMILITATEM ANCILLAE
SUAE: ECCE ENIM EX HOC BEATEM ME
DICENT OMNES GENERATIONES



QUIA FEXIT MIHI MAGNA, QUI POTENS
EST, ET SANCTUM NOMEN EJUS



ET MISERIGORDIA EJUS A PROGENIE
IN PROGENIES TIMENTIBUS EUM



FECIT POTENTIAM IN BRACCHIO SUO,
DISPERSIT SUPERBOS MENTE CORDIS SUI



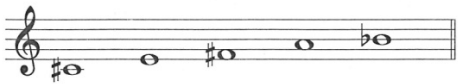
DEPOSUIT POTENTES DE SEDE,
ET EXALTAVIE HUMILES



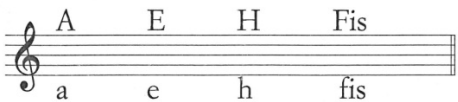
ESURIENTES IMPLEVIT BONIS,
ET DIVITES DIMISIT INANES



SUSCEPIT ISRAEL, PUERUM SUUM,
RECORDATUS MISERIL CORDIAE SUAЕ



SICUT LOCUTUS EST AD PATRES NOSTROS.
ABRAHAM ET SEMINI EJUS IN SAECULA



GLORIA PATRI ET FILIO
ET SPIRITUI SANCTO



SICUT ERAT IN PRINCIPIO, ET NUNC ET
SEMPER, ET IN SAECULA SAECULORUM



AMEN

APPENDIX C
TRANSCRIPT OF GARY GRADEN INTERVIEW

Transcript of Interview with Gary Graden, Conductor, S:t Jakobs Kammarkör, April 13, 2012

David Edmonds [DE]: My first question then is, when did Urmas Sisasks' music first come to your attention?

Gary Graden [GG]: Ok, Let me see, it was 19— I think it was about 1988. So it's really quite some time ago. Or, around that time, I'd have to look back, but it was when he was...we hosted a choir in Stockholm. A choir from Tallinn—from Estonia. That choir was called the Eesti Projekt, and they were visiting us and they sang, at that time, all of Urmas' music. And it was what was going to be a recording—a CD in the making—and it was mostly from this collection of pieces, the *Gloria Patri*.

DE: Yes. So, in 1988 that was prior to the official declaration of independence. Was that quite a feat to have them come out of the country or was it not a big deal?

GG: Yeah, this is what I'm trying to remember. Wasn't it...what year was it that they...was it '90?

DE: It was '91 that they finally, officially declared their independence, and a couple years leading up to that they were the massive demonstrations where they did the human chain.

GG: Right. Yes I'm trying to remember...I wonder if it wasn't too early then. Then my guess is 1990, but still that would have been before and I don't remember it being that much of a problem, because we went to visit them as well.

DE: So you were in Sweden--

GG: I don't remember being in Estonia before the actual breakup from the Soviet Union. So then my guess is that they were visiting us in '90. Then we went to see them one year or two years later.

DE: So then when you heard his music what was it that immediately attracted you to it, if that is the case, if you were immediately attracted to it?

GG: Well, the thing is he was travelling with the group as well. So I think at that time I appreciated the music, but I was very fascinated by Urmas himself. He's quite a fascinating figure, a fascinating person and we spent time together and got to know one another and had a wonderful time together.

DE: Yes, so I'm obviously interested in your reflections on his personality...

GG: Yeah. The thing is, I think...it took me a while to really acquaint myself with his music. There were a couple of pieces in that cycle that fascinated me – one was the *Oremus*. Do you know these pieces now? Have you studied this *Gloria Patri*?

DE: Yes, I am studying them.

GG: Yes, OK. *Oremus* was for me something very special, and I at that time I guess I was interested in it in a way because there was no text and it was just sort of this wash of sound, and it was something that I was really becoming interested in, this kind of minimalistic wash of sound--in other composers as well. So maybe that was my first real [voice cuts out] ...and then slowly I started exploring the others as well, until at some point, and it wasn't—I don't even know if I would remember—but I would say at least ten years ago I did the whole cycle.

DE: Yes—I've seen the postings on YouTube.

GG: Ah, but on YouTube those were more recent history. That was just two or three years ago when we were in Marktoberdorf.

DE: Ah, I see.

GG: I think it's quite a journey to perform all 24 pieces in one sitting. We did this two times, and it was really quite a different kind of choral experience--a musical experience--for the audience and for the listeners.

DE: So have you collaborated with him personally on performances since then?

GG: Yes we have. On another occasion we actually did a weekend with Urmas, and at that time we did a special emphasis on his cosmic style, his compositions about the stars and the universe. And if I'm not mistaken we, at that time, started to show the projected images as we sang the pieces. Then Urmas came and we did maybe 16 or 18 of the pieces from the Gloria Patri in one sitting. Then the next day he played a concert of his piano music. He's a very fine pianist and even the piano music is based upon these planetary scales. Or, even more than just the planets – the universe. He describes in a lot of his music different events in the universe: stars, and the creation of the universe... he tries to capture in his music...

DE: So the Gloria Patri...

GG: ...big bang!

DE: [laughs]...yes, I've seen him do that in video recordings as well... so these universal events as you say... Well I should say, the Gloria Patri as well as other pieces are built on this planetary scale, the five note scale –

GG: Yes, originally it was a nine tone scale because he included octaves. He has in his original scores, in the original publications that were done during the former Soviet times--they were hand written scores – there in those small books, I don't know if you've seen them, there are four of them for the entire Gloria Patri, there in Estonian he describes in detail his mathematical calculations for the rotations of planets around the sun and these correlations to the various tones. Have you seen these?

DE: Actually I have only seen general information about these scales. All of the information that

I have gathered speaks only generally about his reduced five note scale, but it doesn't speak about any specifics and it doesn't give the original nine tone calculations but I would be interested...

GG: Yeah - if I were in my office I could send them to you, but I won't be back for a week... But, I will send them to you because it's quite interesting. Because you can see the calculations are quite clear and precise and mathematical.

DE: That would be wonderful.

GG: Yes, it's quite interesting. Basically, every planet has a pitch. Ok? He called it a nine tone scale but of course really it is a five tone scale.

DE: Great. I will follow up with an email on that, and that would be terrific. So, back to your collaborations... aside from his piano music obviously, did he take an active role in any of the performances or preparation?

GG: No, he was really satisfied for the most part. You know, I asked him about the tempos and I asked him about expression and so forth, and he always said "no, that's fine, that's fine". I think he was just delighted that we were performing his music and I guess he felt confident in what we were doing. So he really didn't have... maybe some little thing about the tempo in one or two of the pieces. What was interesting was with the *Oremus*, because in the score he shows that on every tone there should be changes in vowel. And I think that it was in one of my meetings with him that I asked, well could we do it this way, because I never really liked the effect of that. The effect of that piece is a little bit something different, and I asked him if we could have a uniform vowel and just change it progressively to augment the crescendo, to help the crescendo. He had no problem with that... and I wonder if he had even suggested that with the first group I heard, the Estonian group, because I think I heard in their version as well...

DE: The recordings that I have heard, and maybe they've been since your recording, have that as well. They seem to do the same thing, rather than everyone switching *ad libitum*. So otherwise, did he provide any insight into the music while he was present and while you were preparing, that perhaps changed or enhanced your performance?

GG: No

DE: So, when you're approaching his music what special considerations are necessary, if any? For example, are there special tuning considerations? Pacing, etc.?

GG: Yes, I think, use F sharp as a fundamental tone that scale. To me it is basically something like F sharp minor. Where the minor thirds, to me, I like to keep quite high in relation to the F sharp. So, every time I give a pitch to start, I use F-sharp. Then of course we have the strong fifth relationship to the C-sharp which is important, then we have the high G-sharp, a perfect major second. And then, I always, or nearly always--not with the *Oremus*, the *Oremus* I have performed with a big choir... But I think most of the other pieces, most of my other performances have been with a small group. To me it's like madrigal singing. I've done it with

four singers, I've done it with eight singers, and I've done it with 12. I think in Marktoberdorf we were 8 singers on those YouTube clips. I just think it's almost like singing around the table. So... let me see... other considerations...of course I like the whole rhythmic aspect of it. It's really wonderful. It's almost like, if you'll excuse the expression, you get in the groove, and you lock into that and you use it. So for me, a lot of this music is borderline pop music. It's almost crossover without his intending to be, because so much of his harmonic activity is so basic like good pop music. But I think the groove is very important, and this is what I try to bring out in my performance, I really try to concentrate on it. I find that this is something an audience is also really attracted to.

DE: So, you've mentioned this kind of crossover style as well as the phrase "singing around the table". Some music is more presentational while other music is more personal. Do you find that this music is more one than the other? Or is there a difference in your mind?

GG: I don't know if I would make those categorizations. When I performed them the last times, what I found most interesting is that I used these images, these projected images. It's been wonderful to take a step back and sort of sit and take it in. We sit in a dark room, and it's...it's atmospheric. It becomes not the singers who are important, but it becomes the atmosphere. So, in that respect the singers could be somewhere else, they could be invisible, and to just let the music speak, and be taken in by the music. Now whether you call that more presentational or more introverted I don't know.

DE: Well, that seems to be in line with much of what I'm gathering about his philosophy, because he not only includes these astronomical elements but many writings describe him as shamanistic as well. Do you have any familiarity with these shamanistic elements?

GG: Not really, not really. Of course, in a lot of his music there is...an Estonian root present. There are, you can hear almost ethnic Estonian folk music, and this is also connecting it to some kind of pre-Christian root. But I've never spoken with him about it. I'm not sure...he's written so much Christian music with Christian texts—the book of common prayer for Gloria Patri—he's written the set of Marian pieces, but I don't know if he is truly Christian. I think he is however surely a philosopher. He's finding music and texts that are common to humanity in a way. We commissioned another piece, I don't know if you've heard of it, it was for the Orpheus Vokalensemble, and it's also a sacred text but it is very eastern, the melody. This is something I know he's been exploring, this sort of middle eastern style. He's of course interested in his own heritage, in Estonian music but I think he's also interested in world music. The piece is called...I don't remember off hand...[the title of the piece is *Vulgata*]

DE: Well I think in speaking about the Gloria Patri the Latin mess of it speaks not so particularly about a specific religion but rather about that pre-Christian, primordial humanity, that transcends Christianity.

GG: Yes that's a good way of putting it. On the other hand, I don't want to interrupt you but the pieces have a connection with the Christian texts. The Credo for example, is using a very clear image of "one". And another pieces he captures the essence of the text from both a Christian perspective and a historical perspective, so that it does seem that he is aware of the symbolism of

the text in relation to Christian thought for instance.

DE: I know you've projected those images on the screen during performances of some of the astronomical music. If these images weren't projected do you think these elements are something that you would try to convey, or that could be conveyed? Or is it something that just is?

GG: They're really separate things. Once I was in Estonia for a summer camp that they have every summer in the country, a week-long choral retreat for young singers, choir singers, and Urmas came and he talked about his music. And while he played he projected these images and I said, "oh that's so lovely". And I thought, why couldn't I do this for the Gloria Patri, and I asked him, and he said "oh that would be great", and so I used his images. That's the time he came over. In fact he came and he brought those images with him. But really I wouldn't try to impose that upon the listener or on the performers. To me it's really just one dimension of his... it was the source of his aesthetic.

DE: So really it was just a starting off point.

GG: Yes. You know, you can explain it to people and they will think, ah, that's interesting, but it won't affect the performance, or how should I say, the *effect* of the performance, the success of the performance. But what I find in the music that is appealing to me are sort of these dimensions of this atmospheric music. Every piece has a different atmosphere, so I try to capture the essence of every one of the pieces, while at the same time keeping this relationship to the pentatonic scale, because as you go on from piece to piece you're still in the same pentatonic scale, this is what is amazing to me about it. You surely can perform one piece or two pieces or three pieces, but for me it was really interesting to test the bounds of singers and an audience-- what if we do all the pieces? And people say, oh no it's too long and then I say, no it's too short. We do all 24 pieces and I think, let's do them all again! You know, it really makes you think... about music and what music is, and what is time.

DE: Well it's certainly a grand effect.

GG: Yeah, but I don't know if anyone else has done all 24 pieces. You're asking a lot of singers and of an audience. You know, come to our concert... We are going to sing one and a half hours with five tones, [laughs] but it's a challenge, you know. I found people to be fascinated by it. It's a good challenge for the audience as well.

DE: Are you in a position to see any broader movements on which Urmas Sisask has an influence upon? Are these elements finding their way into the vocabulary of other composers or is he pretty unique?

GG: Mmm... that's a good question. I don't know if I can judge that in anyway...

DE: Or, perhaps a related question: where do you see him in the spectrum of the current generation of Estonian composers, maybe going back as far as Tormis, let's say the generation before him?

GG: The thing is I don't know what Urmas is doing now. He was composing some larger scale works.

DE: Yes.

GG: Yes, maybe you know...

DE: Yes he's done several masses and oratorios.

GG: Right, and I don't know if there have been any new commissions with larger pieces. He's a very special voice. He's very, very appreciated in Estonia. He's famous in that small country. He's one of the important voices for them.

DE: Yes, he's received many great awards in Estonia recently.

GG: Right. Now, I don't know about the success of his music, per se. For example, the Gloria Patri, I don't know whether people are interested in it, or if there is more and more interest growing in it, if it's being spread around the world. I have sung it many times and have shared it with colleagues and friends, and I would think people would be interested in it, but I don't if it is highly performed music now or not.

DE: When you have shared it has it been mostly with colleagues in Sweden or with the United States?

GG: No, all over the world I've performed this music. I've taken it to various seminars and conducting classes all over. You know, Arvo Pärt is a great international success. He is of course Estonian, but he may be considered more of an international figure. His music is more than Estonian somehow, but I would say Urmas' music is distinctive, but I don't know how or to what extent other composers have followed in his footsteps. I find that his language is unique somehow... well, my most recent project is with music that he composed a long time ago. Maybe you know them, they are 12 songs...

DE: The Marian songs?

GG: Yes

DE: Yes. I have looked at them.

GG: You found them?

DE: I did, I looked at them. I haven't studied them in detail but I am aware of them.

GG: Oh, they're glorious. They're glorious. So, this is the last one I did last fall with, we were I guess 12 singers, and we performed nine pieces, nine of them—nine of the 12. And they are really, really interesting.

DE: So you say these are very early works. Do you see any specific differences between those pieces and more recent works?

GG: Yeah, well that's the thing... these are really, for me they're more...they're in a Estonian also. Maybe that makes them for me more ethnic, more basically Estonian. You know, in a couple of them he uses the drum.

DE: He mixes in Latin in some of them doesn't he? I believe in the Salve Regina I seem to recall—

GG: Yes, he does. And that's the Salve Regina where he uses the drum [begins to sing "salve Regina", etc.]. These are strong dance like pieces.

DE: Yes, I remember looking at those and being struck by some of the repetitive rhythmic elements.

GG: Right, right.

DE: Well, those are all of my questions and then some. Thank you so much Mr. Graden I really appreciate again the time. Best for the rest of your time here.

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