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**A COMPARISON OF EXCERPTS BY IGOR STRAVINSKY, ALBAN BERG, DMITRI  
SHOSTAKOVICH AND BÉLA BARTÓK TO EXCERPTS BY GYÖRGY LIGETI:  
COMPARATIVE ANALYSIS BASED ON TEXTURAL PARAMETERS**

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## ABSTRACT

This dissertation compares excerpts taken both from György Ligeti's works and from compositions by his antecessors Igor Stravinsky, Alban Berg, Dmitri Shostakovich and Béla Bartók in order to demonstrate existing sonorous similarities. Textural parameters became more evident as structural elements in music composition of the 20<sup>th</sup> century. Chapter one discusses the role of texture in the music of the 20<sup>th</sup> century through a historical overview joined to an explanation of textural characterizations made by author Wallace Berry. Most of György Ligeti's compositions of the 1960's present passages regarding textural conditions of static sounding masses and/or continuous layered sonorities. Chapter two selects four of these compositions in order to compare excerpts from Ligeti's compositions 1) String Quartet N° 2 to Stravinsky's *Firebird Suite*, 2) Chamber Concerto to Berg's *Lyric Suite*, 3) *Atmosphères* to Shostakovich's Symphony N° 2 – To October – and 4) Cello Concerto to Bartók's String Quartet N° 4. György Ligeti often spoke of having been influenced by composers from the first half of the 20<sup>th</sup> century while talking about his works in interviews and lectures. The comparative analyses shown in chapter three represent an attempt to demonstrate direct influences György Ligeti received from some of his antecessors.

Keywords: György Ligeti. Texture in music. Static sounding masses. Continuous layered sonorities. Music of the 20<sup>th</sup> century.

## RESUMO

Essa dissertação faz comparações entre trechos de composições de György Ligeti com trechos de composições de seus antecessores Igor Stravinsky, Alban Berg, Dmitri Shostakovich e Béla Bartók a fim de demonstrar as similaridades sonoras existentes. Os parâmetros texturais tornaram-se mais evidentes como elementos estruturais nas composições musicais do século XX. No capítulo um é discutido o papel da textura na música do século XX através de uma visão histórica aliada às explicações técnicas feitas pelo autor Wallace Berry sobre as diferentes condições texturais. Muitas das composições de György Ligeti da década de 1960 apresentam passagens relacionadas às texturas de massas sonoras estáticas e/ou de sonoridades de camadas contínuas. No capítulo dois foram selecionadas quatro composições da década de 1960 as quais apresentam tais características texturais no sentido de comparar excertos das composições de György Ligeti: 1) Quarteto de Cordas Nº 2 com a Suíte do Pássaro de Fogo de Stravinsky; 2) Concerto de Câmara com a Suíte Lírica de Alban Berg; 3) *Atmosphères* com a Sinfonia Nº 2 de Shostakovich e 4) Concerto para Violoncelo com o Quarteto de Cordas Nº 4 de Béla Bartók. György Ligeti sempre comentou em entrevistas e palestras sobre as influências recebidas de outros compositores. As análises comparativas feitas no capítulo três são uma tentativa de demonstrar influências diretas recebidas de alguns de seus antecessores da primeira metade do século XX.

Palavras-chaves: György Ligeti. Texturas musicais. Massas sonoras estáticas. Camadas sonoras contínuas. Música do século XX.

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## INTRODUCTION

At the turn of the 20<sup>th</sup> century, compositional styles of classical music had shifted. Focus had moved from previous tonal parameters of melody, harmony and metric rhythm to textural characteristics. Compositions by Claude Debussy, Gustav Mahler and Arnold Schoenberg, to name just a few, were increasingly centered on textural conditions of sound masses and continuous layered sounds. Hungarian-Austrian composer György Ligeti focused his work on developing these new compositional styles, which deviated the focus of composing from previous melodic solutions to more atonal timber and textural conditions. Ligeti's music dealt primarily with those textural conditions. In György Ligeti's compositions from the 1960's, both a static type of sounding mass and a continuous layered sonority are present. A comparative analysis of excerpts taken both from Ligeti's works and from compositions by his antecessors Igor Stravinsky, Alban Berg, Dmitri Shostakovich and Béla Bartók demonstrates a close sonority. Divided into three chapters, this essay compares excerpts which contain some of the similar textural conditions which helped define György Ligeti's compositional sonority in the 1960's to the work of Stravinsky, Berg, Shostakovich and Bartók.

During the 20<sup>th</sup> century, textural parameters became an overpowering means of expression in music. Ligeti and many of his contemporaries invested heavily in textural parameters as a compositional technique. As stated by Jonathan Dunsby "[...] 'texture' probably arose as a feature of the critical vocabulary spawned by post-tonal music starting in the early years of this [20<sup>th</sup>] century." (Dunsby, 1989). The use of texture as a structural force in the dramatic music of the 19<sup>th</sup> century served to reveal its inherent structural potential within the mainstream of the modernist Western music as it appears in compositions of György Ligeti consciously conceived as textural structures (Dunsby, 1989).

This dissertation proposes a comparative analysis of specific music segments which denote a high degree of sonorous semblance. Textural and timber combinations are theoretically and graphically described in order to demonstrate the results of extensive auditory perception research. The principles of the auditory stream segregation theory were used to classify emergent qualities in the sound spectra and establish the grounds of those analyses (Wright; Bregman, 1987).

Chapter one will discuss textural parameters and their significance for 20<sup>th</sup> century music composition. Along with a brief historical overview of the use of the term texture in music, chapter one will also present Wallace Berry's broad concepts about textural parameters in order to establish the grounds for the comparative analysis presented in the third chapter. As explained by Joseph Auner

Throughout the first half of the 20<sup>th</sup> century composers developed textural ways of working without functional harmonic progressions, including Debussy's technics of varying 'color and light', Schoenberg's tone-color melody, Stravinsky's explorations of rhythm and layering in the *Rite of Spring*, Berg's crescendo in a single note in *Wozzeck*, and Varèse's sound masses. (Auner, 2013, p. 236).

Chapter two will present an overview of György Ligeti's compositions starting with his arrival in Cologne in early 1957 up to the writing of the Chamber Concerto between 1969 and 1970. The composer often spoke of having been influenced by composers from the first half of the 20<sup>th</sup> century while talking about his works in interviews and lectures. In a conversation with Josef Häusler in 1969 about his String Quartet N° 2, György Ligeti said

String quartets like Berg's *Lyric Suite*, Bartók's Fourth and Fifth String Quartets and – not in a formal sense but in so far as their structural standard is concerned – also Webern's quartets, and specially the Bagatelles, these have been touchstones for me. (Ligeti apud Eulenburg, 1983, p. 105).

When investigating the composers who have influenced György Ligeti, the names of Claude Debussy, Igor Stravinsky, Béla Bartók and Alban Berg constantly reappear. Chapters two and three demonstrate the repeated occasions in which György Ligeti referred to his influences.

The third chapter will develop four comparative analyses regarding similar textural sonorities present in 1) an excerpt from Igor Stravinsky's *Firebird Suite* which denotes a sounding result close to the sound of an excerpt by György Ligeti's String Quartet N° 2, 2) an excerpt from Alban Berg's *Lyric Suite* which denotes sounding qualities parallel to an excerpt from Ligeti's Chamber Concerto, 3) the beginning of Dmitri Shostakovich's Symphony N° 2 – To October – in which sonorous results are similar to letter H in György Ligeti's *Atmosphères* and 4) the beginning of the third movement from the Béla Bartók's Fourth String Quartet which resembles the sonority of a segment from Ligeti's Cello Concerto.

The analyses presented are based on both quantitative and qualitative aspects of the textural features of the eight excerpts. An enclosed DVD presents the audio-video score of the four comparisons as illustration of the analyses.

## CONCLUSION

The excerpts were chosen because of and based on extended auditory research which covered the music composed in the beginning of the 20<sup>th</sup> century as well as compositions by György Ligeti's during the decade of 1960. The investigation began with the first appearance of the term texture in the article entitled *Some Considerations of the Effect of Orchestral Colour upon Design and Texture in Musical Composition* written by H. P. Allen in 1908. The parameters of texture were studied in depth according to the technical characterizations organized by author Wallace Berry in his book *Structural Functions in Music*. The parameters were also studied related to more recent writings on the subjects of timbre and texture.

Those studies helped to achieve the technical basis for the comparative analyses present in chapter three and served to demonstrate graphically the texture and timber similarities existing in the music excerpts used in the comparisons. It is important to observe that the auditory process represented the main research tool used as means of perception of the sonority details. The analyzed excerpts and segments were all selected through attentively listening appreciation.

An extended overview has been made of what has been written about György Ligeti. Focused on interviews and conversations with the author, precise information was obtained with regards to the influences Ligeti received from antecedent composers from the first half of the 20<sup>th</sup> century. In those conversations and interviews, the Hungarian-Austrian composer emphasized not only his knowledge of specific compositions such as the *Lyric Suite* written by Alban Berg and the 4<sup>th</sup> String Quartet composed by Béla Bartók, but he also emphasized the extent to which those pieces and others by Igor Stravinsky had had an effect upon his work.

Chapter one presented a brief historical overview and discussed textural parameters and their significance for 20<sup>th</sup> century music composition. Chapter two presented an overview of György Ligeti's compositions starting with his arrival in Cologne in early 1957 up to the writing of the Chamber Concerto between 1969 and 1970. Chapter three developed four comparative analyses regarding similar textural sonorities present in Ligeti's compositions and in Igor Stravinsky, Alban Berg, Dmitri Shostakovich and Béla Bartók's compositions.

By the second half of the 20<sup>th</sup> century, evidence points towards a focus on textural parameters in composition as a general means of expression in music. Composers from that period developed very distinct compositional styles in which timbre and texture represented a definite structural element. Joseph Auner commented that

While pursuing very different expressive and stylistic ends, composers of texture music share a fascination with how we experience sounds as they move through time, building and fading, coalescing into stratified layers or thick clouds, or dissolving into particles. (Auner, 2013, p. 235).

The composer György Ligeti had imagined the static type of sonorous outcome while still in Hungary, as he commented in conversation with Josef Várnai “[...] I first began to think about a kind of static music you find in *Atmosphères* and *Apparitions* in 1950” (Eulenburg, 1983, p. 33). This statement makes it clear that static sounding structures were already among György Ligeti’s conceptual ideas. His ideas matured with the help from his experiments in electronic music and direct contact with serialism from the 1950’s. Ligeti openly addressed the fact that he had been influenced by composers from the first half of the 20<sup>th</sup> century, as demonstrated in chapter two. The comparative analyses which were made clearly show that Igor Stravinsky, Alban Berg, Dmitri Shostakovich and Béla Bartók influenced György Ligeti’s compositional tendencies and that he reflected the previous shift in compositional styles towards textural characteristics and away from the previous tonal parameters of melody, harmony and metric rhythm in the 20<sup>th</sup> century.

The new ideas implemented by György Ligeti in his music were not only a result of his laborious work, but the result of his vast knowledge. The composer had extensively studied and practiced traditional music of all periods from the middle ages up to the first half of the 20<sup>th</sup> century. As Arnold Schoenberg has affirmed in his essay *Teaching and modern trends in music*

Only a thorough knowledge of the styles makes one conscious of the difference between 'mine and thine'. And accordingly, one cannot really understand the style of one's time if one has not found out how it is distinguished from the style of one's predecessors. (Arnold Schoenberg, 1938, p. 377).

## REFERENCES

- ABRAHAM, G. The Bartók of the quartets. **MUSIC & LETTERS**. Oxford: vol. 26, n° 4 p. 185-194, oct. 1945. 10 p.
- ALLEN, H. P. Some Considerations of the Effect of Orchestral Colour upon Design and Texture in Musical Composition. In: *Proceedings of the Musical Association*, 35th Sess. London: 1908 - 1909, pp. 109-121
- ANTOKOLETZ, E. Basic principles of pitch construction. In: \_\_\_\_\_. **The music of Béla Bartók: a study of tonality and progression in twentieth-century music**. 1. ed. California: University of California press, 1990. p. 67-77.
- ASHBY, A. The *Lyric Suite* and Berg's twelve-tone duality. **THE JOURNAL OF MUSICOLOGY**. California: vol. 25, n° 2 p. 183-210, spring 2008. 28 p.
- AUNER, J. **Music in the twentieth and twenty-first centuries**. 1. ed. New York: W. W. Norton & Company, Inc., 2013. 353 p.
- BAYLEY, A. Bartók's String Quartet No. 4/III: A New Interpretative Approach. **MUSIC ANALYSIS**. New York: vol. 19, n° 3 p. 353-382, oct. 2000. 30 p.
- BERNARD, J. W. Ligeti's restoration of interval and its significance for his later works. **MUSIC THEORY SPECTRUM**. Oxford: vol. 21, n° 1 p. 1-31, mar. 1999. 32 p.
- BERRY, W. Texture. In: \_\_\_\_\_. **Structural functions in music**. 2. ed. New York: Dove, 1987. p. 184-292.
- BLOKKER, R. Second symphony "to October" (1927). In: \_\_\_\_\_. **The music of Dmitri Shostakovich: the symphonies**. 1. ed. England: Associated University Presses Inc., 1979. p. 47-50.
- BRINDLE, R. S. Orchestration, texture and tone colour. In: \_\_\_\_\_. **Serial Composition**. 1. ed. Oxford: Oxford University Press, 1966. p. 120-137
- CONSTANT, L. **Music Ho!: A study of music in decline**. 1. ed. New York: Charles Scribner's Sons, 1934. 360 p.
- DAWSON, J. **An analysis of the Chamber Concerto for 13 instruments by György Ligeti**. 1986. 101 p. Thesis (Master of Arts) – University of Otago, New Zealand, 1986.
- DE LA FUENTE, E. **Twentieth century music and the question of modernity**. 1. ed. New York: Routledge, 2011. 182 p.
- DUNSBY, J. Considerations of texture. **MUSIC & LETTERS**. Oxford: vol. 70, n° 1 p. 46-57, Feb. 1989. 12 p.
- DYSON, G. The texture of modern music I. **MUSIC & LETTERS**. Oxford: vol. IV, n° 2 p. 107-118, April 1923. 12 p.



\_\_\_\_\_. The texture of modern music II. **MUSIC & LETTERS**. Oxford: vol. IV, nº 3 p. 203-218, July 1923. 18 p.

EULENBURG, E. **Ligeti in conversation**. 1. ed. London: Ernst Eulenburg Ltd, 1983. 133 p.

FAY, L. I. Spreading wings. In: \_\_\_\_\_. **Shostakovich, a life**. 1. ed. Oxford: Oxford University Press, 2000. p. 35-47.

FERARU, T. György Ligeti's second string quartet: biographical influences and new techniques. **STUDIA UNIVERSITATIS BABES-BOLYAI, MUSICA**. Romênia: vol. 54 nº 1, p. 219-230, feb. 2009. 12 p. Disponível em: <https://www.cceol.com/search/article-detail?id=163684>. Acesso em 24 Nov. 2018.

FLOROS, C. **New ears for new music**. 1. ed. Mainz – Germany: Shott Music, 2006. 232 p.

\_\_\_\_\_. **György Ligeti beyond avant-garde and postmodernism**. 1. ed. Frankfurt: Peter Lang GmbH, 2014. 261 p.

GARDNER, H. Igor Stravinsky: The poetics and politics of music. **AVANT**. Cambridge: vol. IV, nº 3, p. 208-210, winter 2013.

GREEN, D. The Allegro Misterioso of Berg's "Lyric Suite": iso- and retrorhythms. **JOURNAL OF THE AMERICAN MUSICOLOGICAL SOCIETY**. California: vol. 30, nº 3 p. 507-516, autumn 1977. 10 p.

HELLER, E. J. Timbre. In: \_\_\_\_\_. **Why you hear what you hear: an experimental approach to sound, music and psychoacoustics**. 1. ed. Princeton: Princeton University Press, 2013. p. 480-489.

HURWITZ, D. Symphony nº 2 (to "October") 1927. In: \_\_\_\_\_. **Shostakovich symphonies and concertos: an owner's manual**. 1. ed. New Jersey: Amadeus Press, 2006. p. 45-48.

IVERSON, J. J. **Historical memory and György Ligeti's sound-mass music 1958-1968**. 2009. 301 p. Dissertation (Doctor of Philosophy) – University of Texas at Austin, 2009.

KÁRPÁTI, J. The fourth string quartet. In: \_\_\_\_\_. **Bartok's string quartets**. 1. ed. Hungary: Corvina Press, 1975. p. 209-217.

LIGETI, G. **An Interview with György Ligeti in Hamburg**. 9 Jun 1988. Entrevistador: Stephen Satory. Hamburg: 1990. Canadian University Music Review. Vol. 10, nº 1. p. 101-117.

NORDWALL, O. György Ligeti. **TEMPO**. Cambridge: New Series, nº 88 p. 22-25, spring 1969. 4 p.

OTAWAY, H. From the 'modernist' years. In: \_\_\_\_\_. **Shostakovich symphonies**. 1. ed. Washington: University of Washington Press, 1978. p. 15-16.

PLAISTOW, S. Ligeti's recent music. **THE MUSICAL TIMES**. New York: vol. 115, nº 1575 p. 379-381, may 1974. p. 3.

POPLE, A. The Firebird (1909-10). In: CROSS, J. **The Cambridge companion to Stravinsky**. Cambridge: Cambridge University Press, 2003. p. 71-76.

POWER, R. **An analysis of transformation procedures in György Ligeti's string quartet no. 2.** 1995. 125p. Thesis (Doctor of Musical Arts) - University of Illinois at Urbana-Champaign, 1995.

SATORY, S. An interview with György Ligeti in Hamburg. **Canadian University Music Review.** Canada: vol. 10, n° 1, p. 101-117, 1990. 15 p.

SEARBY, M. Ligeti the postmodernist? **TEMPO.** Cambridge: n° 199, p. 9-15, Jan. 1997. 7 p.

\_\_\_\_\_. Ligeti's Chamber Concerto - summation or turning point? **TEMPO.** Cambridge: n° 168, p. 30-34, mar. 1989. 5 p.

SIMMS, B. R. A few remarks on staging the opera *Wozzeck*. In: \_\_\_\_\_. **The writings of Alban Berg.** 1. ed. Oxford: Oxford University Press, 2014. p. 261-262.

SCHOENBERG, A. Teaching and modern trends in music (1938). In: Stein, Leonard (ed.). **Style and Idea. Selected Writings of Arnold Schoenberg.** Berkeley: University of California Press, 1984, p. 376-377.

TEMES, B. A. Ligeti's string quartet music: from the published works to the new discoveries at the Paul Sacher Foundation In: INTERNATIONAL CONFERENCE ON ACOUSTICS AND MUSIC: THEORY & APPLICATIONS (AMTA '12), 13, 2012, New York: **Proceedings...** New York: ASME Press, 2012. 6 p.

VAUCLAIN, C. An experiment in musical texture. **THE MUSIC QUARTERLY.** Oxford: vol. 51, n° 2 p. 318-335, April, 1965. 18 p.

VITALE, C. Canonic structures and symmetry in the third movement of György Ligeti's Second String Quartet. In: CONGRESSO DA ASSOCIAÇÃO NACIONAL DE PESQUISA E PÓS-GRADUAÇÃO EM MÚSICA, 22, 2012, João Pessoa: **Anais...**, 2012. 8 p.

VITALE, C. H. **A gradação nas obras de György Ligeti dos anos sessenta.** 2013. 326 p. Tese (Doutor em Música) – Escola de Comunicações e Artes, Universidade de São Paulo, São Paulo, 2013.

WRIGHT, J. K.; BREGMAN A. S. Auditory stream segregation and the control of dissonance in polyphonic music. **CONTEMPORARY MUSIC REVIEW.** United Kingdom, vol. 2, n° 1, p. 63-92, 1987. 31p.

## LIST OF SCORES

BARTÓK, B. V. J. **Streichquartett IV.** Wien: Wiener Philharmonischer Verlag A. G., Universal Edition, 1929.

BERG, A. M. J. **Lyric Suite:** for string quartet. Wien – London: Philharmonia Partituren, Universal Edition, 1926.

LIGETI, G. S. **Atmosphères.** Wien: Universal Edition A. G., 1963.

\_\_\_\_\_. **Cello Concerto**. London: Henry Litolf's Verlag, 1969.

\_\_\_\_\_. **String Quartet N° 2**. London: Shott & Co., 1968

\_\_\_\_\_. **Chamber Concerto**: for 13 instrumentalists. London: Shott & Co., 1969-1970.

SHOSTAKOVICH, D. D. **Symphony N° 2**: Dedication to October. Moscow: DSCH Publishers, 2006.

STRAVINSKY, **The Firebird**: ballet suite for orchestra. New York: Leeds Music Corporation, 1945.

### EXCERPTS ON DVD:

Track 1

**Arnold Schoenberg – Farben**: Quoted from Analyse de l'op.16 n°3 d'Arnold Schoenberg par F. Nicolas, <https://www.youtube.com/watch?v=tFT6NIYMF1I>.

Track 2

**Igor Stravinsky - The Firebird**: Valery Gergiev - Vienna Philharmonic, Salzburg festival.

**György Ligeti - String Quartet no. 2**: Dudok Quartet, live at the Concertgebouw.

Track 3

**Alban Berg - Lyric Suite**: Juilliard String Quartet - Robert Mann (violin), Earl Carlyss (violin), Samuel Rhodes (viola), Claus Adam (cello).

**György Ligeti - Concerto de Chambre**: Ensemble Intercontemporain - Tito Ceccherin.

Track 4

**Dmitri Shostakovich - Symphony No.2**: Thomas Sanderling conducts RSB Berlin.

**György Ligeti - Atmosphères**: Claudio Abbado - Viena Philharmonic.

Track 5

**Bela Bartok - String Quartet Nr. 4**: Quatuor Ebène Festival Wissembourg.

**György Ligeti - Cello Concerto**: Alexis Descharmes, solo cello & Ensemble C Barré, conducted by Sébastien Boin.

All the charts used in this dissertation were conceived and designed by the author.