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Concerto for Horn and Orchestra and Sofia Gubaidulina's Serialism

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CONCERTO FOR HORN AND ORCHESTRA AND SOFIA GUBAIDULINA’S SERIALISM

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The School of Music

by

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This work is in two parts. The first is a composition for horn and orchestra by the author, using a variety of styles that I have learned while at Louisiana State University and inspired by the pieces I have played on the horn. The second part is an analysis of Sofia Gubaidulina’s works that include twelve-tone serial techniques and the devices she uses in them and how her style changed through composing these three pieces, *Piano Sonata (1965)*, *Five Etudes for Harp, Double Bass, and Percussion*, and *Night in Memphis* composed in 1968. After these pieces Gubaidulina leaves the twelve-tone technique behind and has always said that she studied this technique as she would a technique that was 200 hundred years old, she took from it what she needed and left it behind. The hope is that this analysis will help understand what it is she took from the technique and open the door to the ways she may have used those devices in later works.
CHAPTER 1: CONCERTO FOR HORN AND ORCHESTRA BY MICHAEL PAUL MITCHELL

This piece is written using a variety of styles and inspiration from various composers. Elements connecting these movements are the contrast between the chaotic first movement and the smooth second with a combination of the two in the third. In the second movement a connection is made to Sofia Gubaidulina in that tonal, atonal and twelve-tone sections are used freely. Other composers used for inspiration are Charles Ives, Igor Stravinsky, Dmitri Shostakovich, and Paul Hindemith. The piece lasts 20 minutes in its entirety. Instrumentation used is 2+picc, 2+E. horn, 2+bass, 2+contra – 4, 2, 2+bass, 1, perc (toms, snare), timp, hp, pn, solo hn. and str.
GP in time
III.

Piccolo

Flute 1 & 2

Oboe 1 & 2

English Horn

Clarinet in B♭ 1 & 2

Bass Clarinet

Solo Horn in F

Contrabassoon

Horn in F 1 & 3

Horn in F 2 & 4

Trumpet in C 1

Horn in F 1 & 3

Trumpet in C 2

Tuba

Trombone 1

Trombone 2

Bass Trombone

Timpani

Percussion

Solo Horn in F

Violin I

Violin II

Viola

Cello

Contrabass
CHAPTER 2: INTRODUCTION AND BIOGRAPHY OF SOFIA GUBAIDULINA

Sofia Gubaidulina (1931) was born in Chistopol in the then Tatar Republic of the Soviet Union. She spent her formative years there and studied piano and composition at the Kazan Conservatory and later studied composition under Nikolai Peiko at the Moscow Conservatory and pursued graduate studies there under Vissalion Shebalin. Gubaidulina’s music was met with mixed reactions during her conservatory years and for some time after. Before her final examinations Shostakovich told her “My wish for you is that you should continue on in your own, incorrect way.” This continued throughout her life in the Soviet Union and she refused to work or write for the Party saying, “You prostitute yourself once, and you’ve lost everything.”

Gubaidulina was born to a Tatar father and a Russian mother and both these cultural influences have had some effect on her life and composition as well as that of her teachers early on who were mostly Jews of the elite and her love of German music and literature. Gubaidulina’s paternal ancestors were a line of Muslim Imams before the Russian Revolution. Her father grew up during the revolution and was a big supporter of the new regime. After his father’s death his mother pushed him to get an education, which helped shape Gubaidulina’s early life. Her father believed that any educated person should have some musical training, even though neither him nor his wife had any musical training.

It was this desire that his daughters have musical training that he purchased a baby grand piano. Gubaidulina recalls the day it was delivered as a “High Holy Day” and as “the most

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2 Ibid., 45.
3 Ibid., 66.
4 Ibid., 1-4.
5 Ibid., 12.
powerful experience of my life.” It was from this early event that music began to take on a spiritual meaning in Gubaidulina’s life. Despite the Soviet Union’s efforts to remove religion there were some who would cling to Orthodox Christianity and the Russian icon. It was an experience Gubaidulina had while praying in a courtyard in Kazan that she began to make a connection with her spiritual feelings and the icon. She recalls,

> Being naïve, I blurted out everything to my parents, and when they realized I was religious, they were horrified. This was forbidden! So I started hiding my emotional, religious life from the grownups, but it continued to thrive in me. Music naturally blended with religion, and sound, straightaway, became sacred for me.

It is this topic which tends to dominate most of the written work about Gubaidulina’s music, how it relates to that spiritual concept.

Gubaidulina has a large oeuvre that she is still adding to with her latest work finished in 2017. Her works were not well known in the West until the 1980’s with her work *Offertorium*, a violin concerto written for and premiered by Gidon Kramer. It is after this that she then starts to gain more worldwide recognition. She lives in the Soviet Union for a few more years after this but in 1992 she moves to Germany where she currently resides.

Her music is described as incorporating mysticism and the divine as well as the concrete and mathematical. Number series like Fibonacci are used as well as silence and gesture or the design of the cross being represented musically and physically by the player as is discussed in the literature section of this paper. She also uses unique instrumentation such as that in *Canticle*

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7 Ibid., 14.
of the Sun, for cello, chamber choir and percussion. While it features the cello prominently in the beginning, Gubaidulina does not consider it a concerto. Her 10 Preludes for solo Cello also receive a lot of attention with each prelude using a specific playing technique. She is also fond of the Bayan, a type of accordion found in Russia, written for in her Fachwerk for Bayan, Percussion and Strings, Triple Concerto for Violin, Bayan, Cello, and Orchestra, Sieben Worte and Silenzio.

Gubaidulina had her own way of exploring musical techniques and preparing for pieces. She would delve into a subject and study it out fully before attempting to compose a piece and the same holds true for her serial works. She started to use the technique about 5 years after her contemporaries, like Schnittke and Denisov, had already started to make heavy use of it. She says she approached “dodecophany as a researcher, analyzing it as eagerly and thoroughly as one would any historical period. . .” After this study Gubaidulina then wrote three pieces using the technique, Sonata for Piano, Five Etudes for Harp, Double Bass, and Percussion, and, Night in Memphis. She viewed twelve-tone music as something to learn, master, move past or as she puts it “Then he will take upon himself a new burden.” She composes these three pieces and then moves on from the technique.

While Gubaidulina’s music is performed often and is well received, there is very little written about her work from a theoretical standpoint. Part of the reason for this lack of attention is that her work seems to defy conventional analysis and is hard to pin down exactly what it is that is happening in the music. This dissertation is an attempt to address the lack of attention

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10 Ibid., 65.
11 Ibid., 66.
given to Gubaidulina’s works by analyzing her three works that use serialism. She says of serialism “Some composers of my generation lived in this tradition and others went beyond it; I am one of the latter.”¹² Perhaps by studying her serial works it can provide a foundation from which one might be able to address how she moved beyond serialism in her later works.

CHAPTER 3: REVIEW OF LITERATURE AND ANALYTICAL TECHNIQUES

Most of the literature written about Gubaidulina’s music consists of interviews and reviews of performances of her music. The exceptions being several dissertations, a thesis, three scholarly articles, and a biography. These works do provide some insight into Gubaidulina’s spiritual approach to composition and some of her later style after she had already moved on from serialism. While these do provide us some insight into her life and works the most revealing seem to come where the composer herself is allowed to talk about her works, especially Michael Kurtz’s biography about Gubaidulina and a series of interviews conducted by Vera Lukomsky and one with Bruce Duffie. This literature review selects only those that provide either analysis of Gubaidulina’s works or some insight into her compositional process and as will be shown none focus solely on her serial works.

The work that seems to be the weakest is the thesis, “Uncovering Three Trumpet Works of Sofia Gubaidulina,” by Dillon D. Parker. This paper does a very surface analysis of Gubaidulina’s Song Without Words, Two Ballads for Two Trumpets and Piano, and Trio for Three Trumpets. All three of these pieces were written in the mid-1970s and are different than other pieces written at that time. The analysis is an attempt to bring to light the importance of these works to the trumpet repertoire and perhaps place them in the common repertoire of the trumpet. The author points out that while some Russian composers’ music has been indeed important that the works are from the early- to mid-1900s and are in a late Romantic style.¹ There is an attempt to show that these three works would provide an important addition to the repertoire as contemporary selections from a Russian composer.

In the analysis, each piece is taken one at a time and provides some context of the style of each piece. However, I find the lack of examples to be disconcerting and the ones that are provided are not well marked or captioned. In the analysis for Song Without Words there is a simple formal analysis followed by a harmonic analysis. The harmonic analysis puts the piece in G minor but at no point is it discussed why that conclusion is made nor does it show how the chord progression illustrated in Figure 1 is resolved. Instead the text states it simply begins again and repeats. No connection is made to the cluster chord at the supposed V and the rest of the piece. The other analyses are similarly written with simple surface elements explained and some connections made to the movements within the pieces themselves with some elements ignored completely.

In one dissertation by Fay Damaris Neary, “Symbolic Structure in the Music of Gubaidulina,” the main focus is how the music relates to the religious context of Gubaidulina’s In Croce and the symbolism of Garten von Freuden und Traurigkeiten. All analysis relates the musical and structural forms of the pieces to what the titles refer to either the cross or a series of poems dealing with two contrasting worlds. Relationships are made between pitch centricity on A and the spiritual in In Croce as well as certain structural elements that appear to make the figure of a cross. This is made clear multiple time throughout the chapter but would be more clear with proper musical examples. The second work is related to the first in pitch centricity on A and relating certain themes to themes in the poetry of Iv Oganov and Francisco Tanzer.

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3 Ibid., 8.
5 Ibid., 49.
author spends time detailing the piece out into its different sections and what each section contains and how each instrument is used or interacts with each other. In the analysis of In Croce they refer to the musical sections as moments but for Garten von Freuden und Traurigkeiten they refer to the different sections as though it were in sonata form with an exposition, development, and recapitulation. These terms are being used loosely as no harmonic connection is truly made between the sections and it would seem that this is being used in reference to an ABA form for the piece with a shorter repetition of the A section. The analysis seems sound but the musical examples provided are hard to read and interpret. They also spend a lot of time referencing Kholopova’s introductory analysis of both works, which they mostly agree with and use as a jumping off point for the analysis, with a few minor points with which they disagree.

The second dissertation is by Lyudmila Kise, “Part I: Sofia Gubaidulina’s Approach to Pitch Centricity in Two Paths: Music for Two Violas and Orchestra a Dedication to Mary and Martha (1999).” Kise does a good job of tying the spiritual with the theoretical by showing not only how pitch centricity is a key component of this work but also pointing out instances where Gubaidulina has specifically brought in ideas that are meant to represent the divine. For instance, she cites a four-note motif that is related to the cross in Gubaidulina’s String Quartet No. 4 which also appears in Two Paths but is used on the pitch that Variation 1 is centered around E. Kise also identifies how this centricity spins out to form the rest of the variation. Kise also

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7 Ibid., 14.
identifies the different symmetries and ways that different aspects of the piece are derived. In chapter 2 Kise focuses on the inversional symmetry in Variation I and 5 in the two solo viola parts and how each violists’ notes are derived from this symmetry which spreads out and modulates around a dyad. Kise takes each variation apart and tries to bring in the important element of the spiritual or divine as is appropriate for this piece. The examples are clear and it can be seen the way Kise analyzes the piece, that the piece is pitch centric and relates the pitch centricity of all the variations together and shows how those different elements come back in the final variation in their various forms.

The third dissertation is from a recital of 20th and 21st century violin works that were recorded by Paul Bagley at the University of Maryland. Bagley records one of Gubaidulina’s pieces, *In tempus praesens*, a violin concerto originally written for Anne-Sophie Mutter. Bagley’s, “Mysticism in 20th and 21st Century Violin Music,” does make some mention of analysis and form however it is very limited but does provide some important insight into Gubaidulina’s process in that he mentions her use of numerology and specifically the Fibonacci sequence. Bagley also ties in very well the use of the spiritual by discussing the conflict between the soloist and the orchestra which is described as the soloists striving to reunite with God. This conflict is heightened by the absence of violins in the orchestra.

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10 Ibid., 10.
In another dissertation “Discontinuous Continuity?: Structural Analysis of Sofia Gubaidulina's String Quartets,” Joseph Williams seeks to show how each quartet contains a compositional process by which they are structured to attain continuity throughout. He discusses each quartet and the process contained therein. *String Quartet No. 1* he states uses an expansion process whereby the material is built by starting on one pitch and slowly expanding that material through a couple of processes. The first process he labels the “wedge expansion”\(^{11}\) whereby a note is expanded out from in both directions at first by quarter-tones and then expanding ever faster by half-steps. The other process is by “additive expansion” or as the author labels it “ADDONE” whereby a series of intervals are sounded and then when sounded at again, either at the same pitch level or another, the second interval is increased by one half-step. He then states that this second expansive process is also applied to the rhythmic values with an expansion of three note themes. He states that each trichord is performed with the first two notes as sixteenths but the final pitch is elongated with each successive trichord by adding a sixteenth to the end.\(^{12}\)

In *String Quartet No. 2*, they seek to illustrate two different processes one called the “gap-fill” and the other being inversional symmetry. The so-called gap-fill is a process by which two notes are stated and then are filled in chromatically by the other pitches. The inversional symmetry is demonstrated by showing an axis of G4 with the violin winding its way melodically up to G5 and the cello using the same starting pitch and inverted intervallic movement makes its way down to G3. This is also achieved using the gap-fill method at the same time which is how the author shows a continuity between the two sections. The main difference being that in the


\(^{12}\) Ibid., 36-37.
true gap-fill the two outer notes are stated first and then filled in whereas the inversional symmetry is developed to its outer notes before they are stated.  

In *String Quartet No. 3*, the author attempts to show the works continuity through “intervallic definition.” This is defined as using the interval vector to define the pc set by its interval usage rather than the actual pitch sets themselves, or that certain intervallic features of a pitch set can be shown to serve certain purposes within the piece. The author says that ic5 serves the function of “formal boundaries”. He also emphasizes the importance of ic1 but to a much lesser extent than ic5.

In *Sting Quartet No. 4*, the focus is on “vertical sound masses” which is an attempt to show the vertical pitch collections through what the author refers to as a fairly static quartet. This might be the hardest one to analyze and he even states that a lot of the musical elements defy analytical explanation. One aspect that is not mentioned is how the two recorded ensembles are tuned differently than the live ensemble, which effects how the piece is heard. One recorded group is a quarter-tone higher while the other is a quarter-tone lower and the written pitches while written out as standard pitches are not heard in that manner and any analysis should begin by addressing it from the outset. The author does a decent job though of showing the verticalities move using GLIDE and FLIP functions, terms he borrows from Jonathan W. Bernard’s analysis of some of Ligeti and Varese’s works, as the pitches move horizontally from one vertical mass to

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14 Ibid., 65.
15 Ibid., 67.
16 Ibid., 68.
another. A GLIDE is a movement at a specified interval that maintains the original notes while adding notes either above or below the originals. A FLIP will take one pitch and use it as an axis in which to pivot around at a specified interval.

In the analysis the figures seem to illustrate exactly what Williams is trying to convey. The paper seems to be well prepared and thought out although the last quartet does seem to be the one that is weaker in analysis which the author mentions in his introductory paragraphs. If anything, this shows how Gubaidulina’s style has changed over time to incorporate or use different techniques to develop melodic and harmonic material.

In some interviews conducted with Gubaidulina she discusses some of her technique and approach to composition that are helpful and in particular in the interviews by Vera Lukomsky. Lukomsky asks Gubaidulina about her approach to composition in *Tempo, New Series* July 1999, “‘Hearing the Subconscious’: Interview with Sofia Gubaidulina and in particular in reference to numbers. Specifically series of numbers such as the Fibonacci and Lucas series and series of numbers that are similarly derived. These series are derived by adding the successive numbers together, such as in the Fibonacci series 1, 1, 2, 3, 5, 8, . . . and the Lucas series which starts 1, 3 but continues in the same manner of adding the previous two numbers. Gubaidulina also discusses her use of series derived the same way with different starting numbers which do not have specific names.

In another interview with Lukomsky, in *Perspectives of New Music*, 1998, “Sofia Gubaidulina ‘My Desire is Always to Rebel, to Swim Against the Stream!’” Gubaidulina

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18 Ibid., 74.
discusses an analysis she did of a Bach chorale, *Vor Deinen Thron tret ich hiermit*, which she uses the number of quarter notes and entrances to show the organizational symmetry and Bach’s organization of the piece. Gubaidulina then uses that to write a piece that is based on that organizational model (see figure 1).

![Figure 1. Gubaidulina's drawing of the organizational symmetry in "Bach's Series." Drawn by Gubaidulina taken from Perspectives of New Music Winter, 1998, p. 18.](image)

This helps show that Gubaidulina’s organizational process has developed into a highly organized one at least as far as form is concerned. Each time she is asked what the most important aspect of her music is she refers back to the “rhythm of the form.” Gubaidulina also refers to her disdain for the avant-garde term and her desire to write the music she feels she is supposed to write, unhindered by any desire to be new or innovative.

The next works to be discussed are the three scholarly articles that have been published. These deal with two new topics, expression parameters, and bodily gesture and one familiar topic, that of numbers. Each one takes a look at Gubaidulina’s music from a different perspective
to try and explain different aspects of her music, most of which stems from either a formal or performance perspective of the music.

The first published article is Tsenova’s “Magic Numbers in the Music of Gubaidulina” in which she uses Fibonacci series and Lucas sequence to analyze Gubaidulina’s music from the 1980’s and 1990’s in general. They discuss the use of Fibonacci in the organization of how many bars are in the eighth movement of *Perception (1983)* and that the phrase length increases in length according to the Fibonacci series starting with 3 measures and then 5, 8, etc..\(^{19}\) Tsenova illustrates how this can be applied to a piece using the Lucas sequence to derive the number of measures of the whole piece but also for each section and how it produces the form. In *...Heute früh, kurz vor dem Aufwachen...* (1993) Tsenova shows that each section corresponds to an amount derived from a number in the Lucas sequence and that the 18 measures of silence plus the 199 measures of sound add up to 217 another number in the sequence. Tsenova breaks down each section and gives it numerical value within the Lucas sequence from the large picture to the opening motives.\(^{20}\) She then goes on to show in other pieces, which Gubaidulina has stated were derived this way, that Gubaidulina applies this numerical sequence to not measures or of time, but to the number of beats themselves and gives them numerical meaning. She states that the numbers given to the piece *Meditation on the Bach Chorale “Vor Deinen Thron tret ich hiermit”* are used to spell out Bach’s name in a variety of forms, Jesus Christ, and Sofia.\(^{21}\) Gubaidulina often talks about the mathematics she uses to derive different elements of her piece and Tsenova covers at least the main areas in which Gubaidulina has mentioned that she uses them. One

\(^{20}\) Ibid., 258.
\(^{21}\) Ibid., 259-60.
element that is lacking is the evidence being shown within the music. The values and math are
great but it would be nice to have one example that shows the math being used in analysis.

The next article is Michael Berry’s “The Importance of Bodily Gesture in Sofia
Gubaidulina’s Music for Low Strings,” which deals with how the gesture is important to the
sounds that are created but also argues that some of Gubaidulina’s music has gestural motions
that are more important than the sound create. Berry begins with an explanation of gestural
theories in both music and linguistics and how gesture is usually subservient to the sound being
created, that it is a byproduct of the composition to create a certain sound. Berry cites several
sources that state this but go on to say that while the gesture may be secondary it is crucial to the
performance.22 Berry explains, “A musical gesture is a movement of the body that is intended to
produce sound or to convey non-musical (non-sonic) information to the audience about the
performance.” He also deals with a third type of gesture which are movements to communicate
to the other performers in the group and he calls these gestures “cues.”23 Berry then discusses the
three different gestures and how they relate to Gubaidulina’s music written primarily for the bass
bur includes a couple of cello examples. He then goes on to discuss the gestures written in the
score Stimmen... Verstummen... for the conductor and how the gestures are suggested by
Gubaidulina herself to shape the music as well as the silence in which the conductor is still
gesturing.24 Berry’s article is well thought out and as he explains at the end there is plenty of
room for more research into this topic. Perhaps the best examples of what he is describing are the
videos in which he performs the pieces so one can couple the movement with the music.

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23 Ibid., 10.
24 Ibid., 32-34.
The last article on Gubaidulina’s work is by Philip A. Ewell, “The Parameter Complex in the Music of Sofia Gubaidulina.” This article takes Kholopova’s theory of the expression parameter, which she developed as a way to analyze Gubaidulina’s music, and looks at Kholopova’s analysis of *Concordanza* and then applies it to the *Ten Preludes for Solo Cello*. The expression parameters are a set of ten parameters, five consonant and five dissonant, that consider the “articulation and methods of sound production, melody, rhythm, texture, and compositional writing,” of Gubaidulina’s music. Each one of these parameters is used to build what Kholopova calls a Parameter Complex for *Concordanza* and lists which elements constitute the consonant and dissonant sections of each expression parameter. Kholopova uses these expression parameters to show unity in the form of *Concordanza* which when analyzed traditionally would seem formless and shows how they form “macrothemes” throughout the piece. These are shown in Ewell’s examples 1 and 2 which he borrows from Kholopova’s text. Ewell then goes to show his analysis of the *Ten Preludes* which was written a few years after *Concordanza* and the expression parameters seem to basically be the titles of the movements. He also relates that Gubaidulina is elevating the smaller musical elements like articulation, to become more than that and have significant organizational meaning. Ewell provides a parameter complex for Prelude 7 and a practical demonstration of how it might be performed to fully express the piece and use all the parameters with which Gubaidulina is instructing the performer to do. Ewell applies Kholopova’s ideas very well and it is great that he chose the

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26 Ibid., 4, 7.
27 Ibid., 13.
28 Ibid., 17-19.
preludes for this purpose as they are perhaps some of the more obvious examples of Gubaidulina’s application of this method of writing. Ewell’s performance example is also helpful is showing that the parameters apply to the whole performance and not just what is written on the page.

The last work written about Gubaidulina is Michael Kurtz’s biography, Sofia Gubaidulina: A Biography. This is the first biography written about Gubaidulina with interviews of family, friends, and the composer herself. This helps provide some insight into the composer and her spiritual nature, with some hints at her compositional process. Mostly it is a chronological account of her life up to 2001 with the English translation being published in 2007. It covers the events of her life through each piece and how she came to be where she was at the time. It’s considered one of the most comprehensive works about the composer to date although it does not discuss her music in any analytical context. This is not surprising as the book is setup to be purely biographical while tying her music to the instances in her life at the time of composition.29

Analytical Techniques

As this paper will be an analysis of Gubaidulina’s serial works the primary emphasis will be on set classes, tone rows, and how the tone rows are used in relation to each other. The primary source for these techniques will be from Joseph Straus’s Introduction to Post-Tonal Theory (3rd Edition). Numbers will be used to represent pitch-classes in modulo 12. The rows will be referred to by Prime (P), Inversion (I), Retrograde (R), and Retrograde-Inversion (RI)

with the subscripted number referencing the starting pitch-class for each row. While using the integer notation I will use t and e for 10 and 11 respectively.

An attempt at an analysis from a Russian perspective will be applied to each piece using Kholopov’s Harmonic Analysis that has been summed up in English by Zachary A. Cairns. In Cairns’s article he discusses how Kholopov addresses what he terms gemitonika or hemitonicism to analyze works that are either non-tonal, neo-tonal, or twelve-tone. In it is stressed the semitone and chromaticism but Kholopov shows that the system can be applied to a variety of music and Kholopov himself equates the term hemitonicism with dvenaidtsatitonovostor “twelve-toneness.” Kholopov uses a system in which numbers are used to represent the intervals between pitches in various chords. For instance, a trichord consisting of 012 would be labeled as 1.1, with each number being the number of semitones between each pitch when stacked in its smallest form, or if it were 013 then it would be 1.2 with 1 semitone between pitches 0 and 1 and 2 semitones between pitches 1 and 3. The techniques most applicable are those discussed in the section on Denisov’s Romantic Music. The ideas would include intonation base which is the repetition of the series or sections of the series and serial pedaling or the repetition of already stated notes throughout the statement of the series.

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31 Ibid., 10-11.
CHAPTER 4: PIANO SONATA (1965) BY SOFIA GUBAIDULINA

Sofia Gubaidulina’s Piano Sonata (1965) is her first use of the twelve-tone technique but only in the second and third movements. She however does not always use it strictly in the Western sense of twelve-tone music. There are some extended techniques such as the use of a bamboo stick rubbed against the strings, and pizzicato of the piano strings, always in the low register. There are sections of each movement that abandon twelve-tone technique and then work their way back to it. The movements will be discussed in order, and will show how Gubaidulina uses this technique to work out the sonata, and how each movement is connected.

In analyzing this piece, the first thing one should notice is the number of rows used in its creation. All but four of the forty-eight rows are used, RI_{11}, RI_5, R_5, and R_9 (see figure 2).

![Figure 2. This is the matrix for the sonata with the rows that have been used highlighted.](image-url)
When looking at which rows are unique to each movement or which rows are used in all three movements there does not seem to be any real connection or reason for using a row in only one or all the movements. Of the rows used in all three movements P₁, R₀, R₁, and R₁₂ are the only ones that one could connect simply because they create a (012) but they are not necessarily connected in the way they are written out in the movements. The first time the row is stated directly without any simultaneities or interruptions is in movement II m. 28 on P₁₁ (see figure 3).

Figure 3. M. 128 of movement II with pitches counted for row P₁₁.

The first movement, at first glance, does not apply the twelve-tone technique strictly but does begin to shape the row form for which the other two movements are based and then begins the make extensive use of the many different row forms. In looking at mm. 1-11 it could be very loosely applied to I₁ in that it starts with 1 2 0 and ends with e, however if you exclude repetitions of pitches, the order appears as 1 2 0 6 9 5 7 4 3 t 9 8 e. The opening three pitches and the last pitch are the only ones to appear in order (although the opening sound is a simultaneity). This may be that Gubaidulina sees the row as more flexible than it is thought of in the West, that as long as enough elements exist, regardless of order or perhaps a few missing pitches the row is functional. The opening trichord is the pitch classes 0 1 2 and is a trichord that recurs throughout
the first movement as well as transpositions of (012) and is broken down into the subset dyad (01). The semitone proves important throughout all three movements. The first moment in which the (012) is transposed at $T_1$ is in m. 32 and is the pitches 1 2 3. Then at m. 35 the trichord is spelled melodically as 7 6 8. This is one of the few instances where Gubaidulina uses this set in a horizontal fashion with its use primarily falling between mm. 35-51. This gets transposed one more time up a whole-tone to 9 t e and then the beginning material repeats at m. 52. This is not however a strict repetition of the material as it is presented in far fewer measures shortening various parts of the first section into mm. 52-60. In m. 57 there is a, 11-note cluster chord that is only missing pitch class 2. This is an element that gets used to some extent in the subsequent movements with rows being presented in subset and leaving out a pitch. There are moments in which this section moves into tonal-like areas, particularly in mm. 23-27 where the pitches of e 0 2 4 5 7 9 (it appears to be A minor ending on an A) are sounded in descending sixteenth notes and again in m. 60 after a chromatic descending scale in mm. 58-59.

The first instance of a row being directly stated is in mm. 61-62 or rehearsal 6 which states $R_6$ followed by $R_9$ and $R_{14}$. M. 64 starts $P_1$, however near the end of the row where it combines with the end of $P_3$ (mm. 65-67) the pitches e and 6 sound after pitch 9. This is something that comes up on occasion in her works where some pitches sound out of order while the row still finishes and sounds all twelve pitches. This may explain the opening of this movement and the more freely atonal sections that occur in all three movements.

In mm. 69-81 there is a free atonal section and then in m. 82 starts a subset of $I_2$. Gubaidulina leaves out pitches 3 and 1 entirely and do not sound until the next row $P_0$ elides with $I_2$ in m. 93. This section emphasizes pitch class 2 and a melodic motive in the left hand is placed between each of these rows. This motive starts on pitch 2 and uses the chromatic descending idea
from mm. 58-59. This continues with I₃ in the end of m. 96, with an elision to I₁ in m. 102. All four of these rows are in the right hand and are broken up by the left-hand melodic figure. The I₈ and I₁₀ sound right after each other in the right-hand and do not elide. This starts the breakdown of the left-hand figure as well as the pedaling on pitch class 2, as it becomes more and more spaced out and more of the twelve-tone row is used for material. This is when three rows are stated before the left-hand material comes in again. Starting in m. 106 there is I₈, I₁₀, and a partial I₇ which is broken up by the left-hand figure and then finishes in m. 118. Here in m. 118, I₅ is stated split in between both hands, and then I₀ is stated over the last three notes of I₅. This is where the pattern that has been setup is broken. Up to now the rows have been used at a transposition of T₂ or T₁₀ all being inverted rows except for P₀. These occur in pairs P₀ and I₂, I₃ and I₁, I₈ and I₁₀, I₇ and I₅. They alternate between going up two semitones and down two semitones.

At the end of mm. 122-130 rows I₆, I₁₁, and I₀ are used before the left-hand figure is used again, this time an octave higher and a dynamic level lower before it finishes in m. 139 and is not used again. From mm. 130-143 no rows are used but it does bring back the set (012) at T₂. Some pedaling begins on 2 4 5 6 8, which when first played includes pitch class e, but then pitch class e is not used again in the cluster. This cluster does finish the row R₁₀ in m. 148 with the pedaling continuing until m. 178 beat 2. In m. 151 there is P₀ and then in m. 154 there is R₀. This might be the first time where there is what would be considered a more traditional Western use of the tone rows where one is stated and then directly retrograded. A subset of P₅ is used on the and of 5 in m. 158 through beat 3 of m. 160 and is missing pitches 3 and 4. Another row does not appear until m. 166 where rows R₁₀ and I₀ follow each other in the same manner as P₀ and R₁₀ did previously. There is one difference in that the rest that follows R₀ previously, now splits the row
I₀ into two parts the first tetrachord from the final eight notes. Gubaidulina also repeats two four note sections of I₀, the first tetrachord and last tetrachord of the row. Then she uses I₇ and repeats only the final tetrachord of that row in mm. 175-176.

While the pedal continues for a few more beats it changes to a knew trichord e 4 5. P₇ also starts at the same time as this new pedal presents itself. The pedaling usually does not involve the rows going on at the same time. Occasionally there will be a row that reaches down to grab a few notes from the pedaling chord but very rarely as is the case in m. 181 where RI₇ grabs notes form the pedaling trichord. The end of RI₇ is joined with R₇ on the and of beat 2 with pitch 7 sounding at the same time as pitch 9. R₇ ends in m. 183 and in m. 184 the trichord changes into a tetrachord on pitches e 3 4 5 which contains the opening set (012). Also, in the same measure she begins to use a tetrachord subset of either P₄ or I₄, 3 4 5 t (see figure 4). The exact row is hard to determine as she does not use the whole row and the pitches are presented out of order.

Figure 4. MM. 183-186 with trichords and tetrachords notated in boxes.
The opening interval of this new material, however sets up the closing sections of the movement which emphasizes the interval of 5 semitones. This is further emphasized in m. 186 when the pitches change to 7 8 0 1. Looking at these two sets and the interval vectors of those two sets, 3 4 5 t is 200121, and 7 8 0 1 is 210021, they share three intervals in common, the semitone, the perfect 4\textsuperscript{th} and the tritone. Then in m. 189 there is the row I_{9}, with a repetition on the first tetrachord four times, the middle tetrachord once, and the final tetrachord twice. Each repetition ends with the first two pitches of the tetrachord as a dyad. Then R1_{9} is presented, the P_{4}/I_{4} tetrachord is repeated almost identically and then P_{9} enters right at the end of m. 198. This ends this section of the piece in which rows are presented in groups of three based around the same pitch class, either starting or ending the row that is I_{7}, P_{7}, and R1_{7}, I_{9}, R1_{9}, and P_{9}.

There is a measure which contains two tetrachord subsets of rows R1_{2} and P_{8}/I_{8} which are separated by a connecting semitone on pitch class 1 in m. 200. P_{0} follows this in m. 201 with repetitions of the first tetrachord from mm. 201-204 and then in m. 205 the rest of the row is completed. This starts the next succession of rows in m. 206 that are all retrograde and separated by a semitone, R_{1}, R_{0}, R_{11}, and R_{10}. This pattern starts again but never gets very far with R_{3} and R_{2}. Taken together these rows cover an interval of 5 semitones total, which can be seen as emphasizing the semitone and the perfect 4\textsuperscript{th}.

The pedaling chord changes again in m. 212, t 1 3, which starts a new section. This is paired with another trichord, 1 4 8. In m. 213 the subset of P_{4}/I_{4} enters again and has the lower trichord underneath it. This is set between repetition of the upper trichord until m. 223 when P_{5} is stated again with repetitions of the first tetrachord through m. 224 and the rest of the row in m. 225. P_{5} is stated again in its entirety at the end of m. 226, however it is separated by two tetrachords borrowed from R1_{10} and P_{8}/I_{8} like m. 200.
The following section, mm. 227-266 abandons twelve-tone and begins to focus on the intervals of a 4\textsuperscript{th}/5\textsuperscript{th} and the semitone with alternating sections of melodic 4ths and 5ths and a chromatic descending line. This is all done while standing on pitch class t and eventually ends up in a descending A major scale. There is then an interjection of twelve-tone rows in mm. 266-269 on rows P\textsubscript{10} (without pitch class e) with a slight reordering of the pitches as 3 and 8 occur too early, P\textsubscript{9} which elides with P\textsubscript{11}. These three rows’ opening pitches 10, 9, 11 outline the set (012) further emphasizing its significance.

The rest of the movement does not involve any strict twelve-tone techniques, however the 4\textsuperscript{th} and semitone continue to be emphasized in melodic fragments and numerous cluster chords. An analysis of these clusters never fits them into any of the rows or partial rows. At m. 325 she begins to incorporate some tonal triads and seventh chords, with the first being Bb major. She ends the piece with a C\# major chord in the left-hand and an A in the right. The left-hand is held attaca into the second movement.

The first movement is the most involved as far as the transitions from twelve-tone to freely atonal and freely tonal. It is also, by far, the longest movement of the sonata. As can be seen in the previous paragraphs, Gubaidulina uses a lot of different rows in different ways, grouping them to create structural significance to the piece and using them to create the specific sections throughout. The second and third movements are no exception despite their shorter duration.

The second movement’s structure and use of rows is a little less complicated than the first. All the rows are in the left-hand with four exceptions I\textsubscript{3}, RI\textsubscript{4}, RI\textsubscript{5} and R\textsubscript{1}. The sequence of all the left-hand rows involves a motion of the semitone as the starting and ending pitches relate to each other. For instance, the first row form used is P\textsubscript{1} in mm. 2-3, then RI\textsubscript{2} in m. 5. The first
pitch and last pitch of those two rows are a semitone apart. This then follows throughout the movement until all twelve pitches have been used as a basis for starting or ending a row (see figure 5). This semitone motion is reinforced further with almost every row starting a semitone away from where the previous row ended as well, which explains the specific choices in the versions of the row (see figure 6).

Figure 5 This shows the order of the rows used in movement II. Each row is shown in the order it appears and in which hand it is used.

Figure 6. MM. 29-30 of movement II with the lines showing the semitone connection between rows I₃ and RI₄. This also shows the lingering pitch 3.

This does not happen without some interruption, though. All the rows from P₁ through RI₁₀ occur within the first 18 measures or about one-third of the way through the movement. Then all four row forms involving pitch class 6 are stated before completing the remaining three pitches for all twelve rows. R₁ is used technically making it thirteen rows but, this does give the piece a rounded structure as it ends with the retrograde of the first row stated to bring in the cadenza.

After the first two rows are stated and I₃ is introduced Gubaidulina begins to sit on pitch class 3 from mm. 7-21. This pitch is sounding the entire time whether being held or repeatedly
struck and then tries to hang on during the section where pitch class 6 seems to take over but eventually dies away.

The cadenza abandons twelve-tone technique for its duration but still emphasizes (012) in the bass figure 5 6 7. The pizzicato figure is introduced back in m. 4 with a six tone descent that seems to allude to something in F, however as it is developed further a variety of sevenths are used as they fit in with the six notes originally stated but adding in the seventh tone of pitch class e. This pizzicato figure alternates with the three-note motive. It should be mentioned that a performance note states that the cadenza may be used for improvisation on any notes. For a time, the pizzicato tries to avoid any reference to a semitone by using minor sevenths until finally at the end pitches 4 and 5 dominate leading out of the cadenza.

The movement finally finds its way back to I₃ in m. 34 and reinstates pitch class 3 all the way through until the last row R₁. This final row has the intervals inverted, opening the intervals to that of greater than an octave. While the first row P₁ is stated in small intervals all fitting within a span of 11 semitones this closing line features large leaps, often greater than an octave until the final dyad 0 1.

Movement III is more related to movement I with repetitions of portions of the row in between the additions of new notes until the row is completed and using the 0 1 2 trichord for pedaling purposes and in this case more so. The movement begins with a statement of I₁ where the first trichord is repeated in various ways from mm. 1-5. In m. 6 there are finally some additions to the row with the next five pitches (see figure 7). These pitches are repeated as trichord, dyad, trichord before the remaining trichord of the row is finally stated. R₁ is then used over the 0 1 2 trichord pedal. It is first stated in single notes, then simultaneous dyads until the
last two notes which are horizontally stated. RI₁ is used followed by P₁ finishing out all four forms of pitch class 1 with a repetition of RI₁ bringing it back to the pitch the piece started on.

The next section of the piece uses the four row forms on pitch class 2. Starting with P₂ then RI₂, R₂, and I₂, and all of this is still being done over the 0 1 2 pedal which is being created from fragments of the opening idea. The final I₂ is only a subset leaving out pitch 5 with some alteration to the order. At this point it starts to become clearer that on occasion Gubaidulina will use an incomplete row and out of order, as though sometimes what she wants to happen musically will be more important than a strict adherence to the row form and that as long as the main elements of the row are intact, mainly the beginning and end, the row is considered complete and functional.

Figure 7. I₁ with a pedaling 0 1 2 in mm. 1-9 (ending at the vertical line).
After these four rows is an interjection of free atonality with the subset of the first
tetrachord of $P_4$ before moving on to the next section and statements of row forms of pitch class
0. Starting with $I_0$ then $P_0$, $RI_0$ and $R_0$. This now completes a circuit of all four row forms over a
pedaling 0 1 2 figuration using the pitches 0, 1, and 2 cementing not only the semitone concept
further, and the set (012) but those three specific pitches, which start all three movements. At this
point the 0 1 2 pedal begins to disappear and is replaced by a chromatic ascending dyad (01).
This does not last long as 0 1 2 begins to assert its dominance again a few measures later.

The next series of rows are all stated straight through on eighth notes. This is unusual in
the piece as the rows when presented has at least one simultaneity in it. These rows also differ in
that the rhythm is straight forward with no dotted rhythms and no tuplets. These rows are $I_2$, $P_3$,
$I_{10}$, and $I_1$. Once the dyad motion stops a series of tetrachords takes over and then the 0 1 2
trichord comes back in m. 36. $I_9$ is used starting with a pentachord reestablishing the cluster-like
sounds that dominate the piece. $R_6$ is used without pitch class 7 and then two more pitch class 6
rows, $RI_6$ and $I_6$. It is at this point that the chromatic dyad ascent makes its return this time as a
(012) trichord. This is all done under rows $I_5$, $I_4$, and $P_4$. The 0 1 2 pedaling returns this time
under $RI_4$ and $R_4$. This is a shortened version of the opening of the movements structure with
rows on 4, 5, and 6 but without stating all four row forms. This could be seen as the same
element used in movement I’s freely atonal opening as when it returns it is severely shortened.

The next few rows are written similarly to the last row of movement two with very
disjunct motion. These start with $RI_3$, $R_3$, and then all four rows on pitch class 8, $RI_8$, $R_8$, $I_8$, $P_8$.
Then starting in m. 59 there is a quartal section with a pedal on pitch class 8. This is like the first
movement in mm. 241 and how the pedal on 8 is started in the third movement is the same as the
first at T\textsubscript{10}. The one element lacking in movement III is the chromatic descents that were present in movement I.

In m. 77 rows begin to appear again and this time three repetitions of P\textsubscript{5} are used broken up by (012). The repetitions are almost identical with the middle one missing pitches 3 and 10. Then there are three statements of pitch class 10, rows, I\textsubscript{10}, P\textsubscript{10}, and RI\textsubscript{10} before returning to the pitch class 8 quartal material. It is here that the piece remains until m. 124 where tetrachords and pentachords begin to dominate. These chords however do not fit into any of the row forms strictly. In m. 128 there are 11 note cluster chords, while these clusters finish the aggregate in the measure it would be hard to hear any twelve-tone row in them and is accenting the semitone cluster sound of the piece. Finally, the last measure contains all twelve tones in two cluster chords each stating six tones [t,0,1,2,3,4] and [(4),5,6,7,9,t,e] with a repetition of pitch class 4.

In an attempt to apply a form of Russian analysis to this piece two elements stick out, the presence of semitones in all trichords throughout the row and the use of serial pedaling. To use Kholopov’s hemitonic labeling system of boiling down each trichord so it is very compact we see that each trichord contains a semitone (see figure 8).

![Figure 8](image)

Figure 8. You can see here that the semitone is within every trichord reinforcing the semitone’s importance in the sonata.

The use of trichord (012) and the dyad (01) throughout the piece as well as moments of the row usually occurring as simultaneities these semitones become one of the main features of the piece.
The use of serial pedaling is evident throughout all movements where pitches from rows, especially the beginnings of rows, are held onto for extended periods of time. This pedaling comes in the forms of single notes as in movement I standing on pitch class 2 in mm. 83-125, almost the all of movement II is on pitch class 3, and mm. 55-75 in movement III on pitch class 8. There are numerous times in movement I where the clusters pedal underneath several of the rows which Kholopov might argue is the intonation base of those sections. There is also the use in movement III of the 0 1 2 motive right up until the quartal section in m. 60.

This is just a basic first step in approaching the *Piano Sonata* from a Russian perspective and it leaves room for someone to do a more in-depth analysis of the piece. Perhaps there is something more in Kholopov’s texts that could explain Gubaidulina’s use of partial rows instead of full complete ones or the use of tones out of strict order. Perhaps Gubaidulina is leaving some of the notes out or changing the order due to what she finds musically pleasing and sees the row as something more fluid than a strict guideline that must be followed.
CHAPTER 5: FIVE ETUDES FOR HARP, DOUBLE BASS, AND PERCUSSION (1965) BY SOFIA GUBAIDULINA

In this piece Gubaidulina develops her use of the twelve-tone technique a little more being composed in the same year as the Piano Sonata. She still uses some of the same techniques she used in the sonata, however there is less use of free atonality. She does start to take the row usage one step further with rotations. She will sometimes use the same row within the same movement rotated over one pitch or she may just start the row somewhere in the middle and complete it as though the row were structured that way to begin with. The first, second and fifth movements use twelve-tone the most with the third movement using significantly less and the fourth movement appears to use it the least. The percussion parts do not appear to use any serial techniques.

In movement I Gubaidulina leads in with the rotation of the row \( P_{10} \) where the 12th pitch is moved to the front of the row (see figure 9 and 10). This is not apparent at first but as the piece is analyzed if this row is taken as the original prime row then most of the subsequent rows end up being rotated by 1 pitch in the series. It makes little sense to analyze the piece this way, as the rows make more appearances in their original form than rotated. We also see the piece starting with alternations of notes as was done in the sonata, as well as lots of repetitions of single pitches before completing the row. It should be noted that the harp is used extensively and is treated in the proper manner where one cannot get all twelve chromatic pitches on the harp at one time, the use of multiple row forms simultaneously is almost nonexistent. Also, with the percussion breaking up trichords and dyads of the rows, rows are spread out over much longer periods of time. After a repetition of \( P_{10} \), \( P_{5} \) is stated in mm. 19-29 and is elided with RI_9. These two rows share four tones in common within the last five notes of \( P_{5} \) and the first five of RI_9 (see figure
11). RI₀ is stated quickly with a subset of P₅ followed by I₃ which leaves out pitch class 9. A short free atonal section occurs with a repetition of pitches 5 and 4.

Figure 9. MM. 1-9 showing row P₁₀ starting on pitch class 7. The final two pitches of the row are completed in m. 19 in the harp (not shown).

Figure 10. This shows the row P₁₀ on top and on bottom is the same row with the rotation.
Figure 11. This example show $P_5$ and $R_{I9}$ with lines connecting the common tones at the end and beginning of the rows.

The next section starts in m. 39 with $R_7$. This row is stated in a unique way as the first tetrachord is stated then when pitch class 9 is stated pitches 5 and e are skipped over for a time starting in m. 43. There is also a reference to $P_5$ in mm. 50-51 before the rest of $R_7$ is complete with the last two pitches beginning $R_{I3}$. Gubaidulina is now functionally using the oscillation between notes, this time to connect rows together. This row then finishes out the movement with a standing on pitches 4 and 3 from mm. 62-68 with material used in m. 17.

In movement II the bass begins with two statements of $P_0$ (see figure 12). The second statement leaves off the last trichord until the harp finishes a rotated $R_1$ starting on the third pitch of the row, pitch class 9. It would seem this row is rotated so that the two now have a common tone as one ends on pitch class 9 the other begins. The bass then hangs on to $P_0$ again being interrupted by the harp this time with a rotated $R_5$ starting on the fifth pitch. This again is done to line up the shared common tones this time with the trichord 8 1 2. The bass then tries to restate $P_0$ but is again interrupted by the harp’s $I_9$ never to finish its row but to finish the 1 6 0 of $I_9$ before starting $P_6$ on the second pitch of the row. A short $P_1$ is started in the harp and finished in the bass where the bass repeats from mm. 34-50 on the last eight notes of that row while the harp proceeds to move on to $I_2$ which it finishes in m. 50. The bass then plays pitch 2 again before starting $P_1$ on the second pitch of the row.
Figure 12. Opening row of movement II.

The bass and the harp finish on this row but never get around to pitch 1. This movement seems like a dialogue between the harp and bass, where the bass wants to stay grounded in one row or set of pitches while the harp uses common tones to try to bring it somewhere else. In the end they do come together but never finish the conversation or row.

The third movement is mostly freely atonal with emphasis on trichords (013) and (037). There is a pentachord from R11 and a statement of P11 with the absence of pitch class 0. There is one trichord in m. 9 that has the same set class as a trichord from the prime row (014) but the trichord itself [8, 7, e] does not appear in the row forms at all.

Movement IV opens with R2 rotated to begin on the ninth pitch however it leaves out pitch class 1 until the very end in m. 12. Between mm. 14-33 the row is not stated in order but it seems to sit in the area of R2 specifically repeating the beginning and end of the row again without pitch class 1. This would be similar to what Gubaidulina did in the piano sonata where as
long as the essence, the beginning and end of the row is being stated, it is serving its function. Starting in m. 34 there is some free atonality with the exception of a statement in the harp in m. 36 which starts RI\textsubscript{10}. However, none of the other instruments pick this row up until the near the end in m. 43. The bass then completes the row while the marimba meanders chromatically up and down and the harp constantly glissando-ing while it plays its line.

The fifth and final movement returns to a stricter twelve-tone approach. It begins with I\textsubscript{5} in the bass moving to R\textsubscript{10}. The harp then starts RI\textsubscript{10}. The bass then states P\textsubscript{9} rotated to start on the second pitch and never sounds 9, while the harp starts I\textsubscript{11} but never gives pitch 8 and instead starts R\textsubscript{6} in m. 12 with the trichord 9 2 3. This is one semitone away from being the exact trichord needed to complete I\textsubscript{11}. The bass moves through R\textsubscript{8}, then I\textsubscript{1} and RI\textsubscript{3} each a whole tone away from each other in pairs. This while the harp moves by a semitone for each row, starting with R\textsubscript{6}, P\textsubscript{7}, R\textsubscript{8}. This is similar to techniques applied in the piano sonata with row choice being dictated by what pitches begin and end the row and their interval relationship. The bass then takes up the semitone alternation however instead of rising it falls from R\textsubscript{4}, P\textsubscript{3}, to R\textsubscript{2}. Then they join each other in the semitone motion with I\textsubscript{3} in the harp and continuing to rise with RI\textsubscript{4} harp, I\textsubscript{7} bass, RI\textsubscript{5} marimba, RI\textsubscript{6} bass.

We see in these etudes Gubaidulina trying to stretch what she learned from the sonata with rotations and some refining of row selection, however there is not much within these from a Western sense other than the rotations that is new or striking. There is still the use of lots of different rows and using them as the structural basis for the piece, lacking, however is the coherence that she achieved in the sonata with reference to a unifying semitone.

A Russian look at this piece would yield similar results to the sonata however with much less pedaling. Looking specifically movements III and IV we might see those as more intonation
based exploring the intervallic possibilities of the rows presented to elicit a certain sound achieved by the row. In movement III if we rotate $P_4$ so that pitch 12 occurs first we get a 1 4 3 but there is never an occurrence of 0 3 7 or a transposition of it, within the row. So, some of the intervallic possibilities are explored, while some are fabricated. This is something that is not unusual for Gubaidulina’s writing where she says she tries to wrestle with intuition and what she consciously wants. These moments could be seen as Gubaidulina going with the sound she wants to hear as opposed to the strict row forms.

In a hemitonic analysis the trichords in the row each have a semitone in them as well as the outer trichords having a four-semitone interval (see figure 13). This may be where the 0 3 7 trichord in movement III comes from leaving the three-semitone interval the only odd one out. Considering some of the unusual ways Gubaidulina used twelve-tone technique with freely atonal sections, stating rows mostly in order or only in part, I do not think it entirely impossible that she composed the third and fourth movement with twelve-tone loosely in mind.

Figure 13. A hemitonic analysis of the trichords of the row.
CHAPTER 6: NIGHT IN MEMPHIS (1968/1992) BY SOFIA GUBAIDULINA

Night in Memphis was completed in 1968 and reworked later in 1992, three years after Five Etudes, and Piano Sonata. It is a cantata for flute, trumpet in Bb, Mandolin, timpani, percussion, bells, vibraphone, marimba, electric organ, harp, piano, contralto, choir, and strings. It is based on Ancient Egyptian texts translated by Anna Akhmatova\(^1\) and is written in seven movements. The strings are further broken up with violin I in 5 groups, violin II in 4, viola in 3, cello 2, and one bass. These string forces are typically written out individually. Rarely will the different groups of strings be playing the exact same line. The contralto participates in movements I, II, IV, VI, and VII. The choir is a prerecorded tape and the men’s voices are only spoken with no specified pitch given only rhythms and durations between spoken parts. This piece also uses 44 rows like the Piano Sonata but leaves out four inverted rows only (see figure 14).

Movement I begins with a rotated row by one pitch on \(R_1\) until m. 9 when the contralto enters. The contralto begins on \(P_8\) and it becomes apparent that the first row is rotated so that both entrances are on the semitone 8 9 (see figure 15). The contralto holds onto \(P_8\) for the entire movement. The strings however get run through a series of rows in canon and in canon with rotations. This starts in m. 31 with the basses on \(R_{11}\) rotated one pitch and it gets passed from bass up through the cellos to the viola 1. On beat 4 of m. 32 the violin I-1 starts a decent on \(I_7\) rotated to start on the twelfth pitch and then is rotated each time as it goes down in the score.

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\(^{1}\) Anna Akhmatova is regarded as one of the greatest Russian poets of the 20\(^{th}\) century and is known for not only her poetry but for her translations of Italian, French, Armenian, and Korean poetry as well as her literary scholarship. Her style is characterized by emotional restraint, and femininity.
through violin I-5. Meanwhile the basses start another ascent on RI\textsubscript{7} rotated one pitch and is then repeated exactly through cello 1.

![Figure 14. This shows the 44 rows used in Night in Memphis.](image)

Figure 14. This shows the 44 rows used in Night in Memphis.

![Figure 15. P\textsubscript{8} in the contralto, movement I mm. 8-13.](image)

Figure 15. P\textsubscript{8} in the contralto, movement I mm. 8-13.

When the descending line reaches the violin II section it changes rows to RI\textsubscript{10} and goes down through all the violas rotating one pitch each new entrance. Violin I-5 starts another ascent on RI\textsubscript{5} rotating each entrance through violin I-1. This continues to the end of the piece with descents.
on R₄ not rotated from violin I-1 through I-5 and the violin II’s starting RI₁₁ passing it not rotated through the basses. This starts a rotated ascent from the basses through violin II-1 on I₆ and a simultaneous descent from violin I-1 through I-5 on RI₁₀.

When comparing the rows we see that R₁₁ rotated one pitch starts on pitches 6 and 7 the same two pitches that I₇ starts with and then the retrograde of that same row immediately follows. This emphasizes the semitone that we heard in the beginning of the piece. RI₁₀ and RI₅ are related by five semitones and start on the other rows’ ending pitch, with RI₁₀ starting on pitch class 5 and RI₅ starting on pitch class 10 in its first rotated state. This is also true for rows RI₄ and RI₁₁. This however does not hold true for the last two rows.

Movement II begins with timpani using a tetrachord from the row RI₁₀ starting on the fourth pitch, 7 8 1 6. This starts in m. 4 and is accompanied by percussion and the recorded choir until m. 71 and introduces some aleatoric ideas in the percussion instruments as they are to play specific patterns for specified amounts of time. In m. 71 the bass enters and grabs more of the row starting on pitch e and finally finishes the row in m. 76. In m. 77 the violas and cellos play a pentachord of t e 2 3 4 and the aggregate is completed by the violins at the end of the measure. In m. 82 she uses the descending pattern again this time only using two rows I₁₀ and RI₁₀ in groups alternating with each groups entrance which row is used. (see figure 16). RI₁₀ continues to be repeated in the bass while the contralto tries to start R₆ but does not finish it and then starts RI₅ in mm. 84 and 88 respectively. This gives way to another alternating descent in the strings on P₈ and R₈. RI₁₀ is taken up by the marimba and the bass finally moves off of RI₁₀ to RI₉ before the timpani comes back in in m. 98 on the same pitches it began with.

The overall structure of the movement is ABA with the beginning and ending being percussion and the middle the non-percussive pitched instruments with marimba. It also shows
Gubaidulina using the rows as structural points again and that she is using them in different groupings more than she has before and the return of using the rows starting or ending pitches to outline aspects of the row. As this row also starts with a (012) she used pitches 8 9 t throughout this movement to affirm that set.

Movement III is mostly based around the row RI₄, first being stated in the bass and then again in cello 2. She treats the material much like she has in her previous pieces, setting up the RI₄ sound and then using that row in the various instruments independently and occasionally out of order. This continues throughout the entire movement until m. 78 in violin II-1 where R₈ starting on the third pitch of the row begins. This also occurs at the same time as all but violin II-1 and cello 1 are standing on an eleven-note chord without the pitch 5. The R₈ row never gets to complete itself ending on pitch 7. This leaves out pitches 9 and 8, the two pitches that start

Figure 16. The order and groupings of the descent through the two rows I₆₁₀ and RI₆₁₀. The P₈ and R₈ descent uses the same pattern and groupings.
movement I. Perhaps one reason Gubaidulina uses $R_{14}$ so extensively in this movement is because it does not use the contralto or taped choir and by restricting its row form to one row, it would give it a unique sound and set it apart from the rest.

When movement IV starts we can see why Gubaidulina left out the last two pitches as the contralto picks up $R_8$ from its second pitch and the row is finally completed. Since all the movements are attaca into each other the row form will not seem broken at all. This is one instance where she combines the movements in this way. The others, while attaca, do not continue their rows into the next movement and will just stop wherever they may in the row. $R_8$ continues to be used through most of the movement.

In this movement we begin to see more use of the aggregate as a twelve-note chord as she slowly builds it first with an eleven-note chord in m. 23 in the strings as in movement III but then follows it by a sustained aggregate chord in mm. 25-27. In m. 35 we see $R_{11}$ come in in a similar manner to movement II but this time the groups are completing portions of the row each taking a tetrachord. This is done in canon from violin I-1 through the cellos. $R_8$ is then resumed in the contralto, wind, and bass parts. In m. 44 the aggregate chord returns this time on a rhythmic figure for three measures. $R_8$ gives way to $R_9$ in mm. 50-54. In m. 55 the same figuration from movement II for the percussion and timpani enters in again and concludes the movement.

Movement V consists of 37 different rows. This is not quite as many as were used in the entirety of the piano sonata but it is a lot of rows crammed into one movement. The opening motive, an ascent from e to 0 on notes belonging to C major provides the starting material for many of the rows especially near the end of the movement. It starts by pairing the rows by semitone, $P_9$ and $P_{10}$, $R_{16}$ and $R_{17}$ in the violin and viola respectively. As more instruments are added the rows tend to follow each other less strictly in this fashion. The two dominant row
forms are the prime and retrograde-inversion. As the section develops the pairs become trios and we see the (012) manifest again with rows P₃, I₄, and P₂, and P₁₁, RI₁₀, and RI₀. This is where the rows start to begin to be added and changed more frequently, with a row being added or changed almost every measure from m. 11-41 (see figure 17).

Measure: 11 12 13 14 15 17 19 22
Row: P₁₁.₈ R₁₀.₂/I₄.₈ P₂.₈/R₇ R₁₁.₁₁ P₂.₈ RI₀.₇ R₂.₉/P₁₁ R₉.₂/R₇.₆

Measure: 23 25 26 27 30 33 34 35 36 37 38 39
Row: P₂ P₀.₁₀ RI₁₀.₆/P₈.₇ RI₉.₅/R₅.₃ P₁.₁₀/R₄.₁₀ P₅.₉ I₅.₆ RI₂.₁₁/I₈.₈/RI₁₀.₅ I₀ R₇ RI₀ I₇.₈

Figure 17. This shows the order of rows used in movement V from mm. 11-40. The subscripted decimals indicate where in the row it is starting, so the first row starts on the eighth pitch of that row the forward slash indicates multiple rows used in that measure.

It is here in m. 41 that the opening motive is used to descend through all the prime rows except P₁₁ (see figure 18).

Figure 18. This shows the beginning of the descent through the prime rows that begins in m. 41.

This starts on P₇ on the eighth pitch starting in violin I-1 through violin II-2 P₁, then grabbing two rows in the flute and trumpet P₀ and P₁ respectively, and then starting back in the strings at
P₁₀ in violin II-3 and descending through to P₃ in the bass. The last two rows are not stated in their entirety. This is started again in m. 43 by violin I-1 this time on RI₄ rotated to the second pitch, descending through the violins with each starting a semitone lower each time to RI₁₀ before jumping up to the flute and trumpet again on RI₉ and RI₁₀.

After this abruptly stops the final section begins in m. 47, with each string and wind instrument being assigned a row in two or more parts. Once the rows are completed the instrument then replays the last section it was given until the final bar in an aleatoric fashion, which in the score is listed as forty seconds. The timpani returns with its 7 1 6 8 figure and the harp and piano have rhythmic strikes of their strings but no specified pitches. These three instruments are the only ones that remain metered through this last section along with the cymbals. It is in this movement that Gubaidulina seems to stretch the use of the row as much as possibly by incorporating so many in such a short time span. The row is not stretched to the breaking point as those rows in mm. 41-46 add cohesion to the movement and give it a section of stability before falling back into the chaos of the aleatoric section.

Movements VI and VII show some of the most interesting use of the material yet. VI begins with the violins and violas on the aggregate on long tones. Then the strings move horizontally on I₁₀. The way the aggregate is spelled out through the instruments from top to bottom is I₁₀ starting on the twelfth note, this means that as they move through the row the pitches are passed up through the ensemble (see figure 19). This use of rotation is not new as it had been used a few decades earlier by composers Ernst Krenek and Ruth Crawford Seeger. This is sometimes a registral shift but it is more a movement through the performers from viola 3 to violin I-1. This creates the effect of sliding through the row though the entirety of the row is present at all times and gives subtle shifts in color and texture as they move from note to note. Something else of importance is
that the notes are held for twelve quarter notes each at a tempo of quarter equals 144. That is
twelve quarter notes per pitch times twelve pitches is 144 quarter notes. Understanding
Gubaidulina’s love for numbers this is not by coincidence. While that spins out over the next 17
measures the other instruments begin to state R₉ at a rotation starting on the second pitch. Each
instrument states one note at a time occasionally sharing a pitch with another instrument but
usually spelling out the row itself. These pitches are often done with harmonics and are spread
out over eight measures giving it a klangfarbenmelodie effect. This is the first time she has
attempted to use this technique and could be seen as a maturing of her use of the technique using
limited materials to create longer spans of music. In m. 13 this continues on P₉. This is all
occurring while the contralto part oscillates between pitches 8 and t. This creates the (012) with
pitches 8 9 t.

In m. 18 the sliding I₁₀ is finished with the next row, P₂, being spread out through the
instruments. As each instrument grabs a pitch of the row it hangs onto it with repeated rhythmic
figures and ascending glissandi. This continues until in m. 29 all twelve pitches have been added
and then they start to die away being removed one by one until the last measure with only three
pitches left, 5, 7, and 9. When looking at how the aggregate was used in the beginning and the
buildup of denser chords in some of the previous movements it culminates here in the sixth.

The seventh movement begins with contralto and bass. The flute, contralto, viola 1 and
bass are the only instruments that move horizontally, the violin I-1 does have a few interjectory
notes but never spells out a row. The other instruments are used only to play the aggregate or
sometimes an eleven-note chord. The bass spells out all twelve retrograde rows twice
Figure 19. This shows the movement of the pitches in $I_{10}$ and how they move up through the instruments.
in the same order from m. 1-57 and it moves only in quarter notes. This aggregate is never spelled exactly the same twice, it is sometimes spelled in descending order by semitone and other times is mixed up. As the movement develops the aggregate chords start to come more frequently. Eventually the three strings that did not get used in the aggregate chords start to sound with the rest of the strings. The pitches are pulled away one at a time until only six instruments are left playing five pitches 3 4 5 8 9, a superset containing the ever present (012) and (01).

The Russian perspective on this piece would show an emphasis on the semitone and quite a bit of serial pedaling. This is especially true in the contralto part that seems to linger on pitches long before or after a row is finished. The contralto part tends to hover on pitches 8 9 t with frequent oscillations on two or all three of the pitches. The first few movements feature the contralto on P₈, and then it ends on I₁₀. Even at the end of the piece the contralto hangs on to pitch t for several beats. Kholopov’s hemitonic system would show a semitone in all but one of the trichords (see figure 20).

Figure 20. The hemitonic analysis of the trichords of the row.

The intonation base is present in every movement and I would say that the rows being presented in rotation are an example of this. The idea of the row is presented creating a twelve-toneness in any given space but does not need the rote statement of the row to be functional. This is shown in the previous two pieces, that the row is stated in whole or in part and that is sufficient for its
purpose. Gubaidulina only occasionally rotates the row through sequence, it is usually the initial statement of the row on a different starting pitch that predominates this piece. One might wonder why not use a different prime row then if the rows keep coming out rotated? The answer is that in any given movement the rotations serve only the purpose of the sound. Each row will be rotated to a different level. Sometimes to line up common tones but often there appears to be no connection between the preceding rows and the newly stated ones to justify the rotation. It is after this work that Gubaidulina leaves twelve-tone music behind.
CHAPTER 7: CONCLUSION

I chose to study these pieces partially at the suggestion of Dr. Inessa Bazayev when I expressed interest in Gubaidulina’s music and the potential for a dissertation topic and I also chose to study Gubaidulina because her music has always intrigued me and I love the sounds she gets out of the ensembles in her later works. I remember the first piece of hers that I listened to, Alleluja, composed in 1990. The text comes from the Russian Orthodox liturgy and what should be peaceful and joyous, the work is actually full of dissonance and chaos. This sent me on a journey to explore more of her works in which I fell in love with many. I started mostly by listening to her works and then as I became exposed to the scores I wanted to learn more about what was going on in her notation and process. It always proved challenging to find those paths and ideas that she was following. This study here is not only for my benefit, although that was the initial thought, but also for others to be able to study her later works and discover the genius that is Sofia Gubaidulina. In my own writing I found ways to use some of her structural designs of areas where certain ideas dominate and her mixture of free atonality with twelve-tone. It was through analyzing these works that I could grow my own writing and challenge the way I look at the rules and concepts I constrain myself to.

When comparing the prime rows of each piece to one another we can see the use of (012) in each. The first and last pieces begin with the trichord and the Five Etudes uses it as its second trichord. They are even spelled the same intervalically, one semitone and then two. The use of trichord clusters is used in all three pieces. The aleatory sections and the improvisatory unmetered cadenza share some things in common as they are time based and not tempo based. This is something that comes up in a lot of her pieces and with increasing regularity over time.
The gradual introduction of the technique in movement I of the *Piano Sonata* and then the full use of it in the cantata as well as the devices she used can be traced clearly through these three works. Some elements stay and some seem to be left behind. A study finding which elements she continues to use such as rotations, clusters, semitones, and maybe the later use of microtones, would prove useful. Are those microtones an outgrowth of her love of the semitone? Is it the next step in her compositional journey? The use of many rows in a single movement or piece, the pedaling on a single tone or set of tones for long periods of time and the eventual introduction of rotations seem to be the chosen devices as well as the aleatoric sections where time and not meter is important. Some of the elements are known to exist in later works because they are easy to spot, such as the aleatoric ideas in her string quartets and even that of her larger works. A thorough analysis using Kholopov’s techniques would prove valuable in explaining what might be considered the Russian use of serialism. The goal was to see in depth what Gubaidulina did with the twelve-tone technique so that one might be able to look further into her mature style. Something else that would be valuable to trace is the use of mathematics and numbers in her works. As was shown in the cantata numbers are important in her works and would be interesting and helpful to find out when it became important and how she started to apply it. Some work has been done in this area but there is plenty of room for exploring the mathematics further.

While Gubaidulina’s use of the twelve-tone technique was short lived the ways in which she applied it are different than the Western approach and perhaps can give some insight in to how she composed later in her career and how she composes today. Something that should be noticed is that her compositional process is progressive and ever changing with new ideas and experiments being used with each successive piece. If the twelve-tone technique was something
to be learned from and which she is to move on then what exactly did she take from it? What did she decide was worth keeping in later works? Each piece is unique unto itself and connected to the ones that came before it. This could be the key to understanding Gubaidulina’s works. It is hard to take a snapshot of her work at one period or another and understand what is going on, especially those from the 1980’s until now. What work has been done I can see benefiting from an analysis such as this. Perhaps now we can follow further down Guabaidulina’s “incorrect way.\textsuperscript{1}”

BIBLIOGRAPHY


VITA

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