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Molds and Grids, Construction and Constriction: The Struggle Between Quantity and Quality in Musical Composition

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The presentation "Molds and Grids" (In Portuguese: *Formas e Fôrmas*) explores the transversalities between the artistic practices of the likes of Alfredo Volpi, Igor Stravinsky, Morton Feldman and Yasujiro Ozu - in summary: the insistent exploration of the convergence between repetition and differentiation.

Drawing upon the notions of Grid and Planarity as conceptualized by Clement Greenberg (GREENBERG, 1997) and Hugues Dufourt's approach to music notation as technology in his "The Artifice of Writing in Western Music" (DUFOURT, 1997), the focus of the present work lies in comprehending how repetition can generate a phenomenological space that paradoxically allows for the perception of subtle differentiations within elements and the presence of this dynamic in multiple art sectors such as music, painting and cinema. Such tension gives rise to a liminal space situated between pulse and liquidity, chronicity, and duration: a philosophical "problem" that characterizes much of the 20th century's theory and practice.

The utilization of repetitive, truncated, and fragmented patterns, as their combinations accumulate in memory, engenders an "imaginary" meta-object that undergoes slow modulations, akin to the transformative qualities of texture and timbre - a type of "meta-texture" (LACHENMANN, 1985). This process creates a volumetric experience both for the visual sense, as observed in the works of Ozu and

Volpi, and for the auditory sense, as observed in Feldman and Stravinsky. Paradoxically, this approach establishes an anti-predicative relationship between the producer and the listener with the musical or visual material, as repetition amplifies the inaccuracy between memories and objects. Herein lies once again typical "constructivist" situation: the attempted to soften the limits between "producer" and "receptor".

The study establishes connections between reiteration, homogeneity, the loss of scale, and the intricacies of perception. It encompasses a diverse range of artistic works, including the films of Yasujiro Ozu, and his montage through Bordwell and Thompson's Space and Narrative in the films of Ozu (1988). The author incorporates succinct analysis of Igor Stravinsky and Morton Feldman as illustrative examples, delving into their compositional process that begins with abstract ideas that subsequently adapts and transforms through interactions with both instrumentalists and the "notational image" (HALL, 2007 & FERRAZ, 2007). Furthermore, the presentation examines the concept of composition as an expansion and dialetization of the practice of constructing and perceiving.

By conceptualizing the temporalities present in such works, the author explores the dialectical relationship between the constituent parts, the creation of connections and algorithms stemming from their interactions, and the generation of minimal differentiations within co-existing closed and complete objects. To do so, the article also delves into the reduction of means, raw formalization, and rigidity, which paradoxically amplify every detail, emphasizing the parts and fragments as

potentialities through their incompleteness, as exemplified in Friedrich Schlegel's philosophy of the fragment (SCHLEGEL, 2021).

The concept of seriality and combinatoriality in the realm of visual arts, as exemplified in the works of Volpi and Ozu, is discussed in relation to its transversality in music composition. This approach additionally aims to conceive the music of Morton Feldman as an unorthodox version of the spectralist critique of serialism and the "negation of temporality" (ADORNO, 1988; DUFOURT, 2012; GRISEY, 1987).

Furthermore, the presentation explores the notion that extreme mediation leads to its opposite, highlighting how silence can become voluminous, repetitive patterns can become elusive, the particular can become interconnected, and anonymity can transform into singularity. It also addresses the concept of reduction in relation to the Cezanian processes of vertigo, as discussed by SALSZTEIN (2018), shedding light on how the use of low dynamics and repetition in instrumental music can create ambiguity and disorientation in perceiving the source of sounds.

This extended abstract provides a more comprehensive overview of the main ideas and themes to be discussed in the original presentation, offering deeper insights into the relationships between various artistic practices and concepts. By exploring the transversalities between Volpi, Satravinsky, Feldman and Ozu, and drawing connections to philosophical and theoretical frameworks, the article seeks to illuminate the nuanced dynamics of repetition, perception, and the creation of liminal spaces in the realms of music, visual arts, and cinema.

Keywords: Composition; Fragmentation; Repetition; Temporality; Transversality

References

ADORNO, Theodor W. *The Aging of the New Music*. Telos, v. 1988, n. 77, p. 95-116, 1988.

BOULEZ, Pierre. Apontamentos de aprendiz. Editora Perspectiva. 1995.

DUFOURT, Hughes. *O artifício da escrita na música ocidental*. DEBATES-Cadernos do Programa de Pós-Graduação em Música, n. 1, 1997.

DUFOURT, Hugues. *Les paradigmes du processus et du matériau et leurs crises dans la musique occidentale.* Cités, n. 3, p. 149-176, 2012.

GREENBERG, Clement. *Pintura modernista*. Clement Greenberg eo debate crítico. Rio de Janeiro: Jorge Zahar, p. 101-110, 1997.

GRISEY, Gérard. Tempus ex Machina: *A composer's reflections on musical time*. Contemporary music review, v. 2, n. 1, p. 239-275, 1987.

HALL, Tom. *Vague relations*: notational image, transformation and the grid in the late music of Morton Feldman. Current Issues in Music, v. 1, n. 1, p. 7-24, 2007.

LACHENMANN, H. *De la composition*. In: Musique Nouvelle. Paris: Christian Bourgois Éditeur, 2018.

MIYAO, Daisuke. Bright Lights, Big City: Lighting, Technological Modernity, and Ozu Yasujirô's Sono yo no tsuma (That Night's Wife, 1930). positions: east asia cultures critique, v. 22, n. 1, p. 161-201, 2014.

Ozu's Script Writing Process. Retrieved from: https://youtu.be/u_H1qoUhWd4?si=4feEvbshHf-ppiVY on October 08, 2023.

PERSSON, Mats. To Be in the Silence. Morton Feldman and Painting. Liner notes to Morton Feldman: Complete works for two pianists, with Kristine Scholz and Mats Persson. Alice label ALCD, v. 24, 2002.

SALZSTEIN, Sônia. *Justaposição, repetição, dança*. ARS (São Paulo), v. 16, p. 33-45, 2018.

SCHAEFFER, Pierre. Treatise on musical objects: An essay across disciplines. Univ of California Press, 2017.

SCHLEGEL, Friedrich. O dialeto dos fragmentos. Iluminuras, 2021.

SOLOMOS, Makis. From music to sound: The emergence of sound in 20th-and 21st-century music. Routledge, 2019.

THOMPSON, Kristin; BORDWELL, David. Space and Narrative in the Films of Ozu. Screen, v. 17, n. 2, p. 41-73, 1976.

WEBER, Max. Os Fundamentos racionais e sociológicos da música, São Paulo: EDUSP, 1995.

The impact of technology on György Ligeti's music.

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In several written texts as well as interviews, György Ligeti himself comments on his experiences at the Cologne Electronic Music Studio and the place new technologies have had on music composition (LIGETI, 2001a, 2001b, 2013, 2014a, 2014b, 2014c; LIGETI, MICHEL, 1995). He clearly explains various acoustic and psychoacoustic phenomena and even analyzes the marks such discoveries left in his music.

In my presentation, I will talk about the impact technology has had on Ligeti's music. To do so, I will first speak of his experience with electroacoustic music at the Electronic Music Studio in Cologne, together with composers such as Karlheinz Stockhausen and Gottfried Michael Koenig. Afterward, I will comment on the role new technologies (and science) played in his trajectory. My speech will be based on my own and other peoples' research, on the composer's writings and works, and on interviews with the composer. Aspects related to the textural density and works composed in the 50s, 60s, and 70s will be prominent in my exposition. The texts that deal with technomorphism in music will also serve as the basis for my speech (WILSON, 1989; HOLMES, 2019). A summary of my speech follows.

Ligeti's language, which begins to emerge with *Apparitions* (1958-59) and goes on to *Monument, Selbstportrait, Bewegung* (1976), or even to the *Trio for violin, horn and piano* (1982), has its roots in experimentation carried forward by the composer

within the scope of electronic music, in the second half of the fifties. From contact with electronic media, Ligeti substantially modifies his language. The micropolyphony technique, so named by the composer himself and which became a stylistic hallmark of his music in those years, is a product of this contact.

In his works from the 1960s and 1970s, the voices are conceived as layers within a very homogeneous texture, reminiscent of the overlapping of layers in electroacoustic music. The most important element is texture and its relationship to timbre. Rhythm, for example, in these works, is thought of as texture; he is a central element of the density of the work. That is, it does not appear independently as a "parameter" but, on the contrary, as a phenomenon of texture and even of timbre. Rhythmic writing derives from a phenomenon called "sound of movement" by Koenig (*Bewegungsfarbe*). In works composed after the *Trio*, rhythm emerges on the surface of the work, becomes audible and gains weight as an independent parameter, just as happens with melody and harmony.

In soundmass works (such as *Atmosphères* and *Requiem*), Ligeti obsessively explores the thresholds of our perception. He builds an ingenious system of rhythmic superimpositions that allows him to obtain a high density of sound events that exceed 20 attacks per second (this number refers to the limit of the human auditory system when trying to separate the attacks in time). The work with the temporal fusion threshold arises, according to the composer himself, from "the work of assembling magnetic tapes" (LIGETI, 2001a, p. 182). More precisely, awareness of the phenomenon of merging attacks when surpassing the limit of human resolution was linked to the emergence of new technologies: "in December 1950, magnetic tape

recorders arrived on radio stations, replacing, from January 1951, record players in the procedures for performing electroacoustic works'' (MENEZES, 1996a, p. 254). Magnetic tapes could be manipulated more easily than LP records, as it was possible to cut and paste the tape fragments in a different order. It was also possible to play two magnetic tapes that would be recorded simultaneously on a third tape, and so on.

In the case of the Electronic Music Studio in Cologne, to which Ligeti was linked, the compositional material came from sinusoidal oscillations generated electronically and recorded on magnetic tape "without the intermediation of an instrument or a microphone" (EIMERT, 1996, p. 108). The group led by Eimert aimed to work the sound from "inside". The composition of sound itself was obtained by manipulating its spectral information. More precisely, the objective was to work with the timbre starting from the superimposition of sinusoidal sounds (additive synthesis). Based on the composition of the sound, "both the number and the exact amplitude of its partials were defined: this is what we can call *Klangfarbenkomposition* (timbre composition)" (MENEZES, 1996b, p. 34). Already at that time, it is possible to think that "electronic music disposes of, at least as an idea, of the *continuum of timbres* (*Kontinuum der Klangfarben*)" (DAHLHAUS, 1996, p. 173). This idea of the *continuum* is central to all of Ligeti's musical production.

Keywords: Ligeti; electroacoustic music; technology; works from the fifties, sixties and seventies.

References

DAHLHAUS, Carl. Problemas estéticos da música eletrônica. In: MENEZES, Flo (org.). *Música eletroacústica*: história e estéticas. São Paulo: Editora da Universidade de São Paulo, 1996, p. 171-179.

EIMERT, Herbert. Problemas da música eletrônica. In: MENEZES, Flo (org.). *Música eletroacústica*: história e estéticas. São Paulo: Editora da Universidade de São Paulo, 1996, p. 105-116.

HOLMES, Bryan. *Tecnomorfismo em música*: uma visão teórica e prática. Tese. Universidade Federal do Estado do Rio de Janeiro. Rio de Janeiro, 2019.

IVERSON, Jennifer. Shared compositional techniques between György Ligeti's "Pièce électronique n° 3" and "Atmosphères". *Mitteilungen der Paul Sacher Stiftung*, Basel, n° 22, p. 29-33, abr. 2009.

IVERSON, Jennifer. The emergence of timbre: Ligeti's synthesis of electronic and acoustic music in "Atmosphères". *Twentieth-century music*, Cambridge, v. 7, n° 1, p. 61-89, 2011.

LIGETI, György; MICHEL, Pierre. Entretiens avec György Ligeti In: MICHEL, Pierre. *György Ligeti*. Paris: Minerve, 1995, p. 149-202.

LIGETI, György. À propos de la musique électronique. In: _____. Écrits sur la musique et les musiciens. Genève: Contrechamps Éditions, 2014a, p. 83 - 92.

LIGETI, György. De l'emploi des ordinateurs dans la composition. In: _____. Écrits sur la musique et les musiciens. Genève: Contrechamps Éditions, 2014b, p. 178 - 181.

LIGETI, György. Les effets de la musique électronique sur mon travail de composition. In: _____. *L'atelier du compositeur*. Genève: Contrechamps Éditions, 2013, p. 93 - 101.

LIGETI, György. Musique et technique: expériences personnelles et considérations subjectives. In: *Neuf essais sur la musique*. Genève: Contrechamps, 2001a, p. 181-209.

LIGETI, György. Pensées rhapsodies sur la musique en général et sur mes propres compositions en particulier. In: _____ . *Neuf essais sur la musique*. Genève: Contrechamps, 2001b, p. 11-25.

LIGETI, György. Premières expériences pédagogiques avec la musique électronique: un rapport sur les cours d'été de Darmstadt en 1960. In: _____. Écrits sur la musique et les musiciens. Genève: Contrechamps Éditions, 2014c, p. 76-82.

MENEZES, Flo. Cronologia da música eletroacústica. In: _____. *Música eletroacústica*: história e estéticas. São Paulo: Editora da Universidade de São Paulo, 1996a, p. 251-258.

MENEZES, Flo. Um olhar retrospectivo sobre a história da música eletroacústica. In: _____. *Música eletroacústica*: história e estéticas. São Paulo: Editora da Universidade de São Paulo, 1996b, p. 17-48.

PEITGEN, Heinz-Otto. Continuum, Chaos en Metronomes - A Fractal Friendship. In: Louise Duchesneau & Wolfgang Maex (org.). *György Ligeti: Of Foreign Lands and Strange Sounds*. The Boydell Press, 2011, p. 87-106.

WILSON, Peter Niklas. Vers une écologie des sons: "Partiels" de Gérard Grisey et l'esthétique du groupe de l'Itinéraire. *Entretemps*, nº 8, p. 55-81, 1989.

Episodes for a history of field recording in Brazil

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The use of field recordings in sound art and experimental music has seen a significant increase in the last two decades, facilitated by the development of relatively inexpensive portable recording technologies. In Brazil, artists such as Thelmo Cristovam, Raquel Stolf, Marco Scarassatti, Paulo Dantas, and Alexandre Fenerich regularly employ field recordings as part of their artistic practices.

This article presents an investigation into the origins of artistic and documentary field recordings in Brazil, inquiring how different sound recording technologies allowed researchers and artists to create and preserve sounds such as bird calls, indigenous songs, soundscapes and sonic memories. We will focus on three significant episodes: German anthropologist Theodor Koch-Grünberg's recordings of indigenous music in Edison cylinders; French painter Hercule Florence's development of *zoophonie*; and Johan Dalgas Frisch's commercially successful releases of bird songs in LP records.

Theodor Koch-Grünberg brought 86 wax cylinders from Northern Brazil to the *Berliner Phonogramm-Archiv*, including recordings of songs from the Makuschi, Taulipang, Wapischana, Yekuana, Desana and Tukano indigenous people. His recordings were usually made by inviting his informants to re-interpret these songs into the Edison phonograph, separating them from the dances, musical instruments, and ritual ceremonies in which they were usually performed, and placing his

informants in a relatively quiet and controlled environment. Therefore, although the Edison phonograph was regarded as a technology for isolating and reproducing sound, the production of Edison cylinders of indigenous music depended on a previous isolation of specific sounds and re-production of these songs arranged by the sound recordist at the very moment of recording.

Best known as one of the inventors of photography, Hercule Florence was hired as a painter in the Langsdorff Expedition, which traveled through Brazil between 1825 and 1829, before finally establishing himself in Campinas, SP. Having documented the visual images of animals, plants, and indigenous people in his paintings and drawings, Florence became interested in developing a method for documenting the sonic aspects of his explorations. He named his method *zoophonie*, which consisted in an adaptation of Western music notation, and allowed him to preserve animal sounds that he feared would soon disappear due to the careless advances so-called civilization.

Johan Dalgas Frisch's interest in bird songs started while helping his father, Svend Frisch, produce an illustrated book of Brazilian bird specimens. Between 1962 and the 1970s, he released dozens of commercially successful vinyl records of bird songs through the *Sabiá* label. Most of his recordings contained not only bird sounds, but also a voice-over narration that introduced a fictional element into the project, guiding his listeners through an imaginary journey. Some of his records also combined bird singing with instrumental versions of popular music hits, such as Geraldo Vandré's *Disparada* and Richard Wagner's *Wedding March*. Moreover, Dalgas Frisch created a public persona that incorporated the mythical image of the

explorer, filling his record sleeves with photographs of himself amid the recording process and descriptions of dangerous episodes he encountered throughout his travels.

Through this article, we hope re-frame histories of field recording gathered from different areas, such as Bioacoustics and Ethnography, and attempt to look at them as precursors to contemporary artistic practice. We will show how different recording technologies – sheet music, wax cylinders, and magnetic tape – allowed for different ways of framing of our surroundings, and investigate the economies surrounding the recording process, who had the privilege of operating recording devices in each historical period, and which kinds of sounds were adequately represented in these media.

Electrovocal in digital environment: a performer-composer interaction in music co-creation

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The creative context of this present study revolves around the presentation of the piece Ariedara Amnenia during the Perspectivas Sonoras 2022 concert series hosted by the Mexican Center for Music and Sonic Arts (CMMAS). This composition, designed for voice and fixed electroacoustic support, is mediated by co-creation processes. The work is among four distinct compositions included in the Evoé Maria! project, conceived by Doriana Mendes following an invitation in 2021 by the series' curator and organizer, mexican composer Rodrigo Sigal. For this specific Evoé Maria! project, the originator and performer of the proposal suggested using the artistic production of visual artist Maria Martins (1894-1973) as the guiding inspirational theme for the compositional works. This proposal was timely and relevant as it resonates with Martins' surrealist artistic production, particularly in her sculptural work, which dialogues powerfully with Brazilian modernism during the period celebrating the 100th anniversary of the 1922 Modern Art Week. Ariedara Amnenia was conceived as an interactive co-creation process, free from hierarchy or unilateral direction. In this context, the works of Alan Taylor (2016) and Cardassi and Bertissolo (2019) stand out, discussing categories highlighted within the realm of collaborative musical creation. For the diffusion and interaction of electronic material, the initial

proposal was to use a fixed playback support, meaning the electronic material is pre-generated and activated in real-time during vocal performance or recording. This takes into account the technical, computational, and logistical aspects involved. In many of her artistic endeavors, Maria Martins delves into themes related to Brazilian myths and legends, portraying nature as an allegory of desire's power. By adding elements of the unconscious to the expression of a wild nature not subordinated by intellect, she creates works with a strong visual impact, imbued with eroticism, violence, and a certain malleability and lyricism. In 1943, Maria Martins held an exhibition of works for the Amazon series at the Valentine Gallery in New York. Although she never visited the Amazon region, the artist sought to interpret Brazil and broaden interpretations of the area. Her physical absence did not prevent her from referencing mythic beings, the forest's ambiance, or interacting with its natural elements. The Amazon theme inspired the concept behind Ariedara Amnenia. Another significant creative influence was the sculpture The Impossible, completed in 1949, which explores desire and imperfection through figures that almost touch yet repel with their claws. The spaces between figures and the shadows they create around the sculptural mass are also expressively part of the work. The aforementioned context, anchored in the constant mutability of figures and forms conceived by Maria Martins about the Amazon and The Impossible, drove us to devise the sonic events present in the electro-vocal part proposed by the composer. The interpreter, after the first listen, improvised a text, whistle gestures, laments, and glottic ‘drives’ in medium-low and high regions. A dramatic shout evoking the mythical word ‘Guri!!!’ intersects with the reversed voice of an indigenous child. This improvisational process

alludes to the concept of the mythical voice (Maletta, 2014). These vocalizations were recorded in the studio in two improvised versions over the support. The material was then sent to the composer for version selection, adjustments, and score preparation, allowing a guide for future performances of the piece, both in-person and not just as acousmatic work. The electroacoustic sound planning seeks to modify raw sound material, making it concrete and autonomous. The sound repertoire incorporated two specific sound banks: one with sounds collected from the Amazon rainforest and another with various recordings that have greater or lesser sound intensity in the context of a particular classification of 'positivity' and 'negativity' based on subjective responses. The SuperCollider environment was used for electroacoustic part processing. Techniques used in this interaction primarily included controlling audio file playback speed, transposing sound frequency regions, spatialization, acoustic environment simulations, temporal lags, echoes, and spectral filters. Ariedara Amnenia is the result of a co-creative interaction between voice and electronics conducted entirely online. It includes conceptual and contextual motivations based on Maria Martins' production and sounds from the Amazon region, as well as the technical and procedural interplay between audio and electronics. The first online version has already been presented, but there are plans for expanding the co-creative work, including other scenic, computational, and audio possibilities in dialogue with Maria Martins' work.

Keywords: Composition, Maria Martins, Performer-composer Co-creation, Mythical Voice

References

BOSMA, Hannah. *Authorship and Female Voices in Electrovocal Music*.In: Proceedings of the International Computer Conference, Hong Kong, 1996.

CANADA, Manoel. Maria Martins um imaginário esquecido. Dissertação de Mestrado: Orientador: Prof. Dr. Omar Khouri. Universidade Estadual Paulista - UNESP. SÃO PAULO. 2006

CARDASSI, Luciane; BERTISSOLO, Guilherme. Colaboração compositor-performer: uma proposta de metodologia. ANAIS da XXIX ANPPOM, p. 1-9, 2019.

MALETTA, Ernani de Castro. A dimensão espacial e dionisíaca da voz com base nas propostas de Francesca Della Monica: resgatando liberdade expressiva e identidade vocal. Urdimento, v.1, n.22, p.39 - 52, julho 2014.

MENDES, Doriana. O Discurso Não-Semântico na Música Eletrovocal. 2018. Tese (Doutorado em Música) - Programa de Pós-Graduação em Música. Centro de Letras e Artes, Universidade Federal do Estado do Rio de Janeiro, Rio de Janeiro, 2018.

_____. *Coautoria e Performance na Música Eletrovocal: algumas experiências*. In:Entre Gritos e Sussurros, Os Sortilégios da Voz Cantada. Heloísa Duarte Valente e Juliana Coli (Org.). São Paulo: Letra e Voz, 2012.

TAYLOR, Alan. 'Collaboration'in contemporary music: A theoretical view. Contemporary Music Review, v. 35, n. 6, p. 562-578, 2016.

YOUNG, Miriama. Singing the Body Electric: The Human Voice and Sound Technology. Farnham: Ashgate Publishing Limited, 2015.

Perspectives in modern musicology and compositional practices assisted by computational musematic analysis

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Music analysis assisted by computational tools and methods has been experiencing incredible novel forefronts recently. Leveraged by recent new developments of collaborative computing platforms, such as online notebooks, and the increasing impact of AI on the music composition scenario, we consider that sound and musical analysis tools may offer novel perspectives for composers on understanding the evolution of compositional styles by revealing implicit stereotypes that contribute to model an affective character or enhance the expressive musical aspects correlated to certain archetypes. Advantages are in providing new means for assisting the identification and creation of links between film moods, characters or scene, and the soundtrack, which is a gap in the current literature in film making courses.

Based on the analytical processes of musematic analysis and interobjective comparison, introduced by Philip Tagg (2013), we have analyzed the recurrence of a set of music structures, present in early XX century photoplay collections, in several cinema renowned soundtracks' scores. These musical structures - called *musemes* - can be any recognizable structure of a piece serving as the smallest linguistic or musical unit that has meaning, usually having a duration of less than a phrase.

Photoplay collections consist of a package of composed musical scores used to accompany films common in the silent movie era.

Tagg's interobjective comparison method comprises two stages. The first is based on matching the *paramusical connotation field*, where we search for similarities in extramusical aspects that pieces of the same culture are to exhibit. The second is a comparison of musical structures from two pieces that fulfill the criteria of the first stage (therefore being part of the same cultural context) looking for similar structures between them. The similarity is based on the confrontation of the soundtrack analysis objects (aka AO) and the reference musemes (interobjective comparison material, aka IOCM).

Employing MIR symbolic computational tools, we developed some poietic descriptors able to assist in searching and/or comparing musical features, such as: tonality, parallel octave movement, melodic contour, and rhythmic contour. These features were found helpful in aiding us to look up a set of pertinent musemes within the photoplay collections.

Using the toolkit Music21 for computing-aided musicology and native Python libraries, we built five descriptors to run on Google's collaboratory environment aiming at: tonality analysis; parallel octave tracking and visualization; rhythmic analysis; melodic contour tracking and comparison; and melodic rhythmic tracking and comparison. The analysis of score notations was adopted to avoid the subjectivity of performance in audio analyses. To be able to use scores in pdf format, we first needed to convert them into musicxml files, for which we used an Optical Musical

Recognition (OMR) software (e.g the ScanScore OMR) as a tool to assist in the conversion.

Using this methodology, we were able to identify a relevant set of recurrent musemes in photoplay pieces and find equivalent matches for them on particularly three film scores: Star Wars (1980), Jaws (1975), and Joker (2019). The obtained results led us to corroborate a hypothesis of a recurrent stereotypy in film music making, and have shown how these tools may increase our analytical capacity to cover a large musical corpus by assisting to inspect how musical structures reiterate across musical scores. As a conclusion, we believe to give a glance at the potential of using analytical and automated music analysis tools in assisting the composer in his/her compositional practice, increasing their possibilities in both artistic research in modern musicology and in the working fields of soundtrack composing for the creative industry.

Keywords: musical analysis, museme, interobjective comparison, MIR symbolic tools, poietic digital descriptors

References

CUTHBERT, Michael; ARIZA, Cristopher T. music21: A Toolkit for Computer-Aided Musicology and Symbolic Music Data. In: Proceedings of the International Symposium on Music Information Retrieval (ISMIR), 2010. p. 637-42.

MIRANDA, S. R. (2016). A ressonância do modelo analítico de Philip Tagg para os Estudos da Música no Cinema. Rebeca, v. 3, n. 2, 2016. doi.org/10.22475/rebeca.v3n2.130.

TAGG, Philip (2013). Music's meanings: a modern musicology for non-musos. New York: The Mass Media Music Scholars' Press, 2013.

Listening with machines, composing with birds: research and compositional approaches in '*nós, passarinho*' (2023), for flute and live electronics.

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In this work, I explore compositional strategies and tools developed and used in the process of composing and performing the piece *nós, passarinho* (2023), for flute and live electronics. Commissioned by Inhotim Institute, the piece extensively uses bird sounds, soundscapes, spatial audio (ambisonics), flute sounds (including extended techniques), and real-time computer-generated audio. The creative use of these elements aims to seamlessly transition between different types of sounds and listening experiences, connecting the piece to the specific circumstances of its performance site and context.

First, I provide an overview of the composition's general context, including the poetic, circumstantial, and research-related factors that led to this creative project. After discussing the piece's title and overall poetic concept, I delve into site-specific characteristics of the commission and its relationship with two research projects funded by CNPq and FAPEMIG, which are directly related to the composition.

In the second section, "Composing with Birds, Listening with Machines," I explain the strategies employed for handling sound materials and managing the overall sound dynamics of soundscapes and bird song recordings. This includes an in-depth study of the birds and bird songs that define the soundscape of Brumadinho, the utilization of ambisonics field recordings, and the algorithmic processing of

numerous sound recordings from various bird species in the region, using the xeno-canto.org database. I then cover the processes related to the algorithmic treatment of these sound recordings, the organization and processing of materials collected in the initial phase, and the overarching process that provided the sound materials for subsequent tasks, such as analysis, resynthesis, plotting, and algorithmic/computer-assisted transcription.

The third section, "Inscriptions," addresses aspects related to the technological mediation of compositional writing. Expanding on the term with influence from Derrida and Magnusson, I present various approaches to compositional writing that were explored during the creative process, including: a) linear prescription based on manually composed scores; b) suggesting sound materials through notation, whether generated manually or through algorithmic transcription and notation methods; c) proposing improvisations guided by specific materials and extended techniques; d) expressively elaborating notational materials transcribed in an automated manner.

In the fourth section, "Outdoor Electronics," I discuss the nuances of composing live-electronics music in the specific context of the piece's premiere. Taking into consideration the site- and context-specific aspects of the piece's creation, I explain how I structured the compositional materials and electronics to suit the characteristics of the site and context where the piece was first performed. Additionally, I outline four types of materials used in the composition: 1) ambisonics soundtracks/soundscapes; 2) the acoustic instrument and its amplified/spatialized representation; 3) sound played through consumer-grade speakers placed within

cages around the Largo das Orquídeas square; 4) real-time spatial granulators, which enabled me to make the flute mimic the birds found around Inhotim.

In the final section, I offer some closing remarks on the future development of the piece, which includes minor corrections, the integration of real-time audiovisual processes, and the utilization of new machine listening and neural network techniques. Furthermore, I argue that the most intriguing aspect of creating personal technical and creative tools lies in establishing new connections with the world, people, and beings around us, enabling us to shape new perceptions, intellectual understanding, and emotional connections.

Keywords: Listening with machines, machine-listening, computer-assisted composition, birds, live electronics.

References

AMORIM, Raiane. Aves do Inhotim. Brumadinho, MG: Instituto Inhotim, 2021.

BACA, Trevor et al. Abjad: An open-source software system for formalized score control. 2015, 2015.

DERRIDA, Jacques. De la Grammatologie. Paris: Édtions de Minuit, 1967.

EMMERSON, Simon. Listening With Machines: A shared approach. Organised Sound, v. 20, n. 1, p. 68–75, apr. 2015.

KINGMA, Diederik P.; WELLING, Max. An Introduction to Variational Autoencoders. Foundations and Trends in Machine Learning, v. 12, n. 4, p. 307–392, 2019.

MAGNUSSON, Thor. Sonic writing: technologies of material, symbolic and signal inscriptions. New York, NY: Bloomsbury Academic, 2019.

OBERSCHMIDT, Jürgen. Geräuschtöne Über die Musik von Carola Bauckholt. Regensburg: ConBrio, 2014.

PADOVANI, José. The solfège of technical objects: notes on the potential contribution of Gilbert Simondon to sound studies and arts. Interference, p. 31–45, 2018.

QUINTANA, Mario. Caderno H. 1ª edição ed. Alfaguara, 2013.

SERRA, X. A System for Sound Analysis/Transformation/Synthesis based on a Deterministic plus Stochastic Decomposition. 1989. Stanford University, 1989.

SIMONDON, Gilbert. Du mode d'existence des objets techniques. Paris: Aubier, 1989.

TREMBLAY, Pierre Alexandre et al. Fluid Corpus Manipulation Toolbox. 7 jul. 2022. Available at: <https://zenodo.org/record/6834643>. Access: 10 aug. 2023.

VELLOSO, José H. P. Música e técnica: reflexão conceitual, mecanologia e criação musical. 2013. 569 f. Tese de Doutorado em Música (Processos Criativos) – Instituto de Artes da Unicamp, Campinas, 2013.

Analysis proposal for electroacoustic music through Erwin Panofsky's formal studies applied to Mauricio Bejarano's work "Ráfagas"

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The objective of this article is to present a complementary proposal that allows us to reach a formal analytical approach for electroacoustic music and that compromises in an integral way the different aspects that involve the creation of a musical work performed under the parameters of these aesthetics.

For the above, Erwin Panofsky's theories for the formal studies of the visual arts will be taken into account, a method of image semiotics that proposes three levels of analysis: Pre-Iconographic Level. This refers to the basic and descriptive aspects of a work of art. Here, Panofsky suggests that it is important to identify and understand the visual and formal elements that make up the work. This includes aspects such as form, color, composition and style.

In the second: Iconographic level, Panofsky proposes the analysis of the work in relation to the secondary or conventional meaning, where he states that operating in this way, a relationship can be established between some artistic motifs and the combination with other artistic motifs (compositions) and themes or concepts, the motifs thus recognized as having secondary or conventional meaning, can be called images, and the combinations of images constitute what the ancient art theorists called inventions. In the last one, Iconological Level, the aim is to find a meaning to the pictorial work from the context of its creation and diffusion.

The analogous proposal to be presented here, like Panofsky's, will have three levels: Pre-phonographic Level, Phonographic Level and Phonological Level, which will apply the same principles previously exposed in the musical creations linked to electroacoustic music, which will allow us to understand both the purely sonorous, formal and structural factors of the musical piece, as well as the external factors that influence the compositional process.

This text will be divided into three sections: the first one will be in charge of presenting more clearly the proposals for Erwin Panofsky's formal studies. A second moment in which this method will be applied to the work *Ráfagas*, a work composed by the Colombian composer Mauricio Bejarano Calvo, which is of an acousmatic character, and was created for the art biennial OpenART Biennale (2017) in the city of Orebro Sweden. In addition to the previous sections, some conclusions relevant to the analysis of electroacoustic music and the process of applying this method will be presented.

Keywords: Electroacoustic music, musical analysis, formal studies, iconography, iconology.

Environments of *possibilia* in *One for One*: a practical laboratory for the evolution of sonic phenomena developed from indeterminate notation.

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This study examines the interpretation of experimental music as a creative endeavor involving the study of the text score *One for One for any pitched instrument and computer* (2015), written by French composer Jean-Luc Guionnet. These types of compositions usually utilize non-phonographic notation, a variety of written musical signs in which most aspects of sounds are left indeterminate. Interpretation, the conformation of a sound image for the piece, entails a task "comparable to that of someone filling in color where outlines are given" (Cage, 2011, p. 35). The sound image of such compositions cannot be known in advance and therefore interpretation becomes a process of creative elaboration in which the performers' background knowledge plays a fundamental role, endowing notation with meaning. Because the meaning of these signs is not self-evident with respect to the sounds that the interpreters are to produce, the process will be examined from some notions belonging to the semiotic theory of Charles S. Peirce. A performance is thus taken as an observable and examinable item dealt through the notion of sign and the three kinds of inference: abduction, induction and deduction.

Peirce defines *abduction* as the conscious formulation of an explanatory hypothesis arising from the perception of the signs of the score, as a creative process

emerging from the performers' accumulated experience. As with any hypothesis, this supposes an experiment that can reaffirm, refute or modify it as appropriate by means of an *induction*, a concrete and real test. Induction then has the function of elucidating the inadequacies of this hypothesis. If proven correct, then *deduction* will foresee its application, which will then be established as a rule for the realization of the piece. To formulate the abduction, practical criteria were established in the form of an initial guitar-computer system to be tested through a practical and heuristic interpretive experimental setup. A computer patch was elaborated by imagining an interactive environment derived from the situations foreseen in the description of the piece. This system, comprising the computer and an electric guitar (the pitched instrument), aims at the automatization of the recognition and reproduction of the instrumental pitches as well as the actions required in each section of the piece taking into account the affordances and limitations given by the instrument and the technical platform.

Through this creative methodology we can gradually go from a rather vague or indeterminate possibility towards a meaning with more defined characteristics. What is already known allows for the inquiry into what is not yet known. Since this and other experimental pieces entail a multiplicity and diversity of realizations, there is no unique way of determining the indeterminate. Therefore, to develop a practice coherent with the notion of indetermination, this semiotic understanding can provide a critical perspective into the interpretation of repertoire within the Cagean tradition. From this standpoint, we also hope to contribute by posing general problems proper to this kind of repertoire in order to shed light on contemporary musical practices,

one that can be deployed in broader formal frameworks or situations than those of this piece all the while generating knowledge through practice.

Keywords: interpretation, semiotics, experimental music, notation, digital lutherie

Electroacoustic Music and Musique Concrète Instrumentale: elaborations for creative listening based on the reflections of Helmut Lachenmann

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This work has as objective to outline an analytical procedure of creative listening that relates electroacoustic music to the notion of concrete instrumental paradigm, with its main theoretical basis being Helmut Lachenmann's (1935) reflections on the guiding principles of his instrumental musique concrète. Despite his historical distance from electroacoustic aesthetics, Lachenmann proposes, in his extensive theorization of sound typologies, not only a reflection on composition but also an important reference for an analytical theory of listening that closely aligns with poetics inherent to the electroacoustic universe. Therefore, in order to understand this relationship, we first propose a brief bibliographic survey on the Lachenmannian theoretical framework, aiming to establish the methodological guidelines for this research. Subsequently, we conduct an analysis of the piece "*Got Lost*" (2008) for piano and soprano, describing how Lachenmann discursively arranges the instrumental planes based on the spectral correlation between connecting vectors. To accomplish this stage, an analysis of the spectral behavior of the resulting sound will be carried out, focusing on the relationships between vocal formants and sound typologies for the formation of different sound families. Finally, based on the analytical results, we seek an approach to Vilém Flusser's phenomenology, aiming to dialogue with his theoretical contributions (notably the possible relationships

between the concept of black box and the act of listening itself), in order to corroborate the objectives of this research.

Keywords: Electroacoustic music; Instrumental musique concrète; Helmut Lachenmann.

References

CASTELLO BRANCO, Marta. O instrumento musical como aparato. Juiz de Fora: Editora UFJF, 2015.

CHAGAS, Paulo C. A Música de Câmara Telemática: a Metáfora de Flusser e o Universo da Música Eletroacústica. GHREBH: Comunicação, Imagem e Técnica-Vilém Flusser, v. 1, n. 11. 2008.

DIGNART, Maria Cristina et al. O gesto como princípio formador em composições eletroacústicas. 2007.

FLUSSER, Vilém. Filosofia da caixa preta: ensaios para uma filosofia da fotografia. Relume Dumará, 2ª.ed. 2009.

FLUSSER, Vilém. O Universo das Imagens Técnicas. São Paulo: Annablume, 2008.

LACHENMANN, Helmut. On Structuralism, Contemporary Music Review, 12:1, 93-102, 1995.

LACHENMANN, Helmut. RYAN, David. Composer in Interview: Helmut Lachenmann. In: *Tempo,* New Series, N°. 210. UK: Cambridge University Press, 1999, P. 20-24.

LACHENMANN, Helmut. The 'Beautiful' in Music Today, *Tempo*, New Ser., No. 135. (Dec., 1980), pp. 20-24.

LACHENMANN, Helmut. *Tipos sonoros da nova música* [Tradução preliminar para o

português de circulação limitada feita por José Henrique Padovani em abril de 2013 do original em alemão "Klangtypen der Neuen Musik" in *Musik als existentielle Erfahrung*, 2ª edição atualizada]. Wiesbaden: Breitkopf und Härtel. 2004. 2013, p. 1-20.

LOPES, João Daniel Guerreiro Quinteiro. Got Lost: linguagem e percepção na obra de Helmut Lachenmann. Dissertação de Mestrado, Universidade Federal de Aveiro. 2013

SCHAEFFER, Pierre. *Tratado de los objetos musicales*. [Versão espanhola, Araceli Cabezón de Diego]. Madri: Alianza Editorial, 1988.

SMALLEY, Denis. Spectromorphology: explaining sound-shapes. Organised sound, v. 2, n. 2, p. 107-126, 1997.

ULM, Hernán; MARTONI, Alex. O GESTO DE OUVIR MÚSICA EM VILÉM FLUSSER. Revista Eco-Pós, v. 19, n. 1, 2016.

VALENTE, Rodolfo Augusto Daniel Vaz. Composição por modelo físico: a concretude do instrumento na criação musical. 2020. Tese (Doutorado em Música) – Escola de Comunicação e Artes, Universidade de São Paulo, São Paulo, 2020.

VELLOSO, José Henrique Padovani. O instrumento imaginário: o paradigma instrumental na criação musical. In: Anais do XXVII Congresso da Associação Nacional de Pesquisa e Pós-Graduação em Música. Universidade Federal de Minas Gerais, 2017.

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The creative work behind *Furnas 1* (2012), for alto flute and resonant piano

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In this proposal we intend to investigate and interpret issues such as: 1) how does an artist come up with his or her work? 2) How does a vague idea start and develop into a finished, concrete piece of art? In the past, the field of creativity research under cognitive science focused mainly on what **ideas** the artist had and how those **ideas** differ from others (BODEN, 2004; WARD, SMITH, FINKE, 1999). According to Varela's *enaction* paradigm, cognition is understood not to be a "representation of a pregiven world by a pregiven mind", but rather "the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs" (VARELA, THOMPSON, ROSCH, 2016, p.9). Thus, we should look at cognition as the process of structural coupling between subject and world (environment) through its history of interactions (MATURANA, VARELA, 1995) - in which the mind surely serves its important role.

In this work we take Theureau's (2003) course-of-action analysis as a tool to analyze Brazilian composer Felipe de Almeida Ribeiro's creative process in the composition *Furnas 1* (for alto flute and resonant piano), in the context of analysis through material traces (DONIN, THEUREAU, 2007, p.235; POIZAT, MARTIN, 2020, p. 14), from the composer's sketches.

> The course of action is the agent's course of experience (...) and the relationships it has with the relevant characteristics (...) of his or her observable activity, of his or her state, of his or her situation (including other agents and partly shared by these other agents), and of his or her culture (...); these characteristics are released by an interpretation of data about them according to the principle of the primacy of the intrinsic (THEUREAU, 2003, p. 59)

Furnas 1 compositional idea (or its initial image) emerged in 2011, when Almeida Ribeiro visited the Vila Velha Park in the state of Paraná (Brazil). There, he saw the geological formations of Furnas - vertical caves in the ground. He was impressed by them and imagined them as giant resonators. In his words:

> There was also (...) a little bit of that vertigo feeling. (...). You get a little hypnotized when you see these things from nature, when they are so grand (...). you get kind of stuck, looking at the details and at the same time, it was all a... Since it is a park, everything is very calm. It's like a feeling of still time, you know? (...) I think I took that into the piece. And (...) the piece is static, you notice it looks like an iceberg, (...) slowly passing by. (ALMEIDA RIBEIRO, 2023).

This image will be understood in the Sartrean sense of a form of consciousness, with mental, embodied and kinaesthetic characteristics (SARTRE, 2019). This conception brings us to the central questions of this research: how does this image became *Furnas 1*?

According to the composer, the composition began by 2012 with the organization of the first edition of SiMN (International Symposium of New Music), when he had to compose a piece for solo flute for the occasion. Almeida Ribeiro recalled his trip to Vila Velha Park and decided to put "both things together" (ALMEIDA RIBEIRO, 2022, p. 2). He then proceeded to work alongside flutist Fabrício

Ribeiro. At the first rehearsal they recorded a selection of the alto flute multiphonics from *Flûte au présent* (ARTAUD, 1980). After listening to them, Almeida Ribeiro chose four multiphonics, transcribed their rhythmic contour and used the *OpenMusic* software to generate harmony through ring modulations of the multiphonics. This led to successive rehearsals, in which they worked together to create the piece. After gathering sufficient written and recorded material, Almeida Ribeiro structured the musical form into the final manuscript, making some changes in the digital version of the score, which was then completed days before the debut, 3rd of December of 2012.

As results, our analysis enabled us to identify some archetypal structures (THEREAU, 2003), that is, creative work processes that were recurrent, retroactive and significant for the composer during the composition of *Furnas 1*: meeting the flutist, organizing the compositional material, writing of the manuscript, revision of the manuscript and digitalization of the manuscript. These processes are the practical material work with which the composer elaborated his initial image (which is vague and diffuse, restricted to the composer's body and mind) into the final piece (which is more or less precise and physical, available for the audience to experience). Thus, this compositional process was not about making concrete a pre-determined image, but to create it in the making.

Keywords: couse-of-action analysis, computer-aided composition, enaction, live electronics, flute.

References

ALMEIDA RIBEIRO, Felipe. Primeira entrevista [Interview date: 18th of November, 2022] . Unpublished. Interviewed by Lucas Quínamo.

ALMEIDA RIBEIRO, Felipe. Segunda entrevista [Interview date: 13th of March, 2023]. Unpublished. Interviewed by Lucas Quínamo.

ARTAUD, Pierre-Yves. *Flûtes au présent*: Traité des techniques contemporaines. Paris: Billaudot, 1995.

BODEN, Margareth. *The Creative Mind*, Myths and Mechanisms. 2. ed. London: Routledge, 2004.

MATURANA, Humberto; VARELA, Francisco. *A árvore do conhecimento*. Campinas: Editorial Psy II, 1995.

DONIN, Nicolas; THEUREAU, Jacques. Theoretical and methodological issues related to long term creative cognition: the case of musical composition. *Cogn Tech Work*, v. 9, 2007, p.233-251.

POIZAT, Germain; MARTIN, Julia San. The course-of-action research program: historical and conceptual landmarks. *Activités*, v. 17, n. 2, 2020, p.1-31. SARTRE, Jean Paul. *O Imaginário*. Petrópolis: Editora Vozes, 2019.

THEUREAU, Jacques. Course-of-Action analysis and Course-of-Action-Centered Design. In: HOLLNAGEL, Erik (Ed.). *Handbook of Cognitive Task Design*. Mahwah:Lawrence Erlbaum Associates, 2003, p. 55-82.

VARELA, Francisco; THOMPSON, Evan; ROSCH, Eleanor. *The Embodied Mind*, Cognitive Science and Human Experience. 2. ed. Cambridge (US): MIT Press, 2016.

VERMERSCH, Pierre. *The Explicitation Interview*. Online: Independently published, 2007. <https://www.amazon.com.br/Explicitation-Interview-Pierre-Vermersch/dp/1090169256> Access: 07/06/2023.

WARD, Thomas; SMITH, Steve; FINKE, Ronald. Creative Cognition. In: STERNBERG, Robert (Ed.). *Handbook of Creativity*. Cambridge (UK): Cambridge University Press, 1999, p. 189-212.

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Voz Entrecortada: another way to think about the body in composition and performance processes

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This paper[1] [2] arises from the dialogue between our Doctoral researches in Music in the areas of performance/artistic research and composition. It is a report of the experience of a collaborative process, which infers in the conception of a composition and performance that question the place of the body in musical activity, underlining the multimodal aspect of artistic creation in the context of Concert Music.

The bodily dimension in music has been minimized since the evolution of the means of communication and media reproduction, as recorded sound became more valued than live performances (IAZZETA, 1997). Mine Doğantan-Dack (2011) also underlines that discourses on music have focused almost exclusively on the mental terms of musical creation, neglecting the role of the body. In practice, by adopting rigid and neutral postures, wearing black clothes and neutralizing any type of inappropriate bodily expression, the narrative power of the performers' bodies and their own "voice'' is minimized. The erasure of the body in compositional activity, in its turn, occurs through some notably structuralist creative approaches, and through

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subtleties in the discourse about composition itself. For example, when considering that composition is synonymous with "writing", the corporeal dimension of compositional activity ends up being tacitly neglected. In certain situations of contemporary music, the expansion of parameters controlled by musical writing resulted in a restriction of actions and choices by the performance (BHAGWATI, 2013). An example of this occurs in the context of integral serialism, where the overvaluation of the written score has become preponderant even in comparison to the reality of musical performance (CATANZARO, 2018). Thus, the score, supersaturated with information, leads to a hegemony of writing over the performative freedom.

The aim of our investigation, therefore, was to collaboratively develop a composition and performance for solo flute that displayed the expressive value of the body in the various layers of the process. The performer's body, in this sense, is present in unusual ways on stage, exploring new possibilities, including her voice. The vocality, as a presence linked to the artist's individuality, is used as an integral part of the discourse and adds up to the creation of a narrative as a layer of expression. At the same time, we are concerned with methodological issues of Artistic Research when elaborating forms of collaborative work, in which both of us are creative agents.

Our method proved to be multifaceted and non-linear, starting with recorded improvisations (audio and video) of the flute and body, which served as creative inspiration for writing the composition *a posteriori*. *Voz Entrecortada* emerged from the idea of exploring the voice as a means of expression in performance. The voice

would be present in the composition in different ways (air sounds, consonant sounds, phonemes, simultaneous singing and flute and only singing) but never managing to fully overlap the sound of the flute, except in the final moment, a semi-open vocal improvisation. There was a phase of formalizing the ideas, where we perceived possible directions that configured the different sections of the score, as well as the characters and feelings that we would like to evoke, among them: anxious, aerial and meditative. In terms of writing, we chose to use "gestural blocks'' that are repeated and combined in different orders. Through weekly meetings and sharing of tests recorded by the performer, we realized and made several changes in the score due to adaptability, covering issues and technical-corporal possibilities of the flutist, as well as the memorization. With regard to memorization, we observed two stages, the first memorizing the composition itself and the second encompassing the music and body movements. These movements emerged from the performer's incorporated knowledge and then were spilled over, constituting a body-sound narrative. As a result of this creative process, we will present a video of the performance of *Voz Entrecortada*. Link of the performance: https://youtu.be/hw2BdB5dXNE

Keywords: artistic research, collaborative process, body movement, voice, solo flute.

References

BHAGWATI, S. Notational perspective and comprovisation. In: ASSIS, P; BROOKS, W.; COESSENS, K. (eds.). *Sound & Score: Essays on Sound, Score and Notation.* Leuven, Belgium: Leuven University Press, 2013, p. 165–177.

CATANZARO, T. *Transformações na linguagem musical contemporânea instrumental e vocal sob a influência da música eletroacústica entre as décadas de 1950-70.* 1ª edição. Rio de Janeiro, Brasil: 7 Letras, 2018.

COESSENS, K.; CRISPIN, D.; DOUGLAS, A. (2009). *The Artistic Turn: a Manifesto.* Leuven, Belgium: Leuven University Press, 2009.

DOĞANTAN-DACK, M. In the Beginning was Gesture: Piano Touch and the Phenomenology of the Performing Body. In: GRITTEN, A.; KING, E. (Eds.). *New perspectives on music and gesture.* Farnham, England/Burlington, USA: Ashgate Publishing Limited/Company, 2011. p. 243–265.

IAZZETA, F. A música, o corpo e as máquinas. *OPUS*, vol. 4, p. 27–44, 4 ago. 1997.

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The virtual score (*partition virtuelle*) in the repertoire of mixed music in real time

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This work proposal aims to present and contextualize the concept of a virtual score by Philippe Manoury and understand how his ideas appear not only in his own work but in various pieces of the repertoire of mixed music in real time in different ways.

The idea of a virtual score emerged in the 1980s in conversations between composer Philippe Manoury and Pierre Boulez, in the context of the early years of IRCAM's existence and research into technological approaches that would allow composers to integrate electronic means with traditional instruments as an extension of instrumental language. This type of approach resulted from a division between composers of instrumental and electroacoustic music in France between the 1950s and 1970s, as the empirical research into the nature of sounds, which began with *musique concrète*, and the rationalization of musical material, which dominated the thinking of post-serial composers, came into conflict. Nevertheless, the interest in exploring the new technical possibilities of electronic music led instrumental music composers to choose real-time (*temps réel*) as a way to approach instrumental gesture and move away from fixed media used in studio-based music.

In this context, Manoury initiates what would become the cycle of pieces *Sonus Ex Machina*, starting with *Jupiter* (1987) for MIDI flute and electronics, followed by

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Pluton (1988-1989) for MIDI piano and electronics. These pieces are pioneers in the use of digital synthesis in real-time music, enabling new forms of interaction that were previously restricted to analog equipment and its reactive dynamics. Important technologies of the time, such as hybrid instruments and the 4X synthesizer developed by Giuseppe Giugno, as well as the creation of Max by Miller Puckette, are all associated with Manoury's creative research during this period.

Reflecting on his compositional practice, the composer conceptualizes the idea of a virtual score (*partition virtuelle*) for the first time in his text "*Les partitions virtuelles*" in 1997. The definition is based on the existence of a "virtuality" in the way representation of musical ideas in the score works, which results in a degree of indeterminacy in its interpretation at the same time it allows the composer to separate and combine sound parameters in musically meaningful ways. This aspect is considered fundamental for the development of instrumental music and, at the same time, absent in fixed-media electroacoustic music. Manoury seeks ways to incorporate this same indeterminacy into real-time electronic processes as a way to incorporate characteristics of instrumental music in electroacoustic composition.

According to the composer, the technical implementation of the virtual score is based on score recognition (*reconnaissance*) and monitoring (*suivi*). The first refers to the computer's ability to identify the actions of the performer and synchronize electronic events with the performance, resulting in temporal flexibility of the electroacoustic material. And the second concerns the extraction of data from the performance to control electronic processes, incorporating the inherent indeterminacy of interpretation into the composition of the electroacoustic materials.

In his works of the *Sonus Ex Machina* cycle, Manoury uses score recognition and monitoring to allow instrumental sounds to determine spectral qualities of synthesized sounds; control spatialization trajectories based on the speed notes are played; independently decide when certain electronic processes should be interrupted; among many other dynamics between the instrumental and electroacoustic parts.

Even though the concept of a virtual score is created by Manoury to describe his own creative practice, it can be seen as a conceptual tool to look at the repertoire of real-time mixed musical, that is, music that combines instrumental performance and electroacoustic sound created during the performance, as a whole. That's because the concept of virtual score points to the relationship of the symbolic thinking in instrumental music being integrated in electronic processes that will create real-time interaction and generate electroacoustic material, creating a dialogue between the two sonic universes.

It is interesting to note that other works in the repertoire also use the idea of virtuality to create forms of interaction that do not appear in Manoury's work. "*Inside-Out*" (2017) by Carmine Cella uses hybrid instruments that can control not only electroacoustic material but also each other through electronic means. "*TransScriptio*" (2013) by Flo Menezes uses score monitoring in a way that algorithmic processes interrupt the discourse of the score and force the performer to react to their counterpart as in a chamber music dynamic. "*Sortir du Noir*" (2016) uses the resources of recent technological tools to create multiple forms of temporality and synchronization strategies between performance and electronics.

This proposal aims to contribute to the analysis of Philippe Manoury's musical thinking and, at the same time, understand how his ideas can be used in the analytical way to comprehend other works in the repertoire.

Keywords: Computer Music, Real-Time Mixed Music, Musical Analysis, Live-electronics, Virtual Score.

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The resonator as a model for musical textures in the context of instrumental contemporary composition

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1. Introduction

The instrumental writing practice in the 20th and 21st Centuries brings the emergence of new musical textures not observed in prior historical periods. If monophony, polyphony, homophony and heterophony have their roots in the development of traditional techniques of harmony and counterpoint, the renewal of musical texture can be understood as a result of novel musical poetics and aesthetical approaches pursued by different branches of musical modernism and their unfoldings. Concepts like emancipation of dissonance, melody of timbres (*Klangfarbenmelodien*), liberation of noise and the interest in moving sound masses can be traced as the catalysts of never before heard textures, like the pontillism in Anton Webern and the post-war serialists, the sound blocks of Igor Stravinsky and Edgard Varèse, Iannis Xenakis's stochastic sound masses, Krzysztof Penderecki's massive clusters, György Ligeti's micropolyphony and the ideal of instrumental sound synthesis pursued by Tristan Murail and other composers that are commonly put under the umbrella of Spectral Music.

Even if not a leading tendency, one particularly interesting texture is what we can call a *resonator-like texture*, which will be the central idea of the present article. This expanded abstract will develop a brief definition of the exciter-resonator model in the context of sound synthesis its possible translation in the analysis and creation of instrumental textures, exploring examples of contemporary musical repertoire, with a special interest in the work of Brazilian composers.

2. The resonator in the context of sound synthesis

The sound synthesis based on physical modeling creates computer models that simulate the physical causes involved in the sound production of a musical instrument. Commonly, it is understood as a coupling between exciters and resonators (FLORENS; CADOZ, 1991, p. 240). The *exciter* interacts with the instrument's body, putting it in vibration in a particular way. Hitting, bowing, blowing and strumming are different types of excitation models. The *resonator* comprises a vibrating structure (string, tube, membrane, etc.), generally coupled to another much more rigid structure (a resonance box) to more efficiently radiate the sound waves into the surrounding atmosphere. A physical model is activated by the energy injected into it, so that "the anatomy of the system (exciter and resonator mechanisms) will distinguish how such energy is transformed into sound" (GELINECK; SERAFIN,2010, p. 52). Although originally developed in the computational environment, bringing the physical model back to the acoustic universe proves to be fruitful.

3. Resonator-like textures in the contemporary repertoire

In the context of a music that is no longer structured around tonal centres, various strategies were sought throughout the 20th century to anchor listening, creating points of reference for the listener, even if provisory. One of these strategies is the use of pitches of fixed register. The effect of such rigidity in disposition of harmonic material in specific octaves resembles that of the formant frequencies present in a particular resonating structure. This strategy favours notes to be heard rather as specific frequencies than transposable pitches.

One early example of this strategy can be found in the first movement of Anton Webern's Symphony Op. 21. In addition to the ordering principles of the dodecaphonic series, each pitch is fixed in register, returning always in the same octave. Thus, "Webern transforms serial listening into a global perception of a scintillating chord, since the process is done in such a way that different instruments play the fixed notes alternately" (ZUBEN, 2005, p. 88).

Maybe drawing inspiration from the Webernian model, this strategy can also be found in works by Pierre Boulez. One particularly striking case is *Memoriale (…explosant-fixe… originel*), written in 1985 for a soloist flute and ensemble. The flute part features each note of the chromatic total in a fixed octave (the exception being only secondary notes added to make trills possible). Goldman (2008) draws attention to the *"resonator" accompaniment* employed in the ensemble writing, based on stressing and prolonging specific notes in the same octave as they are played by the

soloist. Returning to the physical model, here the flute acts an *exciter* and the ensemble as a *resonating structure*.

4. Conclusion

The complete article will feature not only the development of the ideas presented above, but also analyze works samples by Brazilian composers which employ similar strategies in their writing. These works include Alexandre Lunqui's *Guttur.Extensio* (2014) for 5 flutes, Flo Menezes's *Crase* (2005/2006); and a piano trio written by the author of this text.

Keywords: musical composition; musical texture; physical model; resonator

References

FLORENS, J-L.; CADOZ, C. "The Physical Model: Modeling and Simulating the Instrumental Universe". In: DE POLI, G.; PICCIALI, A.; ROADS, C. (Org.). *Representations of Musical Signals.* Cambridge e Massachusetts: MIT Press, 1991.

GELINECK, Steven; SERAFIN, Stefania. "A Practical Approach towards an Exploratory Framework for Physical Modeling". *Computer Music Journal*, Cambridge, v. 34, n. 2, p. 51- 65, 2010.

GOLDMAN, Johnathan. "Charting Mémoriale: Paradigmatic Analysis and Harmonic Schemata in Boulez's ... explosante-fixe..." In: *Music Analysis*, v. 27, n. 2/3, p. 217-252, 2008.

ZUBEN, Paulo. Ouvir o som: Aspectos de Organizac□ão na Música do Século XX. São Paulo: Atelie Editorial, 2005.

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Human-Computer Interaction Creativity, Performance, and Analysis

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In this article, I will research the interaction of humans and computers during musical creative practices, live performance, and analysis. First, I argue that the computer is responsible for modeling our behavior during the creative process, due to the feedback loop process. Then, I will explore some possibilities of interaction between computers and performers and how this interaction becomes complex because of the way computers operate. Finally, I will explore some ways in which computers can be a useful tool for analyzing music and how this interaction can help to shape our perception of a composition and understanding of musical concepts

Using tools provide humans with a quicker and more powerful rendering capacity. In fact, when using computers to assist out creative practice, the machine plays more the role of a partner than a neutral tool[4] [1]. Certainly, the use of any medium shapes our creative practice and like any other medium, the computer is not different. Nietzsche emphasizes the power of the medium to shape speech when he typed into his typewriter the phrase "writing tools are also at work in our thoughts" in a message to his friend Heinrich Köselitz in 1882[5] [2]. The relationship between us and our tools is reciprocal, therefore the actions involving these two agents presume

[4] Daniel Jones, Andrew R. Brown, and Mark d'Inverno, "The Extended Composer," in McCormack, Jon and Mark D'Inverno ed. Computers and Creativity (Heidelberg: Springer-Verlag, 2012), 175.
[5] Kittler, Gramophone, Film, Typewriter, 200

the idea of feedback loop and this idea is the crucial point of any creative process[6] [3].

According to Jones, Brown and d'Inverno, when someone engages aesthetically with the creation of a work, every creative action is evaluated and serve as basis for their next action. Therefore, throughout the creative process, artists constantly repeat this loop of acting and reflecting about their last act to direct their work towards certain direction in the next act. The previous output constructs the premises for the next input, so this feedback loop is involved in the aesthetically engaged creation. In the case of musical composition, computers are always used in contrasting directions, to widen or to narrow our creative trajectory. They maintain that many ideas come from the exploration of new tools as we interact with unfamiliar domains. Each domain imposes a set of rules that implies cause and consequence, like tonal music where the dominant seventh chord needs to be followed by a major tonic, for example. Creative practices are achieved by loosening these rules and giving rule to "errors." These errors can be, then, analyzed and incorporated into the grammatic of the musical work. This sort of effect can be searched when exploring new interfaces, where the creator does not master its own set of rules. Using new interfaces opens the door to improvisation that result on non-normative creative practices, since we are using tools that are out of our comfort zone[7] [4].

On the other hand, interactivity is improved as composers gain intimacy with the used medium. While with an acoustic instrument interaction works in the realm of

[6] Jones, Brown, and d'Inverno, "The Extended Composer," 177.
[7] Jones, Brown, and d'Inverno, "The Extended Composer," 183-7.

embodiment – that means, we rely on our muscle memory to get different sounds -, with computer the interaction happens in the realm of hermeneutics. Therefore, Jones, Brown and d'Inverno claim that the key for the interaction is instead in the symbolic architecture[8] [5].

Jones argues that interaction tools in computers to produce music can be classified by the following: direct tool – the composer inputs a value and the computer outputs the same with no changes (examples of this are score notation software); reactive tool – the input is responded proportionately (media player visualization);procedural system – a fixed process is unfolded after triggered; interactive system – one inputs a certain action with is analyzed by the computer and they respond coherently; and adaptative systems – which is an extension of the interactive system as it regards the history of its behavior in a period of time to determine its future outputs[9] [6].

After analyzing all these aspects of the human-computer interaction during the musical composition, it is possible to affirm that computers are not neutral tools they do inform our creative practice. Since our creative practice relies on the action-evaluation loop and computer is the medium giving us the output that will give basis to our next action, computers help us to give the next directions to our music and we cannot be immune to this outcome when working with these machines.

Keywords: Human-Computer Interaction; Computer Music; Media Studies

[8] Ibid, 188.
[9] Ibid, 191.

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Quintal dos sons: A bridge between Porto and the Vale do Jequitinhonha

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The research described here consists of presenting the sound installation developed in the Doctoral Thesis in Digital Media-Art titled "*Quintal dos Sons: Um caminho par6a a imersão sonora*" (Soundscape Yard: A Path to Sonic Immersion), which was already defended in 2022. We address the artistic process involved in its creation, as well as the concepts and notions related to the computational artifact; thus combining artistic practice and theoretical research.

The main objective of the installation is to reflect on sounds in contemporary times. It aims to lead the viewer(s) to be alone in a dark room, watch a video, and interact with the sounds, which are only triggered when the participant(s) approach (incorporating the sounds, images and space into their own sensorial experiences in an immersive way). The present sounds are reflections of the concept of soundscapes, encompassing sounds from nature and those produced by humans. The intention is to bring to people the extreme paradoxes of contemporary life, such as calmness and chaos, while seeking to answer: "In what way can technological artifact(s) contribute through sounds, images, and space to our own immersive sensory experiences?" This is done using the methodology based on artistic practice (Arts Based Research) proposed by Candy (2006), since the creation of the artifact is the foundation of the contribution in the field of knowledge.

Based on the idea of sound cartography and the observation of urban spaces as places with "sound mapping" it was determined that the study of present sounds should encompass more than the usual objective information about auditory elements that constitute them. In this sense, the transformations that occur and the signals they leave (or the result from them), contextualized by Schafer (2001) as "sound signals", also played a significant role in motivating our creative process.

Thus, the research took into account these collective aspects, as well as the specific experiences of the author in urban spaces. For this purpose, technology was employed in recording soundscapes, introducing metaphors, and specifically construction the artifact materialized in the installation.

"Soundscapes" are increasingly relevant in contemporary culture, as stated by Gomes (2015), as they become a photograph of the place, a kind of radiograph that conveys the sonic impression of each environment. Therefore, evoking natural soundscapes, urban life noises and recordings of traditional songs from the Vale do Jequitinhonha provides a unique portrayal of the region, its history and the people who inhabit it.

The metaphor of the backyard and the image of the "bridge" with similar architecture (Freixo Bridge in Porto, Portugal and Almenara Bridge in Minas Gerais) are part of the creative process and the author's own life journey. Through the backyards of Jequitinhonha, women and children sing the traditions of the people, singing verses to the loves that immigrated, singing laments and struggles. In addition to singing and craftsmanship, there are tales and the original "jequitinhonhês" language, a particular accent also known in the state of Minas

Gerais, Brazil, as "baianeiro", a mixture of the Minas Gerais accent with the Bahian accent. In the backyards, much of the Vale's culture has been passed down through the generations; still in a very rudimentary way and based on oral tradition.

When proposing a sound installation that only occurs in the the presence of the individual, we reinforce the importance of music-making as a human activity. There is no music without humans. "Music [...] is an essentially human activity, intentional, of creation and meanings." (Penna, 2014, p. 22). In this sense, the presence sensors used in the computational detect human warmth and emit the sounds of the "Quintal" (backyard), which are programmed in Arduino/Processing and develop a narrative that starts with the first sounds we hear from birth, then the sounds that connect us with nature, urban noises and a selection of songs that evoke the Vale do Jequitinhonha.

Through the memories and transitions of small towns to metropolises, we portray the paradox of natural sounds and the noises of the big city. And in this journey, "listening" to sounds allows us to make discoveries and find new meanings. Thus, the experiences in this geographical space are associated with the cultural and physical heritage (natural and urban), establishing themselves as a test substrate for the formation of a set of scientific-artistic sound activities.

Key words: Soundscapes; Sound art; Sound installation; Vale do Jequitinhonha.

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Solfeggios, images, inventions: the different paths of sound imaginary

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This text[10] [11] seeks to describe the various moments that occur in the compositional process, from the conception of a certain subjective idea to its concreteness. We will draw a parallel between the notion of "solfeggio" and the four moments of Gilbert Simondon's "cycle of images": 1) image-anticipation, 2) lived experience, 3) image-memory and, finally, 4) invention. At the same time, in dialogue with the notions of "imaginary instrument" (LACHENMANN, 1996; PADOVANI, 2017) and "technical object" (SIMONDON, 2020), we will investigate the technical dimension of composition, dealing with creative, technological tools, and different creation supports.

The first term to be investigated, inherent to the compositional activity, is the "solfeggio". This always stems from learning: in order to read a musical score, it is necessary to know how the musical codes related to it work. But the solfeggio can also extrapolate the traditional musical score and take different forms, such as an algorithmic, heterophonic, timbric, textural solfeggio, etc. (PENHA, 2016, p. 73-151). It involves the materialization of images loaded with perceptive intentions, relating to

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cognitive aspects and using different representation, encoding and decoding mechanisms (MANI, 2020).

However, these images do not refer solely to the visual dimension. According to Simondon, images are like “life samples” (SIMONDON, 2016, p. 10) and have different phases. First, the image occurs before the experience, as in the moment before interacting with an object. At the time of empirical experience, the image is like a “reception mode” of information coming from the medium/object. Finally, it is what remains of the experience, as a “mental world” (SIMONDON, 2016).

We can relate, within the scope of composition, the notion of the "cycle of images" to the idea of "imaginary instruments" (PADOVANI, 2017), which go beyond the techniques and the sound possibilities considered conventional in the instrumental universe. As an image passes through its different forms (anticipation, experience, and memory), the engendered mental world allows us to envision new images, even if initially it will be inaccurate. A case of this is the invention of tools, utensils, etc., what Simondon calls a "technical object", which is the result of a sedimentation process of human thought through artifacts and technical frameworks (SIMONDON, 2020).

Thus, through a tactile experience, we can technically, mechanologically, and aesthetically rethink the way a given instrument works, which can be treated here as the sedimentation of a certain imaginary manifested as a technical object. In other words, there is a strong presence of the elaboration of a particular solfeggio in this process of imagination, invention, and realization.

In this way, through the dialogues established by the notions of "solfeggio", "cycle of images", "invention" and "technical object", we will analyze their developments in our compositional processes and works from the repertoire of instrumental, acousmatic, live-electronics and interactive music. Among these works, it will be investigated: the relationship between solfeggio and the invention of a technical object through the creation of UPIC equipment in *Mycenae-Alpha* by Iannis Xenakis; the realization of an expanded instrument and its relationship with solfeggio and musical notation in Jupiter by Philippe Manoury; the guitar-computer coupling as an imaginary instrument, and the algorithm of interactive processes (patch) as a technical object in *Do corpo ao pó* by Vinícius César de Oliveira; the idea of timbre fusion as an imaginary instrument in *Através do prisma em movimento* by Yugo Sano Mani.

Keywords: solfeggio; imagination; creative processes; musical composition; technical object

References

LACHENMANN, Helmut. *Über das Komponieren*. In: Musik Als Existentielle Erfahrung:Schriften 1966-1995. Wiesbaden: Breitkopf & Härtel, 1996. p. 73–82.

MALT, Mikhail. *La représentation dans le cadre de la composition et de la musicologie assistées par ordinateur*: De la raison graphique à la contrainte cognitive. Mémoire d'Habilitation à Diriger des Recherches. Strasbourg: Université de Strasbourg, 2015a.

_____. *Parcours de recherche et création*. Presenté dans le cadre de la soutenance d'Habilitation à Diriger des Recherches. Strasbourg: Université de Strasbourg, 2015b.

MANI, Pedro Yugo Sano. *Imaginações, percepções, conexões: a relação entre processos de solfejo e as estruturações da composição*. Dissertação (Mestrado em Música). Universidade de São Paulo, São Paulo, 2020. Disponível em:

https://www.teses.usp.br/teses/disponiveis/27/27158/tde-09032021-234203/pt-br.php. Acesso em: 20 mai 2022.

PADOVANI, José Henrique. *O instrumento imaginário: o paradigma instrumental na criação musical*. XXVII Congresso da Associação Nacional de Pesquisa e Pós-Graduação em Música. Campinas, 2017.

PENHA, Gustavo Rodrigues. *Entre escutas e solfejos: afetos e reescrita crítica na composição musical*. Tese (Doutorado em Música). Universidade Estadual de Campinas, Campinas, 2016.

SIMONDON, Gilbert. *Do modo de existência dos objetos técnicos*. Rio de Janeiro: Contraponto, 2020.

SIMONDON, Gilbert. *Imagination et invention*. Paris: Presses Universitaires de France, 2016.

SOLOMOS, Makis. *De la musique au son: L'émergence du son dans la musique des XXeXXIe siècles*. Rennes: Presses universitaire de Rennes, 2013. Versão do autor disponível em: https://hal.archives-ouvertes.fr/hal-00769893 (Acesso: 15 abr. 2020)

SQUIBBS, Ronald J. "Images of Sound in Xenakis's Mycenae-Alpha". In: Gérard Assayag, Marc Chemillier, Chistian Eloy (ed.). *Troisièmes journées d'informatique musicale JIM 96* – Les cahiers du GREYC 4. Ile de Tatihou, 1996, p. 208-219.

ZAMPRONHA, Edson. *Notação, representação e composição: um novo paradigma da escritura musical*. São Paulo: Annablume; FAPESP, 2000.

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The Somax2 Application in the Live-Electronics Design of Roberto Victório's Chronos IIIc

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Brazilian composer Roberto Victório began his career in the 1970s writing music for many important groups and different formations, including several unorthodox combinations of instruments. In the middle of the 1990s his research on the Bororo people in West Brazil took him to an immersion in their ritual dimension of time, which triggered a new series of pieces entitled after the Greek word *Chronos.* The first piece of the series was written for flute but the composer considers that the first one to reach his project of musically embodying ritual time was the third, for solo cello, premiered in 1998 by the Greek cellist Dimos Goudaroulis. In 2010, after a successful aftermath for the piece, being performed by many cellists around the world, the cellist Fabio Presgrave commissioned a piece for cello and string orchestra from Victório, who decided to expand the first one as *Chronos IIIb,* a new version with orchestral forces, premiered in that year in the Campo do Jordão Winter Festival by Presgrave and the Camerata Fukuda. This compositional formula is also demonstrated to be successful with the multiple performances and in its replication in other pieces of the series, such as *Chronos IX*, originally for 2 cellos, and currently with 10 different versions. In 2011, a more distant project would be added to Victório's catalog, conceiving a version for cello and electronics, *Chronos IIIc*, designed in partnership with composers Cristina Dignart and Ticiano Rocha and premiered in the Bienal de

Música Contemporânea de Mato Grosso. This version presented the great potential for the formula to be adapted into an electroacoustic musical setting but still missed a fine adjustment between the composer's intentions, the instrumental writing, and the crafting of expanded musical layers as he does in the other versions. After the performance of every Victório's piece for cello solo, including all the *Chronos III* versions, this researcher was interested in playing the third version with electronics, a desire that led to a better acquaintance with its history and all expressive intents still to be properly designed. At the same time, IRCAM released a new Max-based application, the Somax 2, a generative model using a process similar to concatenative synthesis to provide stylistically coherent improvisation, while in real-time listening to and adapting to a musician. The model is operating in the symbolic domain and is trained on a musical corpus, which gave us the opportunity to use the extensive Victório's discography in order to design the electronics in such a way that it would fit the main compositional features of his almost 50 years of music. The system provided a means for reaching a dynamic more free and open to real-time decisions, as the composer intended, but keeping a broader configuration fitting to his musical approach. Also, since the system works as a Max package, it provided a computer music design that can be embedded into a broader patch. Therefore, this paper proposes to present the creative process of the patch, including interviews with the composer and designers of the first version and analyzing the Somax2 features as they were applied in this project, including the performance standpoint to verify the effectiveness of the setting.

Keywords: Computer Music Design. Musical Performance. Musical Improvisation. Live-Electronics.

Technomorphism as a compositional process in two pieces by Patricia Alessandrini

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Patricia Alessandrini is a composer, researcher and teacher with solid academic education, studied composition with Ivan Fedele and Tristan Murail, and had taken courses with composers such as Jonathan Harvey, Brian Ferneyhough and Helmut Lachenmann. She holds two doctorates, from Princeton University and the Sonic Arts Research Center at Queen's University. She has worked as a researcher at institutions such as IRCAM, GRM (Groupe de Recherches Musicales) and EMS (Elektromusikstudion). Her work as a composer covers a wide repertoire of mixed electroacoustic compositions and sound art, much of her work is composed with live electronics, exploring topics such as interactivity, representation, interpretation and memory in intermedia works. The piece titled Nani, premiered in 2009, is listed as the only acousmatic piece among her compositions. Four versions of the piece were created, made in collaboration with flutist Chryssi Dimitriou, based on a Greek lullaby of the same name. In Nani, Patricia's objective was to represent the nuances of expression of the song's text present in the acapella version sung by Stella Gadadi. Thus, the piece preserves temporal characteristics of the original song, without making the words or harmony recognizable. The composer often produces works based on reinterpretations of canonical pieces, as in the case of *menus morceaux par*

un autre moi réunis made from Debussy's Chansons de Bilitis, with the poetry of Pierre Louys. Composed for guitar and live electronics, menus morceaux was conceived through spectral analysis and the collection of recorded materials from Debussy's instrumental interludes and proposes a problematization of the relationships between the materials derived from the reference work and the performance of the piece on the guitar, seeking an alienation between the guitarist and his instrument. For this purpose, techniques such as physical modeling and proportional time stretching were used. This paper, therefore, aims to understand how the compositional strategies adopted in the electronic montage of acousmatic pieces were or can be adapted within the instrumental writing process based on the comparative analysis of two pieces by Patricia Alessandrini. The analyzes have the specific purpose of seeking ways and solutions for the author's own compositional process, integrating part of an ongoing master's research; therefore, the work is guided by the researcher's listening, taking as a methodological reference the perceptive models previously outlined by Denise Garcia (1998) and the technomorphic thinking presented by Catanzaro (2018) and expanded by Holmes (2019). The recordings of Alessandrini's pieces, scores, patches and writings will serve as analytical support, as well as the literature review carried out. As a result, it is expected to reach possibilities of approximation between the creative processes of acousmatic and instrumental music through technomorphism, identifying possible similarities and divergences.

Keywords: technomorphism; composition; Patricia Alessandrini; electroacoustics.

References

ALESSANDRINI, P. *Nani:* version 1, 2, 3. [S. l.], 2016. Disponível em: https://patriciaalessandrini.net/nani. Acesso em: 14 maio 2023.

ALESSANDRINI, P. *Menus morceaux par un autre moi réunis.* [S. l.], 2016. Disponível em: https://patriciaalessandrini.net/menus-morceaux. Acesso em: 14 maio 2023.

CATANZARO, T. *Transformações na linguagem musical contemporânea instrumental e vocal sob a influência da música eletroacústica entre as décadas de 1950-70.* 1. ed. Rio de Janeiro: 7Letras, 2018.

GARCIA, D. H. L. *Modelos perceptivos na música eletroacústica.* Orientador: Arthur Nestrovski. 1998. Tese (Doutorado em Comunicação e Semiótica) - Pontifícia Universidade Católica de São Paulo, [*S. l.*], 1998.

HOLMES, B. *Tecnomorfismo em música: uma visão teórica e prática.* Orientador: Dr. Carlos Palombini. 2019. Tese (Doutorado em Música) - Universidade Federal do Estado do Rio de Janeiro, [S. l.], 2019.