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# STUDIA UNIVERSITATIS BABEŞ-BOLYAI MUSICA

Special Issue 2  
IN MEMORIAM GYÖRGY LIGETI

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## LIGETI IN COLOGNE

CHRISTOPH VON BLUMRÖDER<sup>1</sup> 

**SUMMARY.** György Ligeti's stay in Cologne from 1957 until 1959 played a decisive role in his life. After more than three decades living under more or less strict political control, finally Ligeti could experience peace and personal freedom. Many talks with Karlheinz Stockhausen, who explained his particular musical ideas and serial composition techniques in detail, and the access to the Electronic Music Studio at the West German Broadcasting Station, where Gottfried Michael Koenig would introduce him to the specific ways of theoretical thinking and the practical methods in the field of electronic composition, opened for him the domain of the New Music. And Ligeti's own realizations *Glissandi* and *Artikulation* marked an important turning point in his musical practice in general.

**Keywords:** György Ligeti, *Glissandi*, *Aventures*, Karlheinz Stockhausen, *Gesang der Jünglinge*, Gottfried Michael Koenig, Mauricio Kagel, *Anagrama*, Franco Evangelisti, *Incontri di fasce sonori*, Herbert Brün, electronic music.

Attracted by the fame of the Electronic Music Studio at the Westdeutsche Rundfunk – the West German Broadcasting Station – in Cologne, György Ligeti arrived there in February 1957. His stay in this city, which finally turned out to last almost three years, had been made possible by Herbert Eimert, the founder and then director of the Electronic Music Studio, who had procured a small scholarship for Ligeti, thus enabling him to work there. Looking back more than four decades later during the awarding of the prestigious Kyoto Prize in November 2001 in Japan, Ligeti commented on his former journey to Cologne with great emphasis: 'that was possibly the most incisive event of my life.'<sup>2</sup>

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<sup>2</sup> See Ligeti, György. "Zwischen Wissenschaft, Musik und Politik (2001)" (*Between science, music, and politics*). In *Gesammelte Schriften (Collected Writings)*, ed. by Monika Lichtenfeld, vol. 2 (Publications of the Paul Sacher Stiftung, vol. 10, 2), Schott, Mainz, 2007, p. 48.



Born in 1923 to Hungarian Jewish parents in the Romanian town of Târnăveni, Ligeti had suffered a precarious existence as a member of a discriminated minority, overshadowed by the pressure of conflicting national ideologies, the horror of antisemitic persecution, and the deadly dangers of Fascist dictatorship and bloody war in the middle of the twentieth century. Other than many of his family members, he survived the fighting and pogroms during the Second World War with a great amount of luck. But as a music student and, since 1950, professor at the College of Music in Budapest, again he had to endure lack of freedom and oppression under the Stalinist regime in Hungary. Therefore, after the defeat of the political rebellion against the Hungarian government through the military intervention of the Soviet army in autumn 1956, Ligeti started a dangerous escape with his future wife Vera on the 10th of December, crossing the border to Austria on foot on the 12th, where they would finally both obtain political asylum in Vienna.

Many years later in an autobiographic short article from 1993, Ligeti, in his unique, lively as well as humorous manner of expression, gave a vivid description of the very first special Cologne moments: 'On the 1st of February 1957, I arrived in Cologne by train from Vienna, and this voyage had lasted almost two days and two nights at that time. [...] After two nights on the train, I was extremely exhausted, and I had a heavy suitcase. From the railway station I looked at the Cologne cathedral – that was an overwhelming view. With the suitcase I went to the tram stop and fell unconscious. My last thought was, this would be the end, and I should never be able to work at the Electronic Music Studio. I did not remember anything for a while, and then I woke up in a hospital bed. With the help of [...] injections, I was made awake quickly – after all I was not really sick, but only overly exhausted.'<sup>3</sup>

Mainly two reasons may be taken into consideration for an understanding of Ligeti's statement that his emigration to Cologne had played such an important role in his life. First, after more than three decades living under more or less strict political control, finally he could experience peace and personal freedom, although in a place where, on one hand, everyday life still was restrained by destructive post-war injuries; to be seen directly, for instance, in the extremely damaged city architecture caused through massive air raids between 1942 and 1945. But on the other hand, the contemporary music department of the West German Broadcasting Station in Cologne – under the guidance of Eimert and through the activities of young composers like especially Karlheinz Stockhausen – had become an international centre of New Music. Although Ligeti was extremely interested in its latest developments, he was not very well informed about them. Forced to live in complete cultural isolation, which

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<sup>3</sup> See Ligeti, György. "Mein Kölner Jahr 1957 (1993)" (*My Cologne Year 1957*). Ibid., pp. 29-30.

had been decreed by the Soviets in Hungary in summer 1948, Ligeti had already in Budapest focussed his attention on Western broadcast programmes. But these were distorted by strong interferences produced by the Soviets, who wanted to prevent that the Hungarian people would receive uncensored political messages from the free Western democracies. Hence, Ligeti only had been able to hear the high frequencies of the broadcasted New Music, with one exception which he later mentioned several times: only during the weeks of the Hungarian revolution when the state had lost total control, Ligeti could listen to Stockhausen's electronic music *Gesang der Jünglinge* on the radio set for once in an undistorted presentation, but under very peculiar circumstances: "It was on the 7th November 1956 and it was the first broadcast of *Gesang der Jünglinge*. The Soviets had come in and everybody was down in the cellars, but I went up so that I could hear the music clearly. There were detonations going on, and shrapnel, so it was quite dangerous to be listening."<sup>4</sup> It seems most remarkable that Ligeti evidently remembered that particular date very well even some decades later, as this fact clearly shows how intense that musical moment obviously had been for him.

With these historical circumstances in mind, one can well imagine that the first six weeks in Cologne, when Ligeti was staying as a guest at the home of Stockhausen and his family, must have been a time of almost permanent euphoria. The many talks with Stockhausen, who explained his fascinating musical ideas and serial composition techniques in detail, and all the uncountable hours which Ligeti spent at the West German Broadcasting Station to listen 'to hundreds of music pieces on tapes,' as he did not know any works of Arnold Schoenberg or Anton Webern nor of other composers of his own age, because their music had been strictly banned in Hungary. Especially in the beginning, the Cologne broadcasting building, which was situated in the centre of the city near the cathedral, represented – as Ligeti testified enthusiastically – 'a wonderful new world,' meaning for him personally the 'opening to the world of the New Music.' And second, Ligeti finally had achieved the long-desired access to the Electronic Music Studio, where Gottfried Michael Koenig would introduce him to the specific ways of theoretical thinking and the practical methods in the field of electronic composition. Therefore, Ligeti, who then was thirty-three years old already, in his retrospective view gratefully referred to Koenig and Stockhausen as the two most important 'teachers' during his 'second schooldays,' and he named the Cologne Electronic Music Studio 'the centre of the musical world' in those

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<sup>4</sup> Griffiths, Paul. *György Ligeti*, Robson Books, London, 1983, p. 22. See also Ligeti, György. "Ja, ich war ein utopischer Sozialist." György Ligeti im Gespräch mit Reinhard Oehlschlägel" ("Yes, I was a utopian Socialist." *György Ligeti in conversation with Reinhard Oehlschlägel*). In *MusikTexte. Zeitschrift für Neue Musik*, no. 28/29, March 1989, p. 101b.

times, nevertheless adding with soft self-ironical reservation: 'at least that's how it seemed to us. Considered from an outside perspective, of course we were only a tiny crowd.' Last but not least, Ligeti emphatically praised the 'wonderful atmosphere' of the manifold artistic encounters and intellectual discussions which were happening there.<sup>5</sup>

Indeed, since its opening in May 1953 the Electronic Music Studio had quickly won widespread international attention which was motivating many composers, predominantly of a younger age, to visit Cologne. And the studio gained not only significance as an innovative institution for the composition of electronic music but also developed into an extraordinary open place of inspiring communication between composers and even other people who were connected with the latest trends in contemporary art. While in exile in Cologne, Ligeti became acquainted, for instance, with fellow composers Bruno Maderna, Franco Evangelisti, and also with Mauricio Kagel, who had just arrived from Argentina at the end of September 1957; likewise with the poet Hans G Helms, whose experimental literary activities impressed Ligeti (together they read and discussed James Joyce's *Finnegan's Wake*), and with the music theorist Heinz-Klaus Metzger, a philosophical adept of Theodor W. Adorno, the most respected author of basic critical reflections on New Music in general, and engaged in personal contacts with many composers of the young generation too.

Ligeti's first electronic composition, which he realized – technically supported by Koenig – with a duration of 7'35" from May until August 1957, already shows some characteristic aspects of his person and of his music. For he had chosen a quite special acoustic material from which arose its title *Glissandi*, although such gliding sounds were absolutely not typical for the primarily pointillistic perspective which had historically unfolded in the Cologne Electronic Music Studio by the precise serial control of every single sine wave element in a composition. With regard to that, Ligeti soon obtained a creative individuality even in these days of a new musical orientation, trying to attain an original foundation for his compositional future. On the one hand, it is remarkable that the idea of continuous sound structures establishing *Glissandi* had a conceptual similarity to the statistically constructed sound masses and swarms of Iannis Xenakis' stochastic music, which Ligeti then probably did not know since it was decisively depreciated in Cologne by Stockhausen and friends. On the other hand, one may speculate whether the choice of these quasi archetypical, highly expressive musical figures had been influenced by personal autobiographical occurrences. As the glissandi in Ligeti's electronic

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<sup>5</sup> See Ligeti, György. "Mein Kölner Jahr 1957 (1993)" (*My Cologne Year 1957*). In *Gesammelte Schriften (Collected Writings)*, ed. by Monika Lichtenfeld, vol. 2 (Publications of the Paul Sacher Stiftung, vol. 10, 2), Schott, Mainz, 2007, p. 31.

premier piece produce a mainly disturbing impression, sometimes of loneliness, loss, sadness, and soft lament, or, in sudden loudly cumulating climaxes even fear and aggression, this is a reminiscence of the alarming sirens that Edgard Varèse was the first in music history to unleash in his work like distracting signals from the reality. To be perceived as echoes of the First World War, a semantical correspondence to Ligeti's *Glissandi* – dating from after the horrors of the Holocaust and the Second World War – becomes evident, and also a parallel to Xenakis' music in which similar glissandi may be interpreted as depressing acoustic metaphors of a heavily injured youth. However, Ligeti himself qualified *Glissandi* to be rather an etude in learning the techniques of electronic composition and therefore judged very self-critically: 'The piece is really bad.'<sup>6</sup> But nevertheless, it can be taken for sure that the process of realization itself marked the start of an important turning point caused by very particular, seminal experiences in his musical practice.

After Ligeti had started a second project, which remained unfinished, he created another electronic piece in early 1958 between January and the end of March, once more with the help of Koenig and some additional support by his pupil Cornelius Cardew. It originated from the idea of using the originally abstract electronic sound material to provoke certain verbal and emotional associations within a composition that would be built up in a virtual language; in a structured course 'as if one speaks, but in an unintelligible language,' as Ligeti later explained his former musical intentions.<sup>7</sup> And this aim of aesthetical concretion, in order to avoid what Ligeti used to call purist music, proved to be a characteristic attitude which has since constituted the originality of his compositions. In this context, a bon mot by Mauricio Kagel, who at the same time was busy with his own first electronic experiments in a neighbouring studio, sheds a significant light on the individualized position which Ligeti had already accomplished. Watching him at work, Kagel commented in the characteristic manner of his refined humour: 'The piece sounds like you are talking, namely Hungarian.'<sup>8</sup>

Apart from that, Ligeti's plan for a composition in an imaginary language also can be regarded as a general paradigm for the special atmosphere of creative exchange in the Cologne Electronic Music Studio of that time. Because

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<sup>6</sup> See Ligeti, György. "Auswirkungen der elektronischen Musik auf mein kompositorisches Schaffen (1968)" (*The impact of electronic music on my compositional work*). Ibid., p. 86.

<sup>7</sup> See Ligeti, György. "György Ligeti über eigene Werke. Ein Gespräch mit Detlef Gojowy aus dem Jahre 1988" (*György Ligeti on his own works. A conversation with Detlef Gojowy from 1988*). In *Für György Ligeti. Die Referate des Ligeti-Kongresses Hamburg 1988 (For György Ligeti. The papers of the Ligeti Congress Hamburg 1988)* (Hamburger Jahrbuch für Musikwissenschaft, vol. 11), Laaber-Verlag, Laaber, 1991, p.352.

<sup>8</sup> See Kagel, Mauricio. *Dialoge, Monologe*, ed. by Werner Klüppelholz, DuMont Buchverlag, Köln, 2001, p. 247.

Ligeti had not only been inspired by experimental texts of Hans G Helms but also by the vocal work *Anagrama*, which Kagel was just about to finish. This composition for four solo voices, speaking chorus and chamber ensemble was constructed upon a Latin palindrome, which Kagel probably chose not least because he could be sure that hardly any listener would understand it; from of the sum of the palindrome's vocals and consonants, Kagel derived an absurd compositional method and through anagrammatic transformations in French, Italian, Spanish, and German a nonsense libretto as well. So, the composition's point lies in the fact that *Anagrama* is elaborated in five real languages, but in the end completely lacks any normal meaningful semantics. It seems not hard to recognize the quite suggestive impulse this funny conception offered Ligeti for his own project. Indeed, Rainer Wehinger has demonstrated in a profound analysis of the sketches that Ligeti proceeded with a similar process of chains of thoughtful permutations, at first producing a basic sound repertoire of sine waves, glissandi, so-called 'dry' (which meant without reverberation) and 'wet' (reverberated) impulses, up to different types of noises, which all were identified in peculiar categories like 'coughing', 'sneezing', or 'barking'.<sup>9</sup> In keeping with this very significant imaginative disposition, for the next steps in building up the final tape Ligeti employed a playful system of pasting and cutting different 'phonemes', 'texts', 'words', 'speeches', and finally 'sentences' in many different lengths and combinations.<sup>10</sup> In that last respect, he obviously also benefited from the occasionally attended lectures in phonetics and information theory given at the university in Bonn by Werner Meyer-Eppler, who also had played a prominent role in the history of electronic music as an influential theoretical mentor of not only Stockhausen but also other young composers who came to Cologne.

For the montage of the final composition with a duration of 3'46", Ligeti followed an overall plan which outlined a course from musical heterogeneity at the beginning to a mixture in the end. And, once more, here one can clearly detect a further inspiring effect given by the example of another composer – already mentioned – who was working at the Electronic Music Studio. For Franco Evangelisti had conceived his composition *Incontri di fasce sonore* 1957 in a very similar way within a comparable short duration of 3'20", seeking to realize contrasting complexes of sine waves and impulses in a flow of 'meetings of sound bundles', as the Italian title suggests. The obvious parallels of the musical constructions are underlined by Ligeti's declared high regard for *Incontri di fasce sonore*, explicitly calling it 'one of my favourite pieces' in

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<sup>9</sup> See Wehinger, Rainer. *Ligeti. Artikulation, Hörpartitur (Ligeti, Artikulation, Listening Score)*. Schott, Mainz, 1970, p. 11a.

<sup>10</sup> *Ibid.*, p. 18a.

1988.<sup>11</sup> Finally, Ligeti also made use of the special technological possibilities at the Cologne Electronic Music Studio to record a composition with the integral quality of fixed spatial constellations. So, he distributed all the different electronic sound transformations in a special order on four tracks of a tape recorder, which also would be used for the later performance in the concert hall via four corresponding channels with loudspeakers in the front, on both sides left and right, and in the back around the audience seated in the centre of the hall. And Ligeti used this spatial aspect in a kind of theatrical function. Thus, he created a musical event of imaginary monologues, dialogues, and many-voiced conversations, of single sighs, exclamations, and joint whisper, of bird-like speech and whimsical, sometimes quite witty utterances; producing an emotional atmosphere of diverse human characters, behaviours, and changing mental states. The conversational processes start at the front, move through the auditorium in carefully varied constellations like questions and answers, until in the end a last babbling disappears to the right. And it may not seem completely superfluous to point out here in a marginal note that such a choreographic structure clearly demonstrates the necessity of a multi-channel performance to unfold the music's complete aesthetical potential.

Thus far, one last component of Ligeti's second electronic composition in Cologne has yet remained unmentioned, and that is its title, which was not conceived by him but again emerged from the collaborative situation at the Electronic Music Studio. Another witness to the communicative atmosphere was Herbert Brün, who had also been present in Cologne since 1957, as it was he who suggested the designation *Artikulation*, which in the meaning 'division of speech', or 'divided pronunciation' fitted well with Ligeti's musical construction. The first performance of *Artikulation* took place in a concert at the grand hall of the West German Broadcasting Station on the 25th of March 1958 and belonged to an exquisite programme with other electronic contributions by Gottfried Michael Koenig, Bruno Maderna, Henri Pousseur, and Luciano Berio, and also among them Evangelisti's *Incontri di fasce sonore* and, at the end of the concert, Stockhausen's *Gesang der Jünglinge*. About sixteen months after Ligeti's first radio encounter with that work in Budapest 1956, he probably now experienced the actual concert situation, which even included a composition of his own, being moved by quite special deep thoughts and emotions.

After Ligeti left Cologne in 1959, he never again would create any electronic work, instead concentrating further on the instrumental and vocal

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<sup>11</sup> See Ligeti, György. "György Ligeti über eigene Werke. Ein Gespräch mit Detlef Gojowy aus dem Jahre 1988" (*György Ligeti on his own works. A conversation with Detlef Gojowy from 1988*). In *Für György Ligeti. Die Referate des Ligeti-Kongresses Hamburg 1988 (For György Ligeti. The papers of the Ligeti Congress Hamburg 1988)* (Hamburger Jahrbuch für Musikwissenschaft, vol. 11), Laaber-Verlag, Laaber, 1991, p. 352.

spheres. But this fact should not lead to the conclusion that his studies at the Electronic Music Studio had resulted in a fiasco. On the contrary, his stay there, on the one hand, can serve as a general paradigm for the historical phenomenon that within the second half of the twentieth century the establishment and knowledge of electronic practise caused a fundamental change in the concept of music towards a completely new direction. For the generation of music would no longer be restricted to composing with single notes, but advanced to composing sound as the central object of forming. In this sense, when talking about his later orchestra works *Apparitions* and *Atmosphères* Ligeti frankly stated that the typical combinations of single parts in a 'global texture' were indebted above all to his 'experiences in the electronic studio.'<sup>12</sup> And in an even closer comparison, he considered 'the single instrumental and vocal parts as an element corresponding to a series of sine tones' in order to obtain out of 'combinations of parts a composed timbre.'<sup>13</sup>

On the other hand, without any doubt one may count *Artikulation* together with *Gesang der Jünglinge* among the successful productions to have originated from the early history of the Electronic Music Studio in Cologne. Despite being quite short in duration at less than four minutes only, it has proven to be a highly convincing work giving every listener much pleasure, which is not something that can be said about all of the usual electronic pieces from this period. And the curious individual conception of building up the composition in analogy to an imaginary language, but without using any real components of speech, by the way, can be understood as an original forerunner of the later psychic-theatrical labyrinth *Aventures*. Including a kind of paradoxical moment which not seldom seems to be a significant quality of Ligeti's music in general.

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<sup>12</sup> See Ligeti, György. "Auswirkungen der elektronischen Musik auf mein kompositorisches Schaffen (1968)" (*The impact of electronic music on my compositional work*). In *Gesammelte Schriften (Collected Writings)*, ed. by Monika Lichtenfeld, vol. 2 (Publications of the Paul Sacher Stiftung, vol. 10, 2), Schott, Mainz, 2007, p. 87.

<sup>13</sup> See Ligeti, György. "Musik und Technik. Eigene Erfahrungen und subjektive Betrachtungen (1980)" (*Music and technology. Personal experiences and subjective observations*). In *Gesammelte Schriften (Collected Writings)*, ed. by Monika Lichtenfeld, vol. 1 (Publications of the Paul Sacher Stiftung, vol. 10, 1), Schott, Mainz, 2007, p. 253.

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## LIGETI'S SONIC ODYSSEY. MUSIC AS A GATEWAY TO THE UNKNOWN IN *2001: A SPACE ODYSSEY*

MARTYNA KOPEĆ<sup>1</sup> 

**SUMMARY.** Music in Stanley Kubrick's 1968 film *2001: A Space Odyssey* plays a crucial role in eliciting moods due to its sparse dialogue. Instead of using typical film score, Kubrick decided to use already existing recordings of four classical music composers. György Ligeti's compositions stand out in a stark contrast to the overall soundtrack of the film and evoke a sense of eeriness. Film's plot unfolds through four segments, each marked by an appearance of a monolith, with Ligeti's music acting as a leitmotif. Micropolyphonic textures, characterized by dense musical layering and dissonance, reflect hidden and inaudible aspects of the unknown, comparable to the vastness of outer space.

**Keywords:** György Ligeti, Stanley Kubrick, *2001: A Space Odyssey*, film music, eeriness

*2001: A Space Odyssey*, one of the most influential works by Stanley Kubrick, begins with a dark screen accompanied by a complex amalgamation of sound. The film is introduced by György Ligeti's *Atmosphères*, a composition for a full orchestra. This micropolyphonic piece creates an atmosphere that breaks away from conventional expectations associated with narrative cinema and prepares the viewers for an encounter with the unknown. Then, the black screen transitions to the title of the film against an image of the Earth, Moon, and Sun with a background of the vast expanse of space, accompanied by the opening of a symphonic poem *Thus Spoke Zarathustra* by Richard Strauss. This initial fanfare of the composition was also used as an indicator of an impending significant event, but at the same time, its tonal sound creates a striking contrast with Ligeti's dense eerie cluster. A sudden shift occurs from the unsettling and mysterious to the bold and triumphant. In just a few minutes, before any details about the film's setting are revealed, Kubrick, through his choice of soundtrack, foreshadows the film's narrative journey.

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Initially, Kubrick asked well-established Hollywood composer Alex North, with whom he had collaborated on *Spartacus*, to compose the film's score. North composed and recorded approximately forty minutes of music for the first half of the film in less than a month.<sup>2</sup> Ultimately, Kubrick decided not to incorporate any of North's compositions into the final score. Instead, he opted for already composed pieces from four different composers: Richard Strauss, Johann Strauss, Aram Khachaturian, and four works of György Ligeti: *Atmosphères*, *Aventures*, *Lux Aeterna* and the *Kyrie* movement from *Requiem for Soprano, Mezzosoprano, Two mixed choruses and Orchestra*. The inclusion of Ligeti's compositions in the film was a subject of controversy, as it is widely known that Kubrick initially sought permission to use only a single section from Ligeti's *Requiem* but did not obtain authorization for any of his other compositions. Rights were only resolved following the composer's demand, which occurred after the film had already been released.<sup>3</sup>

Regarding the film soundtrack, Kubrick aimed for "something that sounded unusual and distinctive but not so unusual that it was distracting".<sup>4</sup> To achieve this, he broke two "unwritten rules" about the usage of music in film. The first issue revolves around the question of whether directors should discard the work of a master film music composer. Kubrick by choosing not to use music composed by Alex North, prioritized the artistic perspective over the composer's, deeming the rejection of composed score as essential to achieving a specific musical vision he had in mind. The second unwritten rule concerns the tradition of using music in film, which should primarily serve as a narrative cue or signifier of emotions while remaining imperceptible.<sup>5</sup>

*2001: A Space Odyssey* unfolds in four segments, each featuring an appearance of a rectangular monolith. The narrative begins with "The Dawn of Man" sequence, transporting the audience to a prehistoric savannah where a tribe of apes encounters the monolith. This event triggers a significant leap in their evolution, granting them a newfound ability to use tools as weapons. In a subsequent section, set millions of years into the future, Dr. Heywood Floyd embarks on a mission to investigate a monolith buried approximately four million years ago near a lunar crater Tycho. As Floyd and his team inspect the enigmatic object and capture photographs, it unexpectedly emits a powerful radio signal. The third segment follows the journey of a spaceship Discovery

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<sup>2</sup> Gengaro, Christine. *Listening to Stanley Kubrick: The Music in his Films*. Lanham: Scarecrow Press, 2013, p. 78.

<sup>3</sup> Ibidem, p. 93.

<sup>4</sup> Paulus, Irena. "Stanley Kubrick's revolution in the usage of film music: 2001: A Space Odyssey (1968)." In *International Review of the Aesthetics and Sociology of Music*, 2009, p. 103.

<sup>5</sup> Ibidem, p. 102.

One as it heads toward Jupiter, accompanied by a sentient computer HAL 9000, which turns against the human crew, jeopardizing their safety. Finally, in the last segment titled "Jupiter and Beyond the Infinite", Dave Bowman, an only survivor of the crew, eventually reaches Jupiter, where he encounters another mysterious monolith. This leads to a transcendent and mind-bending journey through a surreal and psychedelic realm, after which he lands in the Louis XVI-style decor bedroom, culminating in his transformation into the Star Child.

In the film's opening segment set on the African savannah, titled "The Dawn of Man", Ligeti's music makes its first appearance as the monolith is encountered. *Kyrie* section from the *Requiem* appears to serve as a leitmotif for the monolith's presence. Timothy Scheurer notes that there is no hero or heroine figure in the film, therefore, there is no distinctive music associated with any character.<sup>6</sup> However, the only exception is Ligeti's composition which appears during encounters with the monolith, possibly implying that the importance of monolith surpasses that of human characters.

Monolith has an active role in moving the plot forward. Each of its appearances progresses human evolution through the development of technology. Its presence during three crucial stages of human evolution represents not only a source of hope but also a threat, which is represented by Ligeti's music. Scheurer notes that: "the film has a pattern: long periods of stability and order (usually underscored by the "classical" pieces) are punctuated by brief sequences of chaos and creativity (usually underscored by the Ligeti pieces)".<sup>7</sup> In "The Dawn of Man" sequence when a monolith appears to the apes, they approach it with respect and reverence. Subsequently, following this encounter, one of the apes has a revelation about the potential use of bones as tools. This groundbreaking realization motivated all the apes to hunt for food, transitioning them into carnivores and subsequently improving their nutritional intake and overall development. They start to use their new tool as a weapon to intimidate another group of monkeys from a water source. This evolution, driven by the utilization of bones as weapons, underscores a notion that progress in evolution often comes at the price of suffering and distress through violence, representing a double-edged sword that alters the world in both positive and negative ways.

In the second appearance of monolith in the Tycho, lunar crater *Requiem* follows another Ligeti's composition *Lux Aeterna*. In this scene, scientists diverge from apes' instinctual behaviour when they encounter a monolith, immediately attempting to photograph it. However, they are disrupted by a jarring and

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<sup>6</sup> Scheurer, Timothy E. "Kubrick vs. North: The Score for 2001: A Space Odyssey." In *Journal of Popular Film and Television* 25(4), 1998, p. 175.

<sup>7</sup> *Ibidem*.

unpleasant whistle, overlapping with Ligeti's composition. Through sound montage, Kubrick blends diegetic sound and music, intensifying the enigmatic encounter with the monolith in the Tycho lunar crater. Rather than allowing the voices of Ligeti's composition to reach a crescendo, they remain in the lower register as the monolith emits its high-pitched signal. This jarring sound persists uncomfortably for an extended duration, even as the voices of Ligeti's *Requiem* gently fade away.

The final appearance of Ligeti's *Kyrie* occurs in the last segment of the film "Jupiter and Beyond the Infinite", when it floats in space, just before the psychedelic Stargate sequence. The monolith's ultimate appearance is towards the end when it materializes in front of dying Bowman. However, this time, Ligeti's *Kyrie* is notably absent. For a moment, there is no music at all, until Bowman undergoes his transformation into the Starchild. The absence of Ligeti's music in this particular scene provides a stark contrast. Unlike previous encounters with a monolith, the final appearance does not evoke anxiety; instead, it represents an inviting and commanding presence. This scene serves as a resolution to the discontinuity of Stargate sequence. Dave Bowman's evolution into the Starchild brings a sense of hope, which is why it is not preceded by Ligeti's music, which might have conveyed a sense of threat and fear of the unknown. Instead, we hear the fanfare of *Thus Spoke Zarathustra* by Richard Strauss, which throughout the film announces most important points in the evolution of Humankind: the first Constellation of Earth, Sun, and Moon, ape's discovery of the tool potential of a common bone, and finally, Dave Bowman's transformation from a dying old man into an unborn foetus that transcends time and space to reach the Earth. About a symphonic poem, Strauss claimed that he intended to express "the idea of the evolution of the human race from its origin, through the various phases of development, religious as well as scientific, up to Nietzsche's idea of the superman".<sup>8</sup> Symphony anchors the narrative in collective understanding of evolution and progress, while highlighting recognizable elements of human existence. Notably, the last stage of evolution by the end of the film is the only one not preceded by *Requiem*, suggesting a more promising and non-threatening future.

Patterson notes that *Requiem* is connected to the past, as it consistently emerges at the end of certain eras: the end of apes' primal consciousness, thus their detachment from the "natural" world; the end of human ignorance regarding the universe, leading to a collapse of existing paradigms in both science and religion; and the end of a human consciousness as we are familiar with it.<sup>9</sup> On the other hand, Kubrick specifically selected the *Kyrie* movement,

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<sup>8</sup> Henry T. Finck, *Richard Strauss: The Man and His Works*. Boston: Little, Brown and Company, 1917, p. 181.

<sup>9</sup> Patterson, David W. Music, "Structure and Metaphor in Stanley Kubrick's "2001: A Space Odyssey." In *American Music* 22(3), 2004, p. 453.

named after a Christian liturgical prayer, for a particular reason. From this perspective, it becomes possible to interpret the monolith as a god-like entity. During the "The Dawn of Man" scene with the apes, it serves as an object of worship. Conversely, it can also symbolize the wrath of God when monolith emits an unpleasant sound as scientists choose to photograph it instead of embracing its presence. Chion argues that giving a definite meaning to this piece would go against its intended resonance. When listening to this part of *Requiem*, it is difficult to determine if the sound is human or instrumental, which is an intentional ambiguity in line with Kubrick's aim.<sup>10</sup> However, Grant points out that there is no indication that the apes are responding to music, and the scientist in the lunar crater Tycho does not seem to hear anything until an unpleasant signal occurs, leaving Ligeti's *Kyrie* with an ambiguous "diegetic status" and uncertain meaning.<sup>11</sup>

*Kyrie* as well as *Atmosphères* and *Lux Aeterna* employ a technique developed by Ligeti, known as micropolyphony. While polyphony is a musical texture involving the simultaneous sounding of multiple independent melodies or voices, creating harmony through their overlap, micropolyphony takes this concept even further. In micropolyphony, multiple voices or lines, played in independent tempos and rhythms, are closely interwoven and layered within a short span of time, resulting in intricate and complex interactions. This technique results in a dense network of interlocking strands and the creation of dissonant sounds or cluster tones. Ligeti himself describing micropolyphony, notes that "the polyphonic structure does not come through, you cannot hear it; it remains hidden in a microscopic, underwater world, to us inaudible".<sup>12</sup> It is this very concept of the hidden and the inaudible that echoes an overarching theme of the unknown in *2001: A Space Odyssey*. Ligeti's micropolyphony, like vast and uncharted expanses of outer space explored in the film, serves as a gateway to the enigmatic and the undiscovered. Hidden harmonies of micropolyphony mirror the enigmatic monolith, both inviting us to explore depths of the unknown.

Ligeti's *Lux Aeterna* receives the least emphasis and is employed in two transitional scenes. These scenes depict travel to the location where the monolith has been discovered on Tycho lunar crater, separated only by a casual conversation between Dr Floyd and his colleagues. In both scenes, all other sounds are muted, a deliberate choice by Kubrick, to create a stark juxtaposition with the dialogue scenes that precede them and to evoke a sense of isolation in a vast space. This impression is intensified by Ligeti's piece, which employs

<sup>10</sup> Chion, Michel, *Kubrick's Cinema Odyssey*, London: British Film Institute, 2001, p. 92.

<sup>11</sup> Grant, Berry Keith. "Of Men and Monoliths: Science Fiction, Gender, and *2001: A Space Odyssey*." In *Stanley Kubrick's 2001: A Space Odyssey New Essays*, ed. Robert Kolker, New York: Oxford University Press, 2006, p. 79.

<sup>12</sup> Bernard, Jonathan W. "Voice leading as a spatial function in the music of Ligeti." In *Music Analysis* 13(2/3), 1994, p. 227.

vocal micro-imitation within an exceptionally limited vocal range and generates a feeling of voices gradually converging or overlapping. Additionally, this silence, amplified by muting all the sounds except music, adds to the overall ambiance. As Ciment notes, “2001 presents a world of non-involvement in which each person is extraordinarily detached, imprisoned in his allotted role, living in icy solitude”.<sup>13</sup>

During the psychedelic Stargate sequence, Kubrick arranges two compositions by Ligeti as something of a suite. It begins with the *Kyrie* section from *Requiem* and smoothly transitions from vocal music to the instrumental piece *Atmosphères*. Within the dense orchestration of multiple instruments playing in unison, time appears to freeze, even as Kubrick, through on-screen special effects, conveys a sense of motion and velocity. Just as his vocal music strips the individuality from the human voice, Ligeti's *Atmosphères* diminishes a distinctiveness of individual instruments within the sonic complexity. The outcome is a sound that feels both familiar and otherworldly at the same time. In this sequence, an amalgamation of images and sound creates a spectacular experience. Bowman's subjectivity becomes a shared journey with the viewer on a psychedelic trip through galaxies, stars, and the unknown. The use of point-of-view shots and the deliberate emphasis on the music score facilitate this transference.

The music undergoes changes as Bowman reaches his destination. In the brightly lit bedroom, distorted samples from the music gradually evolve into whispers and laughter. What we hear in this scene is an altered version of Ligeti's *Aventures* (unlisted in film credits), very distinct from other pieces we've heard before. Music takes on anthropomorphic qualities while remaining enigmatic and unexplainable. *Aventures*, especially in an altered version of the film, makes it difficult to distinguish between tone and sound. It can almost feel like diegetic music, because “real” sounds like Bowman's breathing or the sound of cutlery being used by another, older Bowman blend with the sound of the piece. Nevertheless, neither Kubrick nor the film itself overtly expresses any meaning or justifications of this chattering music, leaving room for open-ended interpretations. As Ligeti said of *Aventures*, “I believe that the more you listen to this work, the less funny it becomes. Behind the comic surface is something deadly serious, or “eerie”.<sup>14</sup> Fisher states that the concept of eerie is associated with the unknown and once understanding is attained, the

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<sup>13</sup> Michel Ciment, “The Odyssey of Stanley Kubrick: Part 3: Toward the Infinite- 2001.” In *Positif* no. 98, pp. 14-20. Retrieved from [scrapfromtheloft.com/movies/odyssey-of-stanley-kubrick-part-3-toward-the-infinite-2001-michel-ciment/](https://scrapfromtheloft.com/movies/odyssey-of-stanley-kubrick-part-3-toward-the-infinite-2001-michel-ciment/) [Accessed 9 February 2024].

<sup>14</sup> Quoted in Bauer, Amy. “Are you dead, like us? The Liminal Status of the Undead in the Music of Ligeti.” In *Thanatos in Contemporary Music: From the Tragic to the Grotesque*, 2022, p. 159.

sense of eeriness fades away.<sup>15</sup> For the eerie to be present, a sense of otherness is necessary, suggesting that mystery involves knowledge, feelings, and experiences beyond the ordinary encounters.<sup>16</sup> Not every mystery creates feelings of eeriness. The eerie essence of outer space and the monolith in *2001: A Space Odyssey* stems from the pervasive uncertainties surrounding extraterrestrial existence and cryptic motives of the monolith. This eeriness extends to scenes with Bowman after his psychedelic journey, where plainness of the room stands in distinct contrast to the rest of the scenography, presenting an ordinary yet eerie setting. This bedroom appears to exist in a vacuum, seemingly a simulation crafted by the mysterious entity. *Aventures* enhances the overall ambiguity, intensifying the eerie quality of this entire scene.

Ligeti's musical compositions are notably unique and stand apart from the rest of the film's soundtrack. In contrast, the music composed by both Strauss and Khachaturian seems to represent our familiar world and, quite possibly, our human nature. Nevertheless, as the enigmatic monolith makes its appearance on the screen, a distinct and different musical arrangement surfaces, portraying something entirely unfamiliar, an essence of "otherness". The use of micropolyphony in Ligeti's compositions reflects hidden and inaudible aspects of the unknown, aligning with film's exploration of space and its enigmatic forces. Unsettling sound of Ligeti's music in the presence of the monolith evokes a sense of both awe and anxiety, symbolizing a double-edged nature of progress.

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<sup>15</sup> Fisher, Mark. *The Weird and The Eerie*. London: Repeater Books, 2016, p. 62.

<sup>16</sup> Ibidem.

- Michel Ciment, "The Odyssey of Stanley Kubrick: Part 3: Toward the Infinite- 2001". In *Positif* 98, pp. 14-20. Retrieved from [scrapsfromtheloft.com/movies/odyssey-of-stanley-kubrick-part-3-toward-the-infinite-2001-michel-ciment/](http://scrapsfromtheloft.com/movies/odyssey-of-stanley-kubrick-part-3-toward-the-infinite-2001-michel-ciment/) [Accessed 9 February 2024].
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## NOTES ON *LE GRAND MACABRE* AND THE AESTHETICS OF CAMP

MAŁGORZATA LISECKA<sup>1</sup> 

**SUMMARY.** The article presents an analysis of the features of Ligeti's opera *Le Grand Macabre*, indicating that it belongs to the camp aesthetics. The starting point for the analysis is the features of this aesthetic/sensitivity described by Susan Sonntag in her *Notes on Camp*. The opera's libretto, its theatrical and musical layers, as well as Ligeti's personal life experience as a composer – important for camp – are the subject of the analysis.

**Keywords:** Camp, opera, Ligeti, Sonntag, postmodernism

### Camp – a useful definition?

We will start these considerations by outlining the very concept of camp. It's extremely difficult to do it in the form of a regular definition – this is probably the most characteristic feature of the phenomenon, which one of its most important researchers, Susan Sonntag, sometimes calls "sensitivity", sometimes "taste", and sometimes "aesthetics"<sup>2</sup>. Due to the existence of a huge amount of literature on the phenomenon of camp, in its various contexts and uses, for the purposes of this text we will primarily refer to Sonntag's concepts, contained in her famous *Notes on Camp* (1961).

For the sake of this text, we will adopt practical version of the definition, that calls camp an aesthetics, "the essence of [which] is its love of the unnatural: of artifice and exaggeration"<sup>3</sup>. The most important features of camp therefore include "travesty, impersonation, theatricality"<sup>4</sup> – however, not of every type, but only placed in a specific context. Camp transforms what is shameless, in its

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<sup>2</sup> Sonntag, Susan. *Notes on Camp*. Jouve: Penguin Books, 2018, pp. 1-5 et passim.

<sup>3</sup> Ibidem, p. 1.

<sup>4</sup> Ibidem, p. 10.



exaggeration, bizarreness and – in sum – in bad taste, into some positive aesthetic value. It does this – so to speak – in complete good faith and with solemn seriousness, with naivety, and even often with pathos<sup>5</sup>.

If something is too good aesthetically or too important as a monument of art, most probably it can't be campy. Sonntag says: "There is a sense in which it is correct to say »it's too good, to be Camp«"<sup>6</sup>.

Another important issue is the relationship between camp and queerness. Camp is historically and traditionally associated with the culture and behavior of queer community; many researchers even claim that it grew out directly of this culture<sup>7</sup>. This is important also to our text in the context of Ligeti's opera.

We want also to add, as it seems quite important in the context of our reflection, that Sonntag considers intentional camp as "less satisfying"<sup>8</sup>. We will return to this issue later. So, it's quite clear that camp, understood in this way, is the domain not only of art, but also of various aspects of the reality that surrounds us, but always the cultural one. "Nothing in nature can be campy", says Sonntag<sup>9</sup>.

### Camp and Opera: Genetic Connections

Already Sonntag, and other researchers after her, consider opera as a genre which is particularly susceptible to camp influences. "Sometimes whole art forms become saturated with Camp. Classical ballet, opera, movies have seemed so for a long time"<sup>10</sup>. However, in most cases the Sonntag's comments are too general and not entirely clear to serve our reflections. For example, when listing quite chaotically various typical camp works, she includes Bellini's operas among them<sup>11</sup>. We understand that in this case it is about the ostentatious and intentional kitsch of *bel canto*, which, especially to someone unaccustomed to this convention, appears fully camp. An outstanding opera researcher, Daniel Albright, also used this term in reference to Verdi's *Macbeth*<sup>12</sup>.

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<sup>5</sup> Ibidem, pp. 13, 15-16, 23, 25.

<sup>6</sup> Ibidem, p. 7.

<sup>7</sup> Cf. Burston, Paul. *Queens' Country. A Tour Around the Gay Ghettos, Queer Spots and Camp Sights of Britain*. Boston (US): Little, Brown and Company. 2013. Lindsey, Richard. *Hollywood Biblical Epics. Camp Spectacle and Queer Style from the Silent Era to the Modern Day*. Santa Barbara: ABC-CLIO. 2015. Reynolds, Robert. *From Camp to Queer: Re-making the Australian Homosexual*. Carlton South: Melbourne University Press. 2002.

<sup>8</sup> Sonntag, S. 2018. Op. cit., p. 13.

<sup>9</sup> Ibidem, p. 8.

<sup>10</sup> Ibidem, p. 6.

<sup>11</sup> Ibidem, p. 5.

<sup>12</sup> Albright, Daniel. *The Witches and the Witch: Verdi's "Macbeth" in Cambridge Opera Journal*, Vol. 17(3), 2005 (pp. 225-252), p. 233.

On the other hand, Sonntag makes also a remark: “There is a sense in which it is correct to say »it’s too good, to be Camp«. Or »too important«, not marginal enough”. Thus [...] the operas of Richard Strauss, but not those of Wagner”<sup>13</sup>. This last quotation seems at least controversial. Why can Strauss be campy, but Wagner – who, by the way, in popular culture has become somewhat synonymous with the bombastic and exaggerated style of opera – not? Another camp researcher, Mark Booth, also drew attention to this simplification in his analysis<sup>14</sup>.

However, despite the controversial nature of the examples given by Sonntag, we are inclined to agree that, historically, the essence of early opera is campness. This campness revealed in the spectacular, often tacky glitz of opera performances and opera halls; the overwhelming importance of erotic themes for opera – with a simultaneous tendency to change gender roles, in the form of *travesti* and, before, the phenomenon of *castrato*; the ostentatious banality of the libretto with the traditional disregard for any principles of probability – at least until the orchestral apparatus in German Romantic opera had developed to such an extent that it was able to take over part of the semantic burden of the work. The very important question for camp is question about the intention: “The pure examples of Camp are unintentional; they are dead serious. [...] It seems unlikely that much of the traditional opera repertoire could be such satisfying Camp if the melodramatic absurdities of most opera plots had not been taken seriously by their composers. One doesn’t need to know the artist’s private intentions. The work tells all”<sup>15</sup>. Let us note already in this moment that this is an important problem that will have to be solved regarding Ligeti and his *Le Grand Macabre*: to what extent does he take his work seriously? Because this will clearly prove either for or against the camp nature of this opera.

However, there is, according to Sonntag, another feature of camp that seems much more important in relation to opera, namely:

What Camp taste responds to is “instant character” (this is, of course, in the eighteenth century); and, conversely, what it is not stirred by is the sense of the development of character. Character is understood as a state of continual incandescence – a person being one, very intense thing. This attitude toward character is a key element of the theatricalization of experience embodied in the Camp sensibility. And it helps account for the fact that opera and ballet are experienced as such rich treasures of Camp, for neither of these forms

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<sup>13</sup> Sonntag, S. 2018. Op. cit., p. 7.

<sup>14</sup> Booth, Mark. *Campe-toi! On the Origins and Definitions of Camp* in idem, *Camp*. New York: Routledge, 1983 (pp. 11-41), pp. 13-15.

<sup>15</sup> Ibidem, p. 14.

can easily do justice to the complexity of human nature. Wherever is their development of character, Camp is reduced. Among operas, for example, *La Traviata* (which has some small development of character) is less campy than *Il Trovatore* (which has none)<sup>16</sup>.

This aspect of placing the operatic figure and its structure at the forefront in the context of the camp aesthetic will also be important in relation to *Le Grand Macabre*.

### **Ligeti's *Le Grand Macabre* and its camp revision**

Now that we have recognized the basic nature of camp and its connections with opera in general, let us consider the possibilities of applying this category to *Le Grand Macabre*: opera, which is a late work of Ligeti<sup>17</sup>: written already in 1977, however, it encountered a few obstacles with publication history. Unpublished original version comes from 1978, published version with revisions from 1996<sup>18</sup>.

We will present our conclusions in several areas, referring also to existing research on the aesthetics of aforementioned opera.

### **End of the genre?**

Surprisingly, *Le Grand Macabre* wasn't described very thoroughly: Jane Piper Clendinning already drew attention to this fact in 1993 when she wrote: "this composition [...] has received little attention in the analytical literature, and what has been written is either very brief or focused on a specific aspect of the composition"<sup>19</sup>. What is surprising is that it seems that the situation has not improved much significantly over the next thirty years. There are several noteworthy texts on this topic, but all of them are contributory, they don't provide complex analysis of the piece.

We can understand the reason for which this opera can be problematic in a sense: it's the very concept of that piece, which is very much pastiche, as Michael Searby noted. In his text from 2012, which is dedicated to *Le Grand Macabre* and has meaningful title *Ligeti's "Le Grand Macabre": How He Solved the Problem of Writing a Modernist Opera*, he mentioned several

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<sup>16</sup> Ibidem, pp. 21-22.

<sup>17</sup> Bernard, Jonathan W. *Ligeti's Restoration of Interval and Its Significance for His Later Works in Music Theory Spectrum*, Vol. 21(1), 1999 (pp. 1-31), p. 1a.

<sup>18</sup> Ibidem, p. 2a.

<sup>19</sup> Piper Clendinning, Jane. *The Pattern-Meccanico Compositions of György Ligeti in Perspectives of New Music*, Vol. 31(1), 1993 (pp. 192-234), p. 230.

times “rich stylistic range he [Ligeti] uses, his use of quotation of existing works, collage, and pastiche”<sup>20</sup>. He says also a lot about the subversiveness of this opera, speaking even about “plundering of past styles [...] Monteverdi, Rossini, and Verdi”<sup>21</sup>.

It seems possible that this parodic inclination may pose a problem for avant-garde scholars. Many of them would like to believe that Ligeti created something like an anti-opera and went far against the rules of the genre. Quoting Searby: “Originally Ligeti started *Le Grand Macabre* with the idea that he wanted to compose an anti-opera, and was highly influenced by Kagel’s *Staatstheater*, which was written for the forces of an opera house but was radically different to traditional opera”<sup>22</sup>. That’s exactly how Yayoi Uno Everett perceives *Le Grand Macabre*: “*Le Grand Macabre* constitutes an »anti-opera« *par excellence* because of its narrative ambivalence and double-voiced forms of parodic enunciation”<sup>23</sup>. Text of Everett is very insightful, detailed, and interesting, also from a cultural studies perspective, but we don’t have impression that the very use of parody and grotesque is any sign of anti-genreism. In fact, Ligeti is strongly influenced by postmodern tendencies in terms of the convention he adopted here. These trends are noticeable in many aspects of art in the second half of the 1970s. The fact is that Ligeti appears to be perhaps one of the first to appreciate this trend, but postmodernism has nothing to do with the radical avant-garde, quite the opposite. It takes pleasure in playing with conventions and genres, celebrates them – and especially celebrates the past, immersing historical objects in a kind of ahistorical magma, where they can exist together side by side with impunity. It seems to be exactly what Ligeti does in *Le Grand Macabre*, and the ludic nature of postmodernism is visible in it. In this sense, we embrace Searby’s use of the term *objet trouvé* in reference to this opera<sup>24</sup>, but we would like to understand *objet trouvé* here in a cultural sense, not as a compositional technique. Ligeti constantly allows us to find in his musical text various objects of different opera conventions of long-gone eras, and he does it in a rather playful way. And the very mention of these conventions helps to keep the genre in check, even if Ligeti does it in completely unpredictable way, as Searby also noted (“the structures of his music up to *Le Grand Macabre* have a high degree of unpredictability about them; the listener is never sure what is going to happen next”<sup>25</sup>).

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<sup>20</sup> Searby, Michael. *Ligeti’s “Le Grand Macabre”: How He Solved the Problem of Writing a Modernist Opera* in *Tempo*, Vol. 66(262), 2012 (pp. 29-38), p. 31. Cf. *ibidem*, p. 30.

<sup>21</sup> Searby, M. *Ligeti the Postmodernist?* in *Tempo*, Vol. 199, 1997 (pp. 9-14), p. 9.

<sup>22</sup> Searby, M. 2012. *Op. cit.*, p. 30.

<sup>23</sup> Everett, Yayoi Uno. *Signification of Parody and the Grotesque in György Ligeti’s “Le Grand Macabre”* in *Music Theory Spectrum*, Vol. 31(1), 2009 (pp. 25-56), p. 55a.

<sup>24</sup> Searby, M. 2012. *Op. cit.*, p. 34.

<sup>25</sup> Searby, M. 1997. *Op. cit.*, p. 14.

Concerning the problem of anti-genreism, as a rule, we agree here with what Eric Drott writes about:

belief in genre's obsolescence has largely been internalized by the practices of music theory and analysis. As Samson observes, the kind of "work-centered perspective" to which these disciplines subscribe makes them largely impervious to the claims of genre. This is particularly true of analytic discourse on twentieth-century music (and post-1945 music more specifically), which has tended "to minimize the power of genre". Analyses that do continue to invoke traditional generic categories (concerto, opera, string quartet, oratorio, etc.) typically do so not in order to show how pieces exemplify their norms but to show how they transgress or repudiate them. But by far the most common way that analytical discourse deals with the question of genre with regard to this repertoire is to omit it from consideration in the first place<sup>26</sup>.

We suppose this is also the case of Ligeti, who absolutely doesn't feel overwhelmed by, so to say, the "weight" of this opera genre heritage, which in many cases, as we know, is quite shameful in its shoddiness. This is proved by Everett, who, following Richard Toop, calls *Le Grand Macabre* literally pop art. In this sense, pop art is understood as adapting the worst features of Gaetano Donizetti, Giuseppe Gioacchino Rossini, but also Baroque opera or even Richard Wagner (Everett shows all these influences and many others) and presenting these influences proudly as something noteworthy by placing them in a new, original context. In this way, Ligeti points to the historical "trash" character of the opera genre, which, however, has always had and still has a huge impact on the popular recipient. The question Ligeti seems to be asking is: is it possible to make somehow this trash opera equally attractive to listeners of avant-garde music?

### **Problem of narrative and character's structure**

A continuation of this approach to opera matter is Ligeti's treatment of the characters in *Le Grand Macabre*. We will use a quote from Searby again as a starting point: "The underlying principle in Ligeti's compositional approach in the opera is to bring the characters to life through the music – consistency of style and technique seems to be less important"<sup>27</sup>.

However, we cannot agree with the opinion expressed by the researcher, on the contrary – we think that the characters in *Le Grand Macabre* are absolutely superficial and sketched in bold lines, and their presence on the

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<sup>26</sup> Drott, Eric. *The End(s) of Genre* in *Journal of Music Theory*, Vol. 57(1), 2013 (pp. 1-45), p. 3.

<sup>27</sup> Searby, M. 2012. Op. cit., p. 32.

stage is merely a pretext. In addition, Ligeti's characters are aware of their own façade and superficiality, and that they are constantly acting. Nekrotzar says, "Give me my requisites, slave!"<sup>28</sup>. Mescalina calls Astradarmos "dolly" ("Püppchen")<sup>29</sup>. Let us note that this feature is absolutely consistent with the camp nature of the opera, the essence of which was always to manifest the bizarreness and overwhelming nature of affect, and not to delve into the psychology of the characters. It was described by Carl Dahlhaus in his famous study on opera, where he showed that the dramatic order of the libretto in an opera has no significance, because it's always about a network of relations and connections between individual affects represented by the characters<sup>30</sup>. Dahlhaus even went as far as to say that if the order of the arias in Mozart's *Mitridate re di Ponto* were changed, it wouldn't disturb the order of the work at all<sup>31</sup>. Similarly, in Ligeti's work, where exaggerated, mannered, and in some cases also emanating queerness (as in the case of Nekrotzar) characters, express primarily one central affect: namely, the fear of death and nothingness. This is what Peter Edwards writes about it:

There is little in the way of resolution in the narrative plot of György Ligeti's opera *Le Grand Macabre* [...]. The grotesque comedy plays on the fear of death: Nekrotzar, the personification of death, threatens the people of the hedonistic and gluttonous world of Breughelland with the apocalypse. In the event, Death himself shrivels up and dies, having failed to deliver on his promise<sup>32</sup>.

The open ending of the opera serves the same affect; even if it ends, like Wolfgang Amadeus Mozart's *Don Giovanni*, with a quasi-moralizing, mocking sextet. The similarity to the finale of *Don Giovanni* is striking in this context, although Mozart wanted to classically soften the metaphysical and pathetic tone of the opera. Ligeti has no such intentions, even if the horror of death in his work is authentic. We are not sure, however, whether this horror wasn't deeply rooted in the composer himself and his life experiences.

Let us return to the alleged issue of queerness, which has particular significance in the figure of Nekrotzar. On the popular geek website for RPG gamers, world anvil, this character is described as "born in Breughelland into

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<sup>28</sup> Ligeti, György; Meschke, Michael. *Le Grand Macabre. Oper in vier Bildern*. New York: Schott, 1999, p. 72.

<sup>29</sup> Ibidem, p. 78.

<sup>30</sup> Dahlhaus, Carl. *What Is a Musical Drama?*, transl. Mary Whittall, in *Cambridge Opera Journal*, Vol. 1, 1989 (pp. 95-111), pp. 96-100.

<sup>31</sup> Ibidem, p. 100.

<sup>32</sup> Edwards, Peter. *Resisting Closure: The Passacaglia Finale from György Ligeti's "Le Grand Macabre"* in *Music Analysis*, Vol. 35(2), 2016 (pp. 258-278), p. 258.

the Order of Sarastro but has since turned against the Order due to their cruelty and homophobia and sworn to bring about their destruction”<sup>33</sup>. His orientation is characterized as “gay, but probably on the gray-ace spectrum to some extent”<sup>34</sup>. The character of Prince Go-Go is even more queer<sup>35</sup>. The white and black ministers call each other “sodomites”, and their entire dialogue in this scene is strikingly queerly bizarre<sup>36</sup>. The narrative of the opera is, in general, suspended between spectacular, manifested eroticism (exactly as predicted for camp) and an equally manifested desire for cruel death<sup>37</sup>. Edwards connects this tendency with the general idea of carnivalesque, as follows:

These musical references contribute to the grotesque trope, which, in accordance with Bakhtin’s concept of grotesque realism, resists closure and mirrors the lack of resolution in the opera’s narrative. In his study, Bakhtin argues that Rabelais’ imagery of the body depicts hybrids of the natural and the artificial to underscore the irresolvable nature of such binary categories. Bodies depicted in the throes of death were accompanied by images of another body. [...] The semantic narrative of Ligeti’s opera displays a negation of abstract meaning and resistance to closure comparable to that described by Bakhtin. Death dies and humanity is given a new chance – or chances, given the potential repetition of the ritual ad infinitum. Moreover, the process of becoming and renewal arises from Ligeti’s representation of a fragmented and negated past in music<sup>38</sup>.

Of course, there are similarities between Mikhail Bakhtin’s carnivalesque and idea of camp, mainly related to the fact that in both cases it concerns primarily area of popular culture or alternative culture (counterculture), and both carnivalesque and camp use subversiveness as the basic mechanism. Most of the studies on *Le Grand Macabre* signal this aspect as especially valid for Ligeti’s opera. “Seherr-Thoss cites the literary and artistic influence of grotesque realism in the work of Rabelais (as interpreted by Mikhail Bakhtin) on Ligeti’s development of the narrative in the opera, whereas Everett ties the grotesque more closely to the transformation of musical quotations and stylistic references”<sup>39</sup>. However, concepts such as grotesque or parody, which are associated with carnivalesque (and most often used in context of Ligeti), are not suitable for

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<sup>33</sup> *Nekrotzar Oakenheart*. Entry in <https://www.worldanvil.com/w/operaquest-mezzopatria/a/nekrotzar-oakenheart-person> (last access: 08.11.2023).

<sup>34</sup> *Ibidem*.

<sup>35</sup> Cf. Ligeti, G.; Meschke, M. 1999. *Op. cit.*, p. 124.

<sup>36</sup> Cf. *ibidem*, pp. 112-116.

<sup>37</sup> *Ibidem*, p. 88.

<sup>38</sup> Edwards, P. 2016. *Op. cit.*, pp. 261-262.

<sup>39</sup> *Ibidem*, p. 262.

camp, because camp is not about parodying or sneering through bizarreness. On the contrary: it's about valuing, showing off with pride and affirming what is bizarre. Therefore, we consider this concept more appropriate for *Le Grand Macabre*.

### **Camp and musical language**

The same applies to Ligeti's musical language. The extremely rich sound of the opera includes listener-friendly diatonic music that, in a way, flatters popular tastes, but at the same time doesn't subordinate this music to any clear tonality. This Ligeti's "diatonicism without tonality", as Jonathan W. Bernard called it, without any recognizably functional progression, appears in concluding *Passacaglia*<sup>40</sup>. As in the case of Béla Bartók, this tonality must be understood in a very broad sense<sup>41</sup>. Paul Griffiths calls it "dislocated tonal harmony"<sup>42</sup>, and further: "a harmony in which simple consonances return, but not in the right order, producing a disturbing or comic effect of tilting"<sup>43</sup>.

Searby says: "*Le Grand Macabre* [...] explores tonality, but there it is driven by quotation and pastiche, rather than the forging of a new musical language"<sup>44</sup>. But Ligeti's intention in this case probably wasn't to create a new musical language, but rather to show in a new light what is known and what opera audiences are aurally accustomed to. This "new intervallic vocabulary"<sup>45</sup> is exactly a gesture that Ligeti makes to the internalized musical habits of the wide public. put some effort into organizing known elements in a new configuration. And it's campy in spirit, too.

### **Camp as the personal experiences of Ligeti**

What is particularly important for camp is its connections with real life. Camp art shouldn't abstract from reality<sup>46</sup>. In the case of *Le Grand Macabre*, Everett claims that there are deep connections between opera and the composer's own experience of reality:

From a biographical perspective, the narrative discourse of this opera constitutes an intertext that mirrors Ligeti's own artistic habitus of exile; as a survivor of the Holocaust and Hungarian Uprising, the theme of death and survival has

<sup>40</sup> Bernard, J. W. 1999. Op. cit., pp. 25b, 28a.

<sup>41</sup> Cf. Kerékfy, Márton. "A 'New Music' from Nothing": György Ligeti's *Musica ricercata* in *Studia Musicologica*, Vol. 39(3-4), 2008 (pp.203-230), pp. 214-215.

<sup>42</sup> After: Edwards, P. 2016. Op. cit., p. 258.

<sup>43</sup> Ibidem, pp. 258-259.

<sup>44</sup> Searby, M. 1997. Op. cit., p. 11.

<sup>45</sup> Bernard, J. W. 1999. Op. cit., pp. 28b.

<sup>46</sup> We disagree with Sonntag's opinion that camp is apolitical (cf. Sonntag, S. 2018. Op. cit., p. 5).

been an integral part of his life experiences. There is a profound message that Ligeti communicates in *Le Grand Macabre* that far surpasses its capacity to elicit laughter: by situating the audience inside the fantasy-world of Breughelland, the opera forces us to confront our own fears and pretensions as we grapple with the existential chaos of the human condition<sup>47</sup>.

In this way, camp can be an elitist and sophisticated way of dealing with the experience of trauma – in an extreme case we could even say that Ligeti is telling us “Death is fancy”. More campy would be probably “death is bizarre and fancy”. It’s worth wondering if this message is as profound as Everett writes about it. The way of telling this, however, is most certainly impressive and dazzles us with its richness. At the same time, he talks about it in a highly inappropriate, theatrical and humorous way. According to Esther Newton, these are three extremely important camp strategies<sup>48</sup>.

## Conclusions

Let us systematize once again, in one place, all the features and values of camp that allow us to think of *Le Grand Macabre* as a camp text.

First of all, it is intentional stylistic exaggeration, theatricality taken to the verge of absurdity.

Secondly, the appreciation of what is impressive and bizarre, even kitschy, especially those elements referring to retro aesthetics (in this case, the early, romantic and pre-romantic opera convention).

Thirdly, queerness, which in this case reveals itself very strongly at the level of language.

Fourthly, kind of “marginality” of the work – in the sense that it’s not at the very center of the widely-known opera genre, and it doesn’t belong to the strict canon of the most important and popular opera pieces (which, of course, says nothing about quality of the work).

Fifthly, open flirtation with popular culture and transgression into a realm of popular culture – also at the level of musical language and numerous allusive textual references.

Sixthly – the undeeened and clearly pretextual structure of opera characters.

Seventhly – the postmodern technique of “plundering” on various levels, freely borrowing from various cultural texts (in this case, especially opera), which the author simply finds attractive for some reason.

And last, but not least (but also most unclear of all) – sincerity, which comes from personal experience.

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<sup>47</sup> Everett, Y. U. 2009. Op. cit., p. 55a.

<sup>48</sup> Newton, Esther. *Role Models* in idem, *Mother Camp. Female Impersonators in America*. Englewood Cliffs: Prentice Hall, 1972 (pp. 97-111), p. 106.

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## GYÖRGY LIGETI, FRICTION, AND THE UNCERTAIN IMAGE

PETER NELSON<sup>1</sup> 

**SUMMARY.** The current succession of centenaries of members of a significant group of European composers who made their work in the second half of the twentieth century gives us cause to think again about the historical situation they faced, in the aftermath of the Second World War, and the ways in which their responses to that situation shaped both their creative output and the culture of the times. Using Anna Tsing's notion of *friction*, as a productive force emanating from the unresolved co-presence of differences, this article examines the work of György Ligeti, and considers how his experience of multiple displacements, as a European Jew who experienced both Nazi and Soviet invasions, contributed to the formation of an aesthetic of mystery and irony, formulated here as the production of the uncertain image.

**Keywords:** Ligeti, friction, Lowenhaupt Tsing, modernism, imperfection.

Now, in October of 2023, we are celebrating the centenary of the birth of the composer György Ligeti, born in 1923 in Diciosânmartin in Romanian Transylvania; as, last year, we marked the centenary of the birth of Iannis Xenakis, also born in Romania, of Greek parentage, in the town of Braïla. The proximity of these two events reminds us that we are now at a moment to think once again about that whole group of composers who radically changed the European musical tradition after 1945: thus, as centenaries go, next year we will celebrate Luigi Nono, the year after, Pierre Boulez and Luciano Berio, followed by György Kurtág, and - perhaps finally for this little group - in 2028 the youngest of them, Karlheinz Stockhausen. Of course, there

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are many other figures we can mention in the history of European music of the last hundred years, but this little group had a radical impact, and produced work of lasting value that still haunts us, even as we ponder a world with new social, political, environmental, and artistic preoccupations.

These artists made their work in the context of a Europe emerging from war, from the horrors of fascism and genocide, and split by political schism between East and West. Furthermore, as Theodor Adorno so famously expressed it, the industrialised murder perpetrated by the Nazi regime, and its commodification of race and difference put in question not just the humanistic pretensions of art, but the very possibility of enlightened thought itself: what Adorno formulated as the dialectic between culture and barbarism.<sup>2</sup> Ligeti himself, as a European Jew, had his own personal experiences of barbarism. As he told the British journalist John Tusa, he suffered guilt at having survived the Holocaust when others in his family did not.<sup>3</sup>

Consequently, this group of composers, that Ligeti characterises as a “Club” connecting the localised cultures of Köln, Darmstadt, Paris, and Milan, attempted - whether consciously or not - to remake music, and to reassert the *possibility* of making music, in a Europe that had to come to terms with its own historical past and its own cultural past as ineradicably intertwined.<sup>4</sup> It is notable that this club was not a totalising enterprise consolidated within a single *volk* – whatever its subsequent critics may have implied – but pan-European, asserting a common purpose in remaking music with German, French, Italian, Hungarian, Romanian sensibilities, even if the foundational insights were provided within the context of the Modernism of the old Austro-Hungarian empire, by Arnold Schönberg and his pupils, Anton von Webern and Alban Berg.

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<sup>2</sup> Je totaler die Gesellschaft, um so verdinglichter auch der Geist und um so paradoxer sein Beginnen, der Verdinglichung aus Eigenem sich zu entwinden. ... Kulturkritik findet sich der letzten Stufe der Dialektik von Kultur und Barbarei gegenüber ... (The more total the society, the more reified the spirit and the more paradoxical its attempt to escape reification out of its own nature. ... Cultural criticism finds itself at the final stage of the dialectic of culture and barbarism). Adorno, Theodor W. *Gesammelte Schriften in zwanzig Bänden: 10/1 Kulturkritik und Gesellschaft*, ed. by Rolf Tiedemann. Suhrkamp Verlag, Frankfurt am Main, 1977, p. 30.

<sup>3</sup> “I cannot accept that my brother was killed. He was five years younger than me. He lived exactly seventeen years. I saw him for the last time when he was sixteen. Then I was in the Hungarian army in labour service which was very, very difficult, but not as difficult as concentration camp. So, by chance I survived.” Tusa, John. *On Creativity: Interviews Exploring the Process*. Methuen, London, 2003, p. 189.

<sup>4</sup> Ligeti, György. *Gesammelte Schriften I*. Schott, Mainz, 2007, p. 520.

And now: as we contemplate war in the Eastern Mediterranean and in Ukraine; as we take stock of the consequences of a global pandemic, almost certainly engendered by the unthinking intrusion of the human activities of extraction into the deep recesses of the life of the planet; in the midst of a climate emergency that threatens to engulf our traditional ways of living, and brings the spectre of mass extinctions - perhaps even our own; *we also* have to think about the *possibility* of music, and about the continuing presence of the dialectic between culture and barbarism. Is poetry possible during a climate emergency, when, as Greta Thunberg tells us so simply, “Our house is falling apart”?<sup>5</sup> How might this moment from nearly eighty years ago inform our response to current predicaments? It seems to me that if art has anything to give us, at any time, it is not just hope or consolation in the midst of our preoccupations, but an image of the possibility of mediation across that divide that troubled Adorno. Mediation is always a to-ing and a fro-ing, a movement that testifies to the existence of both sides, but which is also a strategy for action, dependent on real insights. The music of Ligeti, besides its overpowering and dramatic beauty, seems to me to embody some important insights that give his work a continuing power and relevance, and it offers an aesthetic vision that contradicts the current predilection for polarised certainties.

I had the good fortune to meet György Ligeti first in 1973 when he was one of the guests, alongside Luciano Berio and the British composers Peter Maxwell Davies and Martin Dalby, at the Musica Nova Festival, organised by the University of Glasgow and the Scottish National Orchestra. I was able to attend rehearsals for the *Double Concerto for Flute and Oboe*, which was receiving its UK premiere, and to attend some classes with Ligeti. Ligeti’s music made a deep and lasting impression on me, but the exact nature of that impression took some time to clarify. This was not helped by the fact that Ligeti’s work itself changed over the years. When I met Ligeti for a second time, at the seminars run by Centre Acanthes in Aix-en-Provence in 1979, he had suffered a brief period of artistic upheaval - or so he expressed it to us: one which had resulted in two works that, for him, sprang out of the influence of popular music - something that at that time, perhaps due to the abhorrence for popular culture registered by Adorno, seemed almost impossible for a member of the European avant-garde, concerned as they were with re-forming a musical tradition tainted by fascism. Two works for solo harpsichord were performed, by Elisabeth Chojnacka, *Passacaglia ungherese*, and *Hungarian Rock (Chaconne)*, both written in 1978 and showing the influence of the American Minimalist composers, who had in fact appeared in an earlier work for two pianos from

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<sup>5</sup> Thunberg, Greta. *No One Is Too Small to Make a Difference*. Penguin Books, London, 2019, p. 30.

1976, *Monument – Selbstporträt – Bewegung*, with its ironic presentation of a *Selbstporträt mit Reich und Riley*. This explicit influence of so-called American Minimalism was an indication that the project of re-making music, that had seemed to us, as students, so focused on the necessary principles of negation: a-tonality, a-thematicism, irrationality of metre and rhythm, could actually be – and was in fact - a much more open enterprise.

It was perhaps Ligeti's experience in 1972, during his five months as composer in residence at Stanford University in California, that initiated this particular stylistic change. But this experience also provoked in him a more fundamental reconsideration of the cultural forces within which music operates. In an article entitled, "New Music Tendencies in the USA" Ligeti remarks at length on his perceptions of Californian culture. He writes:

California is a country with an almost southern Italian lifestyle, more casual than puritanical. And then there is the dominating influence of East Asia. San Francisco is almost no longer an American city. Even the Americans claim that. San Francisco is rather a mixture of different cultures, some of which have even remained intact. There is a Chinese, a Japanese, an Italian part of the city, but also the strangest intermediate stages of Americanisation: i.e. still-China, half-China, China on Hollywood glamour but with dirt stains and so on.<sup>6</sup>

This humorous and ironic reflection on cultural difference, and on the ways in which European preoccupations and cultural priorities become resituated within a Californian perspective seems to have affected Ligeti deeply. It seems to me to link up, in a certain way, both with his earlier experiences working as an ethnomusicologist in Hungary, and with his later interest in the musical traditions of Africa, Asia, and the Caribbean, in the production of a particular, pluralistic aesthetic outlook. Amy Bauer and others have referred to this as a "cosmopolitan imaginary", but I want to take the discussion in a slightly different direction.<sup>7</sup>

If so-called *serialism* was the founding method for a conscious break with the past of European music, it registered as monolithic; that is, as a re-inscription of a foundational space for musical thought, outside of the space created by diatonic tonality and regular metrics. Whatever happened inside that newly inscribed space, it nevertheless bore with it all the old imperatives of unity, integrity, coherence, singularity of purpose: in the imaginations of Boulez, Stockhausen, Nono, the technologies of the series defined a situation that -

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<sup>6</sup> Ligeti, György. *Gesammelte Schriften I*. Schott, Mainz, 2007, p. 456.

<sup>7</sup> See Bauer, Amy and Márton Kerékfy. *György Ligeti's Cultural Identities*. Routledge, London, 2017.

whatever its production of actual, sounding music - represented a new, unified, and coherent whole. Ligeti refers to this musical *ethos* in his homage to Theodor Adorno, where, in trying to account for Adorno's rejection of Stravinsky, Ligeti writes, "German music bases itself on thematic-motivic development,"<sup>8</sup> and – in this line of thinking - that is as true of Stockhausen and Webern as it is of Schoenberg and Brahms. The post-war re-invention of music could be seen to have some inbuilt prejudices. Thus, in Ligeti's words, "With the sounds of a dead language, a new language would be spoken."<sup>9</sup>

It seems that Ligeti, like Xenakis, was a critic of the serial project, even as he contributed significantly to the renovation of music that was its primary goal. The details of his critique we can pass over; what Ligeti represented to the classes that I attended in 1973 and 1979 was a music that was inherently multiple, not singular, and this multiplicity registered itself in a number of ways. First, Ligeti characterised his works as *polyphonic* but in a radical fashion. The term *micro-polyphony* was one that Ligeti himself used, but it is worth looking more deeply into the ways in which he described the workings of this approach, which is far more than just a way of building dense or massive textures.

In an interview with Ove Nordwall, broadcast on Südwestfunk Baden-Baden in 1968, Ligeti says:

there are certain passages ... in which a pitch or an interval or even several intervals - let us say old-fashioned chords - are clearly there. In the midst of such a chord, the "parasitic" notes then gradually sound; they are not ornaments in the sense of the passing notes or alternating notes of tonal music, but nevertheless contain a small allusion to them. The whole tradition of tonal music is present, but always hidden.<sup>10</sup>

Thus, multiplicity arises in the concept of a body and its parasites, a tradition and its histories. This veiling of cultural allusions is in fact even further veiled by the sounding surface of the music, since:

The fact that many neighbouring pitches are always played and that the string ensemble is divided into many individual instruments results in small fluctuations in intonation. For example, a violinist who goes from C to C-sharp and then to D will involuntarily reach this C-sharp higher, ... The small fluctuations that occur ... are a constructive element of the composition here. ... So... The music really has something artificial about it, it is an appearance.<sup>11</sup>

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<sup>8</sup> Ligeti, György. *Gesammelte Schriften II*. Schott, Mainz, 2007, p. 505.

<sup>9</sup> *Ibid.* p. 97.

<sup>10</sup> Nordwall, Ove. *György Ligeti: Eine Monographie*. B. Schotts Söhne, Mainz, 1972, p. 131.

<sup>11</sup> *Ibid.* p. 130.

This conception of music, as a sort of *appearance* that arises out of conflicting elements seems to me to be a fundamental aspect of Ligeti's work, whose *uncertain* character is also a sort of strategy of *imperfection*.

As Ligeti described his work to us in students seminars, it contains movements or passages of different *types* of music: the two logical extremes of those types are presented in the title of a work from 1973 for choir and large ensemble, *Clocks and Clouds*, and to the clocks, and the clouds - which far from being statistical in the manner of Xenakis, are constructed from astonishingly detailed micro-structures - he added "tight-rope music": a music of extreme speeds and registers, that almost wills the performers to "fall off," and that thus courts imperfection of performance. It is often associated with a melodic gesture that begins with great purpose, but then fails to complete itself, a strategy fundamental to the expressive power of the *Chamber Concerto* of 1969-70.

Yet, multiplicity is different from variety. Variety, in a sense, is the ground of composition: Stockhausen puts it at the heart of the new musical revolution when he describes the difference between the old style and the new as: "not the same figures in an ever-changing light, but rather: different figures in the same light, which permeates everything."<sup>12</sup> Variety does not trouble the claims of autonomy, authority, and exclusivity that critics such as Frederic Jameson level as charges against Modernism.<sup>13</sup> Multiplicity, on the other hand, involves what sociologist Irving Goffman theorised as "frames", where a frame is a way of

differentiating the several different "worlds" that our attention and interest can make real for us, the possible subuniverses, the "orders of existence" ... in each of which an object of a given kind can have its proper being.<sup>14</sup>

Notably, the possibility to mistake or misconstrue frames is what leads us to humour, and humour was always a critical strategy in Ligeti's work. The multiplicity inherent in his music goes deep, and concerns not just global textures like ticking clocks or 'tight-rope' virtuosity, but also tonal and even intonational strategies, as well as temporal flows and speeds, and cultural references. It registers a sense for multiplicity that can bring together, precisely, 16<sup>th</sup> century polyphonic voice leading and its history, the heterophony of certain

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<sup>12</sup> Stockhausen, Karlheinz. "Arbeitsbericht 1952/53: Orientierung." In Christoph von Blumröder (ed.) *Texte zur Musik I*. DuMont Buchverlag, Cologne, 1961, p.37.

<sup>13</sup> See Jameson, Frederic. *A Singular Modernity*. Verso, New York, 2002.

<sup>14</sup> Goffman, Erving. *Frame Analysis. An Essay on the Organization of Experience*. Northeastern University Press, Boston, 1986, p. 2.

African traditions, conflicting notions of temperament, conflicting strategies of time and repetition, within the realm of a single musical work. These multiple frames are evident, even to the most unsophisticated of listeners, and they give Ligeti's work a sense of energy and ambivalence. If music can alert us to possible mediations of the tensions evident in the world, providing sometimes powerful moments of resistance, what mediating strategy can we see at work here?

One of the critical moments of our time concerns the notion of the global. From economic 'globalisation' to 'global warming' we are faced with a totalising scale that is out of all proportion to our personal experience, and which subsumes multiplicity within a sort of universal, even totalitarian frame. And yet, as anthropologist Anna Lowenhaupt Tsing points out, "The universal offers us the chance to participate in the global stream of humanity."<sup>15</sup> Global connections make the world because they are implicated in all of its diversities of life and culture. Tsing's insight is that neither *global* nor *universal* is a static category. As she writes,

Cultures are continuously co-produced in the interactions I call "friction": the awkward, unequal, unstable, and creative qualities of interaction across difference.<sup>16</sup>

It seems to me that one of the key artistic insights of Ligeti, and perhaps one of his key lessons to us, now, was to value that exploration of 'interaction across difference', even within the very substrate of musical material. Thus, in an essay on Bartók's harmony, Ligeti notes Bartók's pluralistic use of tonality in his "tendency to symmetrically interchangeable harmonic centres."<sup>17</sup> Similarly, in his programme note to the *Double Concerto for Flute and Oboe* (1972), Ligeti writes:

What interests me in particular ... of the numerous microtonal possibilities, and where I imagine I will find a new and fertile field, is the non-determined micro-interval ... an uncertain intonation which ... gives an impression of certainty.<sup>18</sup>

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<sup>15</sup> Tsing, Anna Lowenhaupt. *Friction. An Ethnology of Global Connection*. Princeton University Press, Princeton, NJ, 2005, p. 1.

<sup>16</sup> *Ibid.* p. 4.

<sup>17</sup> Ligeti, György. *Gesammelte Schriften I*. Schott, Mainz, 2007, p. 302.

<sup>18</sup> Ligeti, György. "Concert for Flute, Oboe, and Orchestra (1971/71)." Programme note: *Musica Nova*, Glasgow, 1973, p. 14.

These sonic frames, coming as they do from both European and non-European notions of pitch and pitch-centre, scale, and interval, work alongside similar framings of pulse, metre, and texture to create a music of differences.

I do not read this as a “bringing together,” within any sort of unified vision, of different cultural appropriations: from the Aka culture of Africa, from Africa and India via the Minimalist strategies of Steve Reich and Terry Riley, from the Italian Renaissance of Palestrina, and the fractal metric canons of Conlon Nancarrow; what has been referred to as the “cosmopolitan” nature of Ligeti’s imagination. It seems to me that it is the *friction* that Anna Tsing notes as the producing force of culture that lies at the heart of Ligeti’s perception of the global force of music, and it is through friction and the manipulation of frames of being that Ligeti confronts the uncertainties that beset both him and us. His openness to difference, his ability to work within conflicting frames and unresolved dualities, his wicked sense of the power of humour arising out of the confusion of frames of being, provide us with an exemplary strategy of mediation between the possibilities of culture and the ever-present history and future of barbarism. As he notes, in his discussion of the works *Aventures* and *Nouvelles Aventures*:

Something was said, what we do not know, but also we *must* not know, since the affect of what was said is sufficiently clear. ... this music clarifies the isolation of the human condition.<sup>19</sup> [my italics]

The final move in this strategy of friction seems to me to centre on a denial of the concrete, the pinned down and decided, the definite image of the reified mind described by Adorno:

Many people say: art must be true. I believe the opposite: art is allowed to lie. Art has to pretend something that doesn't exist. I don't mean a moral lie, but rather an appearance, a pretence.<sup>20</sup>

And then again, with a more forthright irony:

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<sup>19</sup> “Es wird etwas gesagt, was wir nicht wissen, aber müssen es auch nicht wissen, den der affektive Inhalt des Gesagten wird hinreichend deutlich. ... diese Musik die menschliche Isolation verdeutlicht.” Ligeti, György. *Gesammelte Schriften II*. Schott, Mainz, 2007, p. 81.

<sup>20</sup> “Viele Leute sagen: Kunst muss wahr sein. Ich glaube das Gegenteil: Kunst darf lügen. Kunst muss etwas vortäuschen, was nicht existiert. Ich meine damit nicht eine moralische Lüge, vielmehr einen Schein, eine Vorspiegelung.” Ligeti, György. *Gesammelte Schriften II*. Schott, Mainz, 2007, p.80.

I think art is different from nature, I hate everything natural, healthy - it's wonderful when art is artificial. ... I don't want humanism, I'm anti-human.<sup>21</sup>

The cloud-like textures of Ligeti's music are not, like the stochastic textures of Xenakis, some concrete outcome of natural laws. The clouds *and* the clocks, and the dualities of metric pulse, tonal centre, temperament, and "tight-rope" gestural energy create *uncertain images*, whose cloudy presence refuses to coalesce into an easy focus, recognising that *certainty is no longer appropriate*, and conveying to us the deep mystery of the real, and the presence within it of the macabre, the uncanny, the ridiculous, the downright comic;<sup>22</sup> those shifting frames of being that defy the steady rigour of a mind and a mode of thinking already compromised by history, opening up our perceptions and imaginations to the conflicting energies of a world whose friction, as Anna Tsing reminds us, allows - in her words – "Utopian critiques (whose) critical perspectives we cannot do without - even if they will not be realised."<sup>23</sup>

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<sup>21</sup> "Ich glaube, Kunst ist etwas anderes als Natur, ich hasse alles Natürlich, Gesunde - es ist wunderbar, wenn Kunst artifizuell ist. ... ich möchte keinen Humanismus, ich bin antihuman." *Ibid.* p. 81-82.

<sup>22</sup> "... das unerhört und rätselhaft, dämonisch und ironisch ist." *Ibid.* p. 84.

<sup>23</sup> Tsing, Anna Lowenhaupt. *Friction. An Ethnology of Global Connection*. Princeton University Press, Princeton, NJ, 2005, p. 268.

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## THE CORRESPONDENCE BETWEEN LIGETI AND ADORNO IN THE LIGHT OF DISCUSSIONS ON LIGETI'S POSITION IN MODERNISM – WITH A SIDEWAYS GLANCE AT *LE GRAND MACABRE*

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**SUMMARY.** “I am extremely interested in the new upheavals taking place in music - I was completely isolated from all this in Hungary”<sup>2</sup>, Ligeti wrote to Wolfgang Steinecke, then director of the Darmstadt Summer Course for New Music, in spring 1957. In the summer of the same year, he attended his first seminars and lectures at this internationally renowned forum - and just a few years later, he took on the same place an important role as a lecturer and source of inspiration. Despite this and many other clear indications of Ligeti's central role in new music since 1950, the references to other important European composers of the 20th/21st century are sometimes downplayed in Musicology, to simultaneously emphasize the conservative aspects of some of his statements about music. But does this help us to understand Ligeti's music? It seems to me that the answer to this question is clearly in the negative.

**Keywords:** Ligeti, Adorno, modernism, *Le grand macabre*

This article, which attempts to shed light on this, combines three perspectives:

- firstly, György Ligeti's integration into post-war modernism;
- secondly, individual aspects of the correspondence between him and the philosopher Theodor W. Adorno; and this is a matter, which has often been neglected in research on Ligeti;

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<sup>2</sup> Letter from György Ligeti to Wolfgang Steinecke on March 15, 1957, Archive International Music Institute Darmstadt.



- thirdly, some remarks on the opera *Le Grand Macabre*, this is a work that did not play a significant role in the dialogue with Adorno (because it was essentially written after the philosopher's death), but that has sometimes been characterized as the abandonment of all ideas of modernism.

Allow me to make a methodological preliminary remark that has to do with these three perspectives as well as with a productive distance to composer's statements that are associated with explicit or implicit attempts at legitimization and with corresponding narratives. And experience shows that, in the case of very many composers, they contribute to overly one-dimensional and superficial views of their work.

In the case of Ligeti's statements, there are many factors to be considered at this point. These include the influence of Karlheinz Stockhausen (and probably some other composers as well) on Ligeti and the fact that Ligeti tried to find a place as a composer after his move to Western Europe in the situation of awakening in the 1950s and 60s, which was characterized by many statements on the philosophy of history. But one should not underestimate at this point the influence of the discourse in musicology, for example the claim made at the 1986 Ligeti conference in Graz that Ligeti had "betrayed" the avant-garde.<sup>3</sup>

Ligeti's own statements, which contain a criticism of the avant-garde, have in the last decades more and more been adopted in parts of musicology. And his own music is now often even summarily categorized as non-avant-garde.<sup>4</sup> I don't think this categorization is correct. But above all, I think it is unnecessary and not helpful when it comes to understanding Ligeti's oeuvre.

This should be emphasized all the more because in recent times it has become increasingly apparent (even far beyond Ligeti) what blurred ideas and *dynamics* the term avant-garde has caused in the discourse on music. All too often, it has been accompanied by the assertion or at least implication of something clearly defined or even broadly unified. It should only be used if a sufficiently clear distinction is made between different movements and teleological models are set aside. This is much more common in art history than in musicology. In my contribution, I would therefore like to leave aside the equally dazzling and often polemically used term avant-garde and rather use the much more open concept of musical modernism. Based on the widely prevailing assessment in cultural studies that postmodernism is not anti-modernism either, but rather an edited,<sup>5</sup> productively altered modernism, it is possible to describe Ligeti's reference to it as substantial.

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<sup>3</sup> Cf. Martin Zenck, „Die ich rief, die Geister / Werd ich nun nicht los.... Zum Problem von György Ligetis Avantgarde-Konzeption“, in: Otto Kolleritsch (ed.), *György Ligeti, Personalstil - Avantgardismus - Popularität*, Vienna / Graz 1987, S. 153-173.

<sup>4</sup> Cf. Manfred Stahnke, *György Ligeti. Eine Hybridwelt*, Hamburg 2022.

<sup>5</sup> Cf. Jörn Peter Hiekel, „Postmoderne“, in: *Lexikon Neue Musik*, ed. by Jörn Peter Hiekel and Christian Utz, Stuttgart/Kassel 2016, pp. 514-22.

His longstanding exchange with Adorno (which was in the 1960s more intensive than between the Frankfurt philosopher and any other renowned composer) offers some important clues to this. Taking him into account can help us to better understand a number of crucial perspectives in Ligeti's work as well as the strategies of other composers. In my view, however, this has been nearly neglected in previous Ligeti research.<sup>6</sup>

Adorno has long been perceived not only as the most important theorist of modern music, but to some extent even as the one who was responsible for virtually *all* facets of its development. The gross one-sidedness evident here points to a major problem in the discourse on music since 1950 (this applies above all to aspects such as that of so-called "material progress" and that of "negativity").

In Ligeti's case, a sideways glance at Adorno's musical thinking can be helpful, especially when it comes to forms of composition and, in particular, expressivity. This refers to four important points:

Firstly, the critical distance is constitutive of Ligeti's own position towards a strict handling of serial music (which explicitly referred to Adorno); secondly, his novel strategies of form design can be related to Adorno's idea of a "musique informelle"; thirdly, both personalities' own deep skepticism towards decidedly political music; fourthly, an emphatic understanding of the work, which was essential for Ligeti as for almost all other formative European composers after 1950 and was a *conditio sine qua non* for Adorno in particular. Such aspects can serve to differentiate the generalized talk about the avant-garde (in the singular).

Adorno's thinking became a point of reference for Ligeti as early as 1949, when he read his *philosophy of new music* for the first time - and with enthusiasm. This prelude was then continued in several encounters and in a comprehensive reading of his writings. Above all, his reading experiences were by no means only characterized by approval. As for almost all renowned composers of the second half of the 20th century,<sup>7</sup> Ligeti was highly skeptical of many of the relevant one-sidedness of this writing, namely the Stravinsky view developed in it.<sup>8</sup>

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<sup>6</sup> One of the few exceptions is the following illuminating article: Peter Edwards, "Convergences and Discords in the Correspondence between Ligeti and Adorno", in: *Music & Letters* 96/2 (2015), pp. 229-258. And the relationship between Ligeti and Adorno is also discussed - albeit less based on works, but almost exclusively in relation to the convergences and divergences of theoretical writings - in: Ralph Paland, "... a very great convergence"? Theodor W. Adorno's and György Ligeti's Darmstadt discourse on form", in: Christoph von Blumröder (ed.), *Kompositorische Stationen des 20. Jahrhunderts: Debussy, Webern, Messiaen, Boulez, Cage, Ligeti, Höller, Bayle* (Signale aus Köln, vol. 7), Münster 2004, pp. 87-115.

<sup>7</sup> Helmut Lachenmann once described it as "Adorno's Stravinsky debacle"; cf. Lachenmann, "Affekt und Aspekt" (1982), in: ders., *Musik als existentielle Erfahrung*, pp. 63-72, here p. 65.

<sup>8</sup> On this aspect, which is common in research, see Wolfgang Burde, *György Ligeti. Eine Monographie*, Zürich 1993, p. 140; later (1991), Ligeti even described Adorno's *philosophy of new music* as "party writing" (cf. *ibid.*, p. 266) - which is probably also in line with the view of many other influential composer personalities.

However, in Ligeti's case, such reservations did not prevent him from maintaining a close exchange with Adorno from the mid-1960s until his death. In 2003, Ligeti received the Theodor W. Adorno Prize of the City of Frankfurt - the only composer besides Boulez to do so to date. Like Boulez and Stockhausen, he was one of the comparatively few influential composers after the Second World War about whom Adorno spoke enthusiastically. Above all, however, Ligeti was obviously influenced by many of the philosopher's central ideas, or at least was able to find himself reflected in them. And the latter goes far beyond the historical-philosophical habitus associated with Adorno's name, which influenced some of his sweeping statements.

As early as 1964, Ligeti told Ove Nordwall that he had reconciled with the philosopher and that his earlier, sometimes critical comments about him were now "no longer valid"<sup>9</sup>. For the reasons already mentioned, comments such as these should not be overestimated. And in no way should this statement be understood as a complete convergence of the two positions. Nevertheless, it should be taken seriously.

For the correspondence between Ligeti and Adorno - in particular a letter from Ligeti dated November 4, 1964, published for the first time in the year 2023 in the German journal *Sinn und Form*<sup>10</sup> - demonstrates a clear desire to expand the dialogue, which was primarily characterized by agreement.<sup>11</sup> In this letter, Ligeti explicitly reacts to the text entitled *Schwierigkeiten* (Difficulties), which the philosopher presented in lectures in the same year. It deals with a panorama of different approaches to contemporary composing - and, in line with the title, particularly with their signs of crisis. According to Adorno, this is based on the necessity of music to "first create its own language"<sup>12</sup> and on criticism of tendencies towards what he calls the "liquidation of the individual". In a remarkable way, his criticism is based on an assessment by Ligeti:

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<sup>9</sup> Ligeti to Ove Nordwall on August 2, 1964, Ligeti Collection of the Paul Sacher Foundation Basel; on this and on the Adorno-Ligeti relationship as a whole, see Edwards, "Convergences and Discords" (note 19).

<sup>10</sup> György Ligeti, *letter of November 4, 1964 to Theodor W. Adorno*, published (with a preliminary note by Jörn Peter Hiekel), in: *Sinn & Form* 4/2023, pp. 567-573.

<sup>11</sup> Adorno has referred to Ligeti with some persistence since this time; see, for example, the rather large number of mentions in his lecture series *Funktion der Farbe in der Musik* held in Darmstadt in 1966, in: ders., *Kranichsteiner Vorlesungen (Nachgelassene Schriften*, vol. 17), Frankfurt/M. 2014, pp. 447-540.

<sup>12</sup> Theodor W. Adorno, *Schwierigkeiten*, Part 1: "Beim Komponieren" (1964), in: Adorno, *Impromptus (Gesammelte Schriften*, vol. 17), ed. by Rolf Tiedemann, Frankfurt/M. 1982, pp. 253-273, here p. 263.

“The Hungarian composer György Ligeti, as astute as he was truly original and eminent, rightly pointed out that in effect the extremes of absolute determination and absolute chance coincide.”<sup>13</sup>

The philosopher rarely made more enthusiastic statements about composers whose work shaped music after 1950. What is quoted here represents a central component of Adorno’s own critical reflections on “techniques of relief”<sup>14</sup>. This aspect, which had already formed a main accent in other texts by Adorno and essentially refers to strategies of strict reduction, but at the same time the avoidance of subjectivity, also helps to understand some of Ligeti’s strategies, which have to do with the opposite in a specific way: with exuberant expressivity and subjectivity.<sup>15</sup>

The expressive side that emerges so clearly in the opera *Le Grand Macabre* is an example of this. It seems to me that it has often been treated far too superficially, sometimes simply as a conservative attitude. Yet it’s really extraordinarily novel orientation should be taken seriously. And, like Bernd Alois Zimmermann’s opera *Die Soldaten*, for example, it picks up on a tendency that, on closer inspection, was already developing in the course of the 1950s (although less so in Ligeti himself). To put it pointedly, the operatic works of Ligeti and Zimmermann each in their own way increase that fire of expressivity which to a certain extent was already blazing in some works from the second half of this decade.

Stockhausen’s orchestral work *Gruppen* is a famous example of this. In this respect, Ligeti’s *Le Grand Macabre* appears as a particularly over-pointed commentary on the relevant strategies of a rigid avoidance of the first person, but at the same time as embedded in a very broad tendency (earlier serial works by Henri Pousseur, for example, could also be mentioned here). Ligeti’s opera should therefore not only be perceived with its obvious differences, but also with its correspondences to other approaches, and instead of the idea of a demarcation, the model of a continuation and intensification of already existing potentials should be proposed. With regard to Stockhausen’s *Gruppen*, it is worth recalling that Lachenmann enthusiastically described *Gruppen* as “a kind of *Alpensymphonie*”<sup>16</sup>, and Ligeti’s friend

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<sup>13</sup> Ibid., p. 270f.

<sup>14</sup> Cf. *ibid.* p. 271. (in German: Entlastungstechniken).

<sup>15</sup> Ligeti speaks critically of the “indifference of such structures” and “indifference”, cf. Ligeti “Wandlungen der musikalischen Form” in: *Gesammelte Schriften*, ed. by Monika Lichtenfeld, Mainz 2007, Vol. 1, pp. 85–104: p. 91.

<sup>16</sup> “Aren’t Stockhausen’s groups - a key work of orchestral music today - with their multiple tinkling of alpine bells right into the final sound also a kind of ‘Alpine symphony’, with calls from various peaks in the middle, with obbligato brass and tam-tam thunderstorms, solemn

György Kurtág said: “If Dostoyevsky said that all Russian literature comes from Gogol’s *The overcoat*, then all the music of the 20th century after 1950 comes from Stockhausen’s *Gruppen*.”<sup>17</sup>

The example of the work *Gruppen* and its resonances is brought into play here because the dialog between Adorno and Ligeti is filled with the problem of the I-saying, for which it offers a kind of proposed solution, in a special way. And it focuses both on the particularly strict serial works of the 1950s and on John Cage’s approach. Both are also expressed in Adorno’s text *Difficulties*. However, the distance from the strictest forms of serial composition formulated therein testifies to the knowledge that there were already substantial modifications: Adorno characterizes these as necessary counter-forces to “musical objectivity”. A work like *Gruppen* is probably also meant here. In his contribution “Wandlungen der musikalischen Form”, Ligeti characterized this work in particular as a way out of the one-sidedness of early serial music and probably influenced Adorno not only at this point.<sup>18</sup>

A further convergence of Ligeti’s and Adorno’s contributions concerns the criticism of John Cage. Adorno’s text *Difficulties* calls Cage’s composing “alien to the ego” and also speaks overall of “ego weakness”<sup>19</sup>. And this is precisely what Ligeti’s letter of November 4, 1964 explicitly emphasizes: Ligeti highlights the agreement that exists precisely at this point and characterizes what he sees as the “‘totally insecure’ music of the Cage circle” as a “pretence of security”<sup>20</sup>.

Ligeti’s praise for Adorno’s text *Difficulties* is almost effusive. It is directed at the critical diagnoses as well as the sharpness of the delimitations. And some things in Ligeti’s letter, such as the reference to the termination of the “agreement”, even seem like a kind of anticipatory echo of Ligeti’s later demarcations from certain other compositional positions. All these facets can be seen in the following text excerpt:

“What you [...] said about the contemporary problems of composing, and what was new [...], was so extraordinarily important for me because you expressed thoughts in all clarity which had not been said before and which I myself dimly suspected without being able to formulate them exactly. The diagnosis you made about ‘composing today’ is spot on. In Frankfurt I mentioned to you

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farewells and manifold echoes from all directions?”? - Helmut Lachenmann, “Richard Strauss - ‘Eine Alpensymphonie’” [2002], in: ders., *Kunst als vom Geist beherrschte Magie. Writings*, edited by Ulrich Mosch, Wiesbaden 2021, p. 312f., here p. 313.

<sup>17</sup> Cf. the note in: Jürg Stenzl, *György Kurtág’s Mikrokosmos*, in: Booklet to the CD “György Kurtág. Music for string instruments” ECM 1598 (Munich 1998), no page.

<sup>18</sup> Cf. Ligeti, „Wandlungen der musikalischen Form”.

<sup>19</sup> Adorno, *Schwierigkeiten*, p. 270 and p. 273.

<sup>20</sup> György Ligeti, *letter of November 4*, p. 572. Adorno had also used the word “security” critically in his text.

that in *Vers une musique informelle* some things disturbed me, because there you adopted a somewhat conciliatory attitude towards works which, measured against the level of the entire context of your study, deserved more criticism than approval. In the Vienna lecture, however, there was no trace of that agreement!"<sup>21</sup>

The agreement recognizable here also refers to Adorno's reflection on "techniques of relief" formulated in reference to Ligeti.<sup>22</sup> And just like the text *Vers une musique informelle*<sup>23</sup> mentioned by Ligeti here,<sup>24</sup> the text *Difficulties* can also be linked to Ligeti's composing. This applies to several aspects, each of which also includes moments of critical dissociation:

A first aspect is Adorno's distance from superficial social criticism. In the text *Difficulties*, this applies to the reference to the "degeneration of so-called cultural production into ideology", to the highlighting of "ideological moments" in composing, to the talk of "'deep' pessimism, which they sell at good prices", but also, for example, to the phrase "repetition of what has already been said a hundred times" linked to such world references.<sup>25</sup> The latter is given a political accent by the remark that the "East" is "thoroughly entangled with ideology"<sup>26</sup> a political accentuation.

Ligeti could refer to the latter as a reference to his former homeland of Hungary, but also to the Soviet sphere of power as a whole. According to Ligeti's own interpretation, this perspective also plays a role in his opera. Its piercingly critical side seems to heed the reservations highlighted by Adorno. At least at times, Ligeti's skepticism towards direct political music was combined with the conviction that musical compositions could contribute to raising awareness of social contexts. His reading of Adorno may also have influenced him in this respect. In 1964, he characterized Adorno's sociology of music as "a GLORIOUS book" and as "the sharpest and most valid analysis of the sociological situation"<sup>27</sup>.

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<sup>21</sup> Ibid, p. 571.

<sup>22</sup> Adorno himself attributes the term primarily to Arnold Gehlen, cf. Adorno, *Schwierigkeiten*, p. 265. He even speaks here of "a history of musical attempts at exoneration".

<sup>23</sup> Cf. Gianmario Borio, *Musikalische Avantgarde um 1960. Entwurf einer Theorie der informellen Musik*, Laaber 1993, and cf. also Ligeti's remark to Burde about a meeting with Adorno and Boulez before completing the contribution: "I was too modest, I could not say, Professor, I have already composed something like this, in *Atmosphères*, but perhaps I should have done it." - quoted from Burde, *György Ligeti*, p.140.

<sup>24</sup> Cf. Adorno, „Vers une musique informelle" (1962), in: *Quasi una fantasia. Musikalische Schriften II* (Gesammelte Schriften 16), Frankfurt am Main 1978, pp. 493–540.

<sup>25</sup> Cf. Adorno, *Schwierigkeiten*, pp. 253, 254 and 255.

<sup>26</sup> Ibid, p. 254.

<sup>27</sup> Ligeti in a letter to Ove Nordvall from June 1964, quoted in Burde, *György Ligeti*, p. 266.

A second aspect is the “attempts to continue speaking in the traditional language of music”, which Adorno characterized as “impotence”<sup>28</sup>.

On the occasion of the example of Jean Sibelius mentioned in the text *Difficulties*, Ligeti explicitly signals his agreement with this criticism, which has long been familiar from Adorno’s earlier writings.<sup>29</sup> It is a matter of differentiating himself from the traditionalism of some parts of newer music (as we know, this is a particularly difficult terrain and Adorno’s Sibelius polemic has also often been criticized for good reasons).

A third aspect is the skepticism towards the possibility of a permanently experimental attitude, in this case specifically Adorno’s consideration, based on Bartók, Strauss and Wagner, that “unique extravagances” are “neither to be repeated nor imitated by others”<sup>30</sup>. This aspect can be related to the perhaps at first glance disturbing otherness of a work such as *Le Grand Macabre* compared to the gesture of almost all of Ligeti’s earlier works. But much of this can also be found in later works.

The already mentioned reflections on Cage’s work mark the fourth aspect. For both Adorno and Ligeti, this criticism always refers to the influence of Cage’s ideas on other approaches (including some of Stockhausen’s activities).<sup>31</sup> And it is precisely this that affects the reflections on the emphatic concept of the work: Adorno is polemically directed against those new tendencies that aim at a decided broadening of the concept of music. With regard to them, he speaks of the “preponderance of the trappings, of the extra-musical in the most recent music” and of music that “through noise, through bruitistic effects, then through optistic, especially mimic means” wants to “make up for something of the immanent development that is blocked for the time being”.<sup>32</sup>

All these aspects of Adorno’s critical diagnosis obviously had a considerable effect on Ligeti. They encouraged him to continue on his path to constantly produce something new and individual in order to provide answers to the question of his own language, which Adorno so clearly emphasized. Adorno’s authority was evidently even greater for Ligeti than for most of the other leading composers of his generation.

The fourth of the aspects just mentioned, supported by Cage criticism, is particularly striking. However, this aspect is by no means specific to define Ligeti’s own position or even to justify a rejection of ‘the’ avant-garde as a whole. For in terms of the emphatic understanding of the work, Ligeti and

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<sup>28</sup> Adorno, *Schwierigkeiten*, p. 256.

<sup>29</sup> Cf. Ligeti, letter of November 4, 1964 to Adorno, p. 571.

<sup>30</sup> Adorno, *Schwierigkeiten*, p. 258.

<sup>31</sup> Cf. *ibid.*, p. 271, the assessment that Cage’s piano concerto was an “extraordinary shock”, but that a continuation of this path was impossible.

<sup>32</sup> *Ibid.*

Adorno are not outsiders in the field of newer and newest music in Europe, but part of a broad artistic mainstream. At this point, almost all influential European composers of the last six or seven decades are a part of this tendency. And they all have a certain share in the fact that this tendency towards the classical concept of art still dominates European- and US- festivals or concert series with contemporary music.

Particularly when it comes to questions of what is comprehensible the differences between the various personal styles of the influential personalities in this context are enormous. And yet Ligeti is on a par with composers such as Boulez, Stockhausen, Lachenmann and even Nono (and countless others) in that they all combine the idea of the necessity of consolidating the character of the work with a pronounced sense for the exploration of new creative possibilities.<sup>33</sup> The rituals of demarcation that music journalism has cultivated at this point are inappropriate and not helpful for the discourse.

With regard to *Le Grand Macabre*, one can ask whether it contradicts the idea of unchallenged seriousness, so essential for Adorno (as for all the other composers mentioned), when grotesque elements emerge that temporarily suspend another seriousness, namely that on a material level. In relation to Ligeti's own work *Aventures*, these are far more than just the repetitions of "extravagances" criticized by Adorno. But at the same time, they develop a form of text presentation that betrays an effort to overcome the danger of one-dimensionality invoked in Adorno's text *Difficulties*. And in the sense of the encouragement emanating from this text, they strengthen the vital counter-forces to all structural moments aimed at objectification. In Ligeti's opera, however, this extends to the "relief techniques" emphasized by Adorno, such as the twelve-tone technique. And the mechanical, deliberately sober repetitions that play an even greater role in some of Ligeti's later works, probably inspired by minimal music, also lead to a different form of "relief".

With a view to Ligeti's opera and at the same time to convergences with Adorno's writings, another reading experience is worth mentioning. "His

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<sup>33</sup> However, this aspect points to a matter of course for many composers and led to many gestures of decisive dissociation, especially from some of Cage's relevant ideas. Similar to Bernd Alois Zimmermann, but in contrast to many other influential personalities of modern and contemporary music, these even left their mark on Ligeti. He created several pieces that "flirt with the subversive spirit of the Fluxus movement. Cf. Dirk Wieschollek, entry "Ligeti, György", in: *Komponisten der Gegenwart* (2007); <http://www.nachschlage.NET/document/17000000342> (last accessed on 25.1.2024); the author characterizes them "as exaggerated reflections of musical-aesthetic positions of the time" and offers individual striking descriptions of these pieces. See also the chapter "Fluxus and the Absurd (1961-62)", in: Benjamin R. Levy, *Metamorphosis in Music. The Compositions of György Ligeti in the 1950s and 1960s*, New York 2017. However, these are all secondary works within his overall oeuvre.

most beautiful book for me is the book on Mahler's music,"<sup>34</sup> Ligeti said in 2003. It is not difficult to make connections between this writing by the philosopher, which was the most inspiring for many composers of the time, and many of Ligeti's strategies. Mention should be made here of the fact, emphasized by Hermann Danuser, that the Mahler book, together with the essay *Vers une musique informelle*, was probably one of the texts by Adorno that inspired post-serial music to a significant degree.<sup>35</sup> <sup>36</sup> (And this also applies to many other composers besides Ligeti, not least Helmut Lachenmann).

In Ligeti's case, for example, the productive inconsistency and instability of Mahler's music emphasized by Adorno comes to mind. A work such as *Le Grand Macabre* can be related to this aspect. I am thinking here of those passages in which the outwardly powerful is undermined by ridiculous or humorous moments.

With a view to the Mahler experience conveyed by Adorno, another aspect of Ligeti's music should also be pointed out in a more general and comprehensive sense, which also allows side glances at numerous other composers: they all operate in varying doses and beyond the decorative with certain traces of memory or associations as well as with vague moments that can only be guessed at. In each case, the aim is to make the withdrawal of clear references and unambiguous attributions of meaning, i.e. moments of negativity, compositionally fruitful without drifting into the realm of the arbitrary or unspecific. The often-discussed requiem traces of Ligeti's orchestral composition *Atmosphères* are relevant here.<sup>37</sup> But also, his opera and other works offer some imaginary moments – each in a completely different way. And the same applies to those moments that are to be understood entirely in the sense of an important facet of Adorno's Mahler interpretations: as a "veiling of one-dimensional affects" or as an understanding of music that "does not allow itself to be forced into a decision"<sup>38</sup>.

In the case of Ligeti it was not the Mahler book, which he received enthusiastically, nor the essay *Vers une musique informelle*, which was also important to him, but only the *Difficulties* text that encouraged him to describe his own compositional thinking in direct dialogue with the philosopher and

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<sup>34</sup> G. Ligeti, "Erinnerung an Adorno" [2003], in: Ligeti, *Gesammelte Schriften*, vol. 2, pp. 505-507, here p. 507.

<sup>35</sup> Cf. Hermann Danuser, „Musikalische Physiognomik bei Adorno“, in: *Adorno im Widerstreit. Zur Präsenz seines Denkens*, ed. by Wolfram Ette, Günter Figal, Richart Klein and Günter Peters, Freiburg/München 2004, p. 236.

<sup>36</sup> Lachenmann, for example, spoke of Adorno's "Mahler lessons"; cf. Lachenmann, "Affekt und Aspekt", p. 65.

<sup>37</sup> Cf. Wolfgang Marx, *The Concept of Death in György Ligeti's Oeuvre*, in: *György Ligeti*, pp. 71-84.

<sup>38</sup> Th. W. Adorno, *Mahler. Eine musikalische Physiognomik (Gesammelte Schriften*, vol. 13), ed. by Gretel Adorno and Rolf Tiedemann, Frankfurt/M. 1971, p. 173.

even in relation to his reflections.<sup>39</sup> There is no question that the enthusiastic emphasis on its importance contained in this article contributed to Ligeti's courage. Allow me to conclude with a few further brief examples contained in Ligeti's important letter to Adorno of November 1964.

These include a significant description of the organ piece *Volumina*. It shows the extent to which Ligeti's interest in Adorno was directed towards his reflection on world references as well as those of the newer arts. The point of reference is a reference in the *Difficulties* text to the silencing that Adorno sees realized in Samuel Beckett. Ligeti's reaction to this accentuates remarkably clearly the aspect of negativity that is often associated with Adorno's name. The composer explicitly characterizes his work *Volumina* as a (I quote) "negation of music"<sup>40</sup>, only to link this negation to Beckett and state: "I often thought of him while composing the piece".

Another of Ligeti's accentuations refers back to his work *Aventures* and documents how productive, in the composer's view, the idea of negation could be, which in musical discourse was often seen all too much as a mode of destruction rather than an opening: "[...] in *Aventures* I avoided any comprehensible text, which is what made the non-text comprehensible in the first place."<sup>41</sup> With this interpretation, he consciously or unconsciously ties in with an explanatory pattern of Adorno's that has been common since the *philosophy of new music*.

Similarly revealing is Ligeti's attempt to include his own *Requiem* in the reflection together with *Aventures*, and thus also a work explicitly related to the theme of death. For him, as the composer explains, it was about "abolishing the ideological content of the text through musique irrégulière; the death in question is a death of music."

Can thoughts like these also be applied to later works? There is much to suggest that they are. In *Le Grand Macabre*, this applies not only to the broadening of strategies for dealing with absurd and grotesque moments, but also to the tendency to over-point and to many extremely exuberant elements that point more strongly to tradition. But if one reckons, as Ligeti did in his trenchant statement directed at Beckett and his own work *Volumina*, with the "death" of music as a possible creative path, then it does not seem absurd to understand the absurdity of the layering of other musical segments in opera in a comparable way.

In his letter to Adorno, Ligeti, one could say, accomplishes *in nuce* what his compositions, including his opera, also accomplish: he takes up the philosopher's ideas in a significant way, namely those of a "musique informelle", in order to think them through in a way that is as productive as it is idiosyncratic.

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<sup>39</sup> Ligeti, letter of November 4, 1964 to Adorno), p. 573

<sup>40</sup> Ibid.

<sup>41</sup> Ibid.

But this has always been part of how composers react to philosophy: Usually this takes place, in their own statements, but even more so on an artistic level, more freely and speculatively than with a view to complete congruence - which would be an illusion anyway.

In the present case, this includes an interpretation proposed in Ligeti's letter, which accentuates the world-related and, as can be shown, can even be particularly strongly related to the opera. It connects the *Requiem* with other facets of the philosopher's critical reflections on the present.

"I chose for a new composition a text that is par excellence ideological, namely that of the Catholic requiem mass. Of course, the choice of text has nothing to do with religion (this is as alien to me as any other ideology). For certain aspects of the fear of death and mourning, the aforementioned text was welcome to me (not least the neutrality of the extinct and yet comprehensible Latin language, which can be mutilated more than a living language, was handy - but precisely in the opposite sense than in the case of *Oedipus Rex*). This composition inevitably becomes Ein Jüdisches Requiem - if you allow me this bon mot, more precisely: mal mot."<sup>42</sup>

The insistence with which Ligeti explicitly describes the religious here as "ideology" may come as a surprise. It has to do with his basic attitude as a composer, which is also expressed in his 1963 self-characterization as a "composer without ideology [...]" (Stravinsky is the ideal for me)<sup>43</sup>. All of this points to the ideology-critical interpretation patterns of several of his statements. And the same applies to his recommendation that the *Requiem* should be understood as a politically tinged work directed against both the Nazi regime and the Soviet system.<sup>44</sup>

However, it is precisely this possible interpretation that underlines the references of the *Requiem* to *Le Grand Macabre*, which the composer himself also emphasized. However, the critical element in this music theater work, which Ligeti even explicitly described as a "political piece"<sup>45</sup>, emerges much more clearly than in the *Requiem*. It brings the contradictions of the underlying play by Ghelderode to a head. However, this contributes significantly to the distance between Ligeti's composition and conventional opera.

This has a lot to do with the gesture of "upheaval", which the composer himself probably perceived as early as 1957 as a productive development of previously undreamt-of energies. This makes it all the more tempting to speculate

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<sup>42</sup> Ibid, p. 572f.

<sup>43</sup> Ligeti in a letter to O. Nordwall of November 1963, quoted from Burde, *György Ligeti*, p. 266.

<sup>44</sup> Cf. Marx, *The Concept of Death in György Ligeti's Oeuvre*, esp. pp. 72f.

<sup>45</sup> Thus, in a statement made to Eckhard Roelcke in 2003, cf. György Ligeti / Eckhard Roelcke, »Träumen Sie in Farbe?«. György Ligeti im Gespräch mit Eckhard Roelcke, Wien 2003, p. 172.

whether Adorno, who was an extraordinarily important dialog partner for him at times, would have seen it the same way if he had lived to see *Le Grand Macabre*. This question can hardly be answered. Presumably, however, the doubts and critical comments that Ligeti later expressed about his own opera<sup>46</sup> echo precisely those demands on art that he agreed on with the philosopher and which he consolidated, as it were, through his dialog with him.

The opera, like the great music theater pieces by composers such as Zimmermann, Nono, Stockhausen or Lachenmann, which were also created in the second half of the 20th century, is one of those relevant works of art that show the courage to move away not only from the often very general maxims and criteria of philosophical provenance, but also from audience expectations and many conventions. This courage is not to be confused with simple insouciance or catchiness. Rather, it is borne by the will to call for a perception of art that moves far beyond the familiar.

And it converges with Ligeti's persistent reservations about those ways of categorizing his own artistic activity with which he - like all four of the other composers just mentioned - was very often confronted. Behind all of this is probably the conviction that works of art can be more diverse, more differentiated and, as it were, more intelligent than simple patterns of interpretation, possibly based on historical philosophy or ideology. This applies not least to those patterns of interpretation that are filled with what the music journalist Holger Noltze described in a book as "lightness lies"<sup>47</sup>. This tendency also includes the sometimes-expressed idea of wanting to understand a work such as *Le Grand Macabre*, which is exuberant and highly vital on many levels, as a composition that is 'against' modernism. And I would argue that the same can also be said of many of Ligeti's subsequent works. The fact that the composer accepted the prestigious and highly regarded Adorno Prize in Frankfurt three years before his death is by no means surprising in this respect either.

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<sup>46</sup> Cf. for example Ligeti's comments on the first version, in: Denys Bouliane, György Ligeti, "György Ligeti in conversation with Denys Bouliane", in: *Neuland Jahrbuch*, vol. 55, ed. by Herbert Henck (1984/85), p. 82.

<sup>47</sup> Cf. Holger Noltze, *Die Leichtigkeitslüge. Über Musik, Medien und Komplexität*, Hamburg 2010.

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## GYÖRGY LIGETI: *HAMBURGISCHES KONZERT FÜR HORN UND KAMMERORCHESTER MIT 4 OBLIGATEN NATURHÖRNERN.* ASPECTS OF A CRYSTALLINE MICROTONALITY

MANFRED STAHNKE<sup>1</sup> 

**SUMMARY.** This is a study on the microtonal aspects of György Ligeti's *Hamburgisches Konzert für Horn und Kammerorchester mit 4 obligaten Naturhörnern*, with special reference to its relationship with the American composer Harry Partch. The special mixture of equal temperament versus just intonation is analyzed for longer passages and ad hoc chords in the concept of Ligeti. The movement "Choral" is confronted with Harry Partch's idea of "tonality flux". The "*Hamburgisches Konzert für Horn und Kammerorchester mit 4 obligaten Naturhörnern*" by György Ligeti, composed in 1998-2002<sup>2</sup>, joins a long chain of exploratory forms of thought in his compositional work long years before he had pondered meloharmonics that would illuminate the great theme of tonality in a novel, personal way. In the *Horn Trio* (1982), melodies containing natural tones appear for the first time in the movement "Alla Marcia." Previously, in the same work, Ligeti used the 11th harmonic as a precise quarter tone. Yet in the *Horn Trio*, these microtonal events are transverse to the other voices of violin and piano. Ligeti spoke of three "autists," each living in his world of moods/tunings. In the works that followed, microtones take up an ever wider space, up to the *Piano Concerto* (1985-88) with 5<sup>th</sup>, 7<sup>th</sup> or 11<sup>th</sup> harmonics in trumpet, horn and trombone, and then to the *Violin Concerto* (1990-92), where two solo satellite strings from the orchestra, violin and viola, are retuned in natural interval relationships. The *Viola Solo Sonata* (1991-94) contains in the first movement "Hora lungă" a sign world new to Ligeti for natural thirds, natural sevenths and the 11<sup>th</sup> natural tone. He adopts these signs for the *Hamburgisches Konzert*, on which we will now focus.

**Keywords:** Ligeti, microtonality, Hamburgisches Konzert

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<sup>2</sup> The score of the *Hamburg Concerto*: Schott Music. Example of a recording: The Ligeti Project IV, Marie Luise Neunecker – Horn, Reinbert de Leeuw, ASKO Ensemble, 2003.



## The Sketches

We find in the “*Hamburgisches Konzert ...*”, hereafter *Horn Concerto* for short, a double world: On the one hand, non-Central European influences flow into this work to a considerable degree. On the other hand, it is embedded in many inventions from Western culture, from the Renaissance to the end of the 20<sup>th</sup> century. To describe this, I turn shortly to Ligeti’s sketches, which Alessio Elia translated from Hungarian and annotated in his dissertation.<sup>3</sup> Here Ligeti notes down, as it were as a notepad, possible mental connections during the creation of the work. He says about his sketches in general, in order to prevent misunderstandings:<sup>4</sup>

“I write my sketches in pencil, at first only approximately, as words that are only addresses for me and stand for certain musical thoughts. If you read “Scriabin” in one of my sketches, it doesn’t mean “Scriabin,” but something that occurred to me in Scriabin’s 10<sup>th</sup> Sonata. These are computer addresses, so to speak.”

Alessio Elia, at the time a composition student of Ligeti’s former student Sidney Corbett in Mannheim, presented a meticulous philological-sonological analysis of the *Horn Concerto* in his doctoral dissertation in 2012. Here we will attempt to trace Ligeti to the finest ramifications of his constructions in the *Horn Concerto*.

A general search by Ligeti for music that would not necessarily and immediately belong to the Western European avant-garde context is reflected in his mentions of non-European or non-central European music. His sketches for the *Horn Concerto* do contain names of historical or still living composers of the Western periphery, but also very substantial references to distant peoples. Ligeti, however, vehemently opposes any classification of his works as “world music”.<sup>5</sup>

“Today, “world music” is such a big fashion. If you go to Tower in New York or FNAC in Paris, you have sections like “World Music” or “Musique du monde.” That’s an invention of the record industry. I’m against that, because that’s where certain European-American clichés are commercially enriched by exoticisms, whether from Trinidad or from Guinea or from Bali. I am against “world music” and against crossover - that would be another commercial trivialization.”

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<sup>3</sup> Alessio Elia (Diss. 2012, published 2022)

<sup>4</sup> Wilson / Ligeti (1998), 45. Interview from April 15, 1998.

<sup>5</sup> Wilson / Ligeti (1998), 45

It is with this background that we must read the following excerpts from Ligeti's sketches for the *Horn Concerto*, in which he mentions places, peoples and their music. Alessio Elia's translations are in square brackets.

Ligeti mentions Central African and Ethiopian polyphony several times:

"Aka" (Central African Republic),<sup>6</sup>

"Pigmeus polifón erdő (Aka, stb.)" [*Pigmy polyphony of the Forest (Aka, etc.)*]

"AKA - PIGMY SZIGNÁLOK" [*AKA – PYGMY SIGNALS*],<sup>7</sup>

"Banda Linda + Tonga + Etióp polifón erdő" [*Ethiopian polyphony of the forest*],<sup>8</sup> "Baka" (a neighboring people of the Aka).<sup>9</sup>

The alphorn is mentioned from the following areas:

"Bucium" (alphorn) among the "románok, huculok" [*Romanians, Hutsuls*], the Hutsuls in the Carpathians,<sup>10</sup>  
the alphorn in the Swiss "Muota Valley".<sup>11</sup>

In addition, Ligeti notes scattered other musical suggestions:

"Blues",<sup>12</sup>

"Balkani szekundok" [*Balkan second*],<sup>13</sup>

the mountain people of the "Ma" from Vietnam,<sup>14</sup>

Peoples from New Guinea: "Bougainville",<sup>15</sup> as well as from the middle "Sepik" river.<sup>16</sup>

Not to be identified is "Bu - Ky 4,8".<sup>17</sup>

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<sup>6</sup> Elia 289, 292. The Aka polyphony was introduced to Ligeti in the early 1980s by ethnologist and horn player Simha Arom.

<sup>7</sup> Elia 292

<sup>8</sup> Elia 291. The music of the Banda Linda was the essential discovery of Simha Arom. In 1979, Ligeti student Roberto Sierra had brought the record to the class. "Tonga" refers to a people in Zambia and Zimbabwe, not the Pacific Island. "Ethiopian music" also already flows into the beginning of the *Violin Concerto* with the retuned satellite strings, according to Ligeti, private communication.

<sup>9</sup> Elia 292

<sup>10</sup> Elia 289, 292, 293

<sup>11</sup> Elia 292

<sup>12</sup> Elia 292

<sup>13</sup> Elia 293. This style of singing, which produces hard beating, is often found in the Balkans. It is incorporated as a central idea in Ligeti's *Horn Concerto*, for example in the parallel seconds of the natural horns.

<sup>14</sup> Elia 292

<sup>15</sup> Elia 292. Ligeti collected this music as early as the 1980s.

<sup>16</sup> Elia 292

<sup>17</sup> Elia 292

Ligeti sometimes links names from Western culture with descriptive details such as “metallic spectra”, “sighs”, “chaos”:

- “FÉMES SPEKTRUMOK?” [METALLIC SPECTRA]:<sup>18</sup>  
 “ 1. TÉTEL = LASSÚ (‘Grisey’)” [1st PART = SLOW (‘Grisey’) ],<sup>19</sup>  
 Murail,<sup>20</sup>  
 Vivier.<sup>21</sup>  
 Partch<sup>22</sup> (the number 43 appears before, probably a reference to his tonal system).  
 Schubert “C-dur Quintett lassú tétel” [slow movement] Adagio.<sup>23</sup>  
 Weber.<sup>24</sup>  
 Haydn “Schöpfung = Chaos” (written with the German title).<sup>25</sup>  
 Gesualdo:<sup>26</sup>

E.g. 1

diss – kons váltás  
 [dissonance – consonance change]

←

Lassú tétel – Gesualdo + sohajok, SPEKTRAL, fêmes  
 [Slow movement – Gesualdo + sighs, SPECTRAL, metallic]

**Mention of Gesualdo in the context of Ligeti’s sketches,  
 transcription Elia, his translation again in square brackets.**

## 1. The Mountains

When Ligeti had just premiered his *Horn Concerto*, I talked with him about C.M. von Weber, among other things. In this context, I invented a word: “Das Waldische”. He apparently felt this to be an apt word not only for Weber, but more broadly for his own engagement with the horn. Switzerland, the

<sup>18</sup> Elia 289

<sup>19</sup> Elia 289. Gérard Grisey

<sup>20</sup> Elia 289, 292. Tristan Murail

<sup>21</sup> Elia 289, 292. Claude Vivier

<sup>22</sup> Elia 294, 295. Harry Partch, U.S. composer, instrument maker, and (re)inventor of a natural tuning system, lived from 1901-1974. Ligeti visited him in California in 1972.

<sup>23</sup> Elia 291. Franz Schubert

<sup>24</sup> Elia 292. Carl Maria von Weber

<sup>25</sup> Elia 291. Joseph Haydn

<sup>26</sup> Elia 291. Carlo di Gesualdo

Carpathians, Vietnam, New Guinea, and Africa with music from the forests all come together here. In a 1998 interview with Peter Niklas Wilson, Ligeti said of the emerging *Horn Concerto*:<sup>27</sup>

I am now writing a horn concerto. I use valve horns and natural horns - because of the beauty of the overtones, which I then do not have corrected with the right hand. I've already done that in the Horntrio. But where does that come from? From my childhood experience... When I was three years old, I spent three months in a small town in the Carpathians with an aunt. A Hungarian-speaking area, but there were some Romanians there. And there I heard for the first time the *bucium*, the Romanian alphorn, slightly different in form than in Switzerland, but identical in function. It goes up to the 16th overtone. I heard it with amazement, and I got my love for natural tunings when I was three years old, through living folk music.

Numerous recordings from the Alps or the Carpathians show, despite the actual natural overtones, many deviations, beatings which in ensemble playing give the charm of this music. This becomes a supporting component in Ligeti's work. Other elements from the "forest" also find their way directly into the *Horn Concerto*, see for example the "signal" idea: apart from Africa, alphorn or *bucium* are also used in the Alps or Carpathians to signal across large spaces. Virtuoso folk music such as from the Swiss Muota Valley, finds its way into horn solo passages. Ligeti also writes quasi-folk songs, for example in the "Choral" of the 2<sup>nd</sup> movement, perhaps close to Carpathian melodies?

Ligeti obviously began in his mind with instrumentation where the four natural horns do not appear at first.<sup>28</sup> In the sketch B6/2 transcribed by Alessio Elia, Partch, retuned harp and harpsichord, as well as "toy instruments" play a role. Since the 1980s, when in Ligeti's composition class there was much speculation about Partch with his natural intervals. Ligeti was also deeply influenced by alternative meloharmonic possibilities. Harmonics, aside from first approaches in the 50s, appear with him, as mentioned, in the *Horn Trio*. In the *Horn Concerto* sketch B6/2, referred to, Ligeti apparently speculates about a multi-universe of tuning systems. His orchestra should contain an instrumental section for microintervals (Alessio Elia always places his translations from Hungarian in italics and in square brackets):

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<sup>27</sup> Wilson / Ligeti (1998), 45

<sup>28</sup> Elia 295

SOLO KÜRT [SOLO HORN]		VONÓSOK: [STRINGS:]	
zenekar: [orchestra:]		Vni 1	
mikro- inter- valli- kus	[	altfuvola [Alto flute]	
		angolkürt [English horn]	
		klarinet (b+a) [Clarinet (B b+A)]	
		bass kornet [Bassetto horn]	(basszusklarinét) [(Bass clarinet)]
		Fagott [Bassoon]	
		2 kürt [2 Horns]	Vni 2
		1 trombita [1 Trumpet]	Vla
		1 tenor posaune (!) [1 tenor Trombone (!)]	Vc
TOY INSTRUMENTS ←	2 ütő [2 drumsticks] <sup>153</sup>		Cb (4 vagy [4 or
esetleg áhangolt hárfa [perhaps detuned hárfa]	...?!...		5 húr ?) 5 string <sup>154</sup>
és cembalo [and cembalo]			solí vagy [solí or]
2 SLENDRO <sup>155</sup> -			kis tutti 4 -4 -3 -3 +2
			[few tutti]
			PARTCH szerint [according to PARTCH <sup>157</sup> ]

B6/2

Ligeti's sketch with an alternative set of instruments, transcription by Elia.

SYZYGYS is a pop duo from Japan with composer Hitomi Shimizu, who always tunes her keyboard in Partch's 43-tone scale. Louise Duchesneau told me in 2022 that in sketches for the *Violin Concerto*, Ligeti mentions the title of a Shimizu work, *Fauna grotesque*, which Mari Takano brought to the composition class.<sup>29</sup>

<sup>29</sup> Duchesneau 139, footnote 70. *Fauna grotesque* can be heard at <https://www.youtube.com/watch?v=HkYWccNb0-4> (visited Dec 27, 2023). See also Elia 295. In his footnote 156 he describes the context of the word syzygy: "SYZYGYS is a word which has different meanings according to the field it is applied. In *Astronomy* it has the following meanings:

- Either of two points in the orbit of a celestial body where the body is in opposition to or in conjunction with the sun.
- Either of two points in the orbit of the moon when the moon lies in a straight line with the sun and Earth.
- The configuration of the sun, the moon, and Earth lying in a straight line.

In poetry syzygy is the combining of two feet into a single metrical unit in classical prosody. In mathematics, a syzygy (from Greek συζυγία 'pair') is a relation between the generators of a module *M*."

Ligeti's sketches are without date, so we don't know when he switched to the present version with four natural horns and to the classical double horn F/Bb, omitting all toy instruments and the retuned harp / harpsichord / electric instruments. I recall that at one point he mentioned the soloist Marie Luise Neunecker's desire not to play a natural horn herself because it required a style of playing with which she was unfamiliar.

Ligeti then chose a meloharmony that is binary between 12-tone temperament and just intonation. This gives him a wide range of possible exotic intervals anyway. He can thus easily do without electric piano, electric organ, retuned harp, retuned harpsichord.

By using the naturals 2, 3, 5, 7, 9, 11, 13, 15 for the five horns (including octaves 4, 8, 16; 6, 12; 10; 14), Ligeti obtains a very wide range of pitches, some of which are far removed (up to a quarter tone) from the tempered tones. Ligeti calculates very precisely with the deviations, and he invents signs for the 5<sup>th</sup> harmonic, natural third (-14 cents), the 7<sup>th</sup> harmonic, natural seventh (-31 cents), the 11<sup>th</sup> harmonic (-49 cents, almost a quarter tone), and the 13<sup>th</sup> harmonic (+41 cents, in Ligeti's case -59 cents, because he notates the next higher semitone). Apart from that, Ligeti uses microtones in the rest of the ensemble. Thus, he by no means has a "microtonal system", neither in natural nor in tempered tuning, unlike Harry Partch, to whom we must refer briefly.

## 2. The Other Clochard

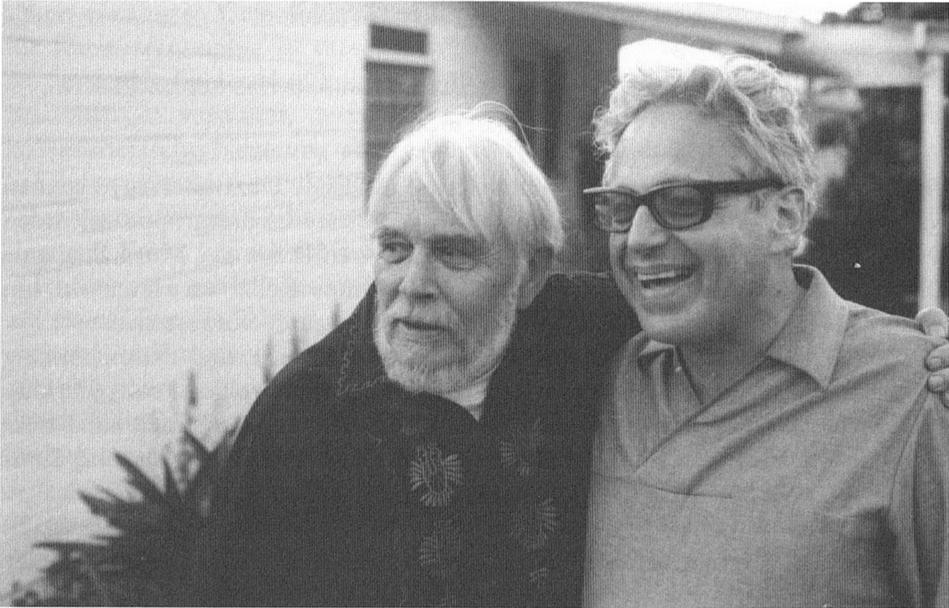
In 1979-80 I studied with Ben Johnston, a friend, collaborator and patron of the American maverick Harry Partch, and became intensively acquainted with his music and theory. Harry Partch, the composing hobo (only in his 30s) and instrument-tinkering philosopher, lived from 1901 to 1974. The first German performance of one of his works with homemade instruments (the dance opera *The Bewitched*) did not take place until 1980 in Berlin. In the years before, Ligeti had propagated bringing Partch to Germany. The first attempts failed due to the complexity of such an undertaking, because Partch's instruments are sometimes so large (Marimba eroica) that they only fit into the garage at Partch's own home, which was left to him by Betty Freeman. Ligeti told of this after his Partch visit in 1972.<sup>30</sup> In the Ligeti volume of writings, there is a beautiful picture of these two part-twin / non-twin mavericks, these

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<sup>30</sup> Excerpt from a conversation with György Ligeti on March 5, 2001, in: Stahnke (2017), 294ff

unconditional musicians / music explorers.<sup>31</sup>

**Picture 1**



Harry Partch und György Ligeti 1972, Photo von Peter Andersen (Schott Music, Mainz).

Anyone who listens to Partch's music can hardly escape the peculiar appeal of his harmonicity. How it comes about, however, remains hidden from us at first. There is as yet no notation for this music beyond Partch's own intervallic proportional notation. Partch himself made a point of burning bridges to the contemporary music of the West.

In these brief remarks on Harry Partch, I will try to make his music perceptible to us in outline. Since Partch, on closer inspection, took chords familiar to us as the starting point of his harmony, nothing is more obvious than to first notate the basic structure of his chords in a way familiar to us. However, we will have to take into account that Partch firstly wanted non-tempered

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<sup>31</sup> Ligeti (2007), 469. There from 462ff detailed, sometimes whimsical comments by Ligeti on Partch with some errors: 463 Ligeti claims that Partch lived as a tramp for 60 years (this was only true for the time of the Great Depression in the 1930s into the early 40s). 464 he thinks that the 43-tone scale results from down-transposed harmonics (but Partch calculates harmonics plus undertones). In 465 he forgets the 11th tone when describing O- and Utonality and stops at the ninth chord. 465/466 he knows nothing about the cello neck of Partch's "Adapted Viola" and speaks of a commercial viola.

intervals, secondly extended his harmony up to the interval 11/8, which is exotic for us (the “natural tritone”). Certainly, Partch has set up obstacles for us on the way into his private crystalline labyrinth. On the other hand, he offers paths in the form of numerous references to European music-theoretical thinking from the Greeks to the dualism of the 19th century, the mirror thinking between major and minor. For his “Tonality Diamond” he invents the words “Otonality” for his extended “major”, referring the overtone series and “Utonality” for its inversion, the undertone series.

The core of this goes back to the dualistic way of thinking in the 19th century, which Arthur von Oettingen<sup>32</sup> and Hermann von Helmholtz<sup>33</sup> took over from Moritz Hauptmann.<sup>34</sup> Partch, the self-made music theorist, had found Helmholtz in an English translation by Alexander John Ellis<sup>35</sup> in a California library. Helmholtz and von Oettingen like Hauptmann assumed integer interval ratios in overtones and undertones. This substantially nudged Partch’s Just Intonation thinking. The entire U.S. community of this school of thought is initiated by Hauptmann-Oettingen-Helmholtz-Partch. Ellis invents in the Helmholtz book translated by him complementary the cent calculation, where he divides the octave into 1200 logarithmically equal smallest steps, “cents”. Partch often explains his Just Intonation in his book *Genesis of a Music* using the cent values for the pure intervals.<sup>36</sup> Ligeti had heard of this and went to see Partch in 1972 in the course of his visit to the new computer music center at Stanford University.

Already the title of Partch’s book gives some information: He does not call it “Genesis of a New Music”, because Partch does not regard the principles of pure tuning and “corporealism” as new. Partch’s corporealism means emotional and directly physical “tangibility” and goes back to the ancient Greeks.

Just how old this ‘new’ philosophy actually is having since been a continual revelation to me.<sup>37</sup>

Partch avoided emphasizing just intonation in the book’s title. He is not at all concerned with pure, simple intervals. *Genesis of a Music* means inventing a music (out of many possible ones) as opposed to inventing within the framework of an existing musical culture.

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<sup>32</sup> von Oettingen (1866/1913)

<sup>33</sup> von Helmholtz (1863)

<sup>34</sup> Hauptmann (1853), 34

<sup>35</sup> von Helmholtz (1863), translated, expanded by Ellis (1895)

<sup>36</sup> Partch (1974), 127-179

<sup>37</sup> Partch 4

Mine is a procedure more of antithesis than of simple modification.<sup>38</sup>

The creative individual, in developing the man-made ingredients and in examining the God-given, finds the way to a special kind of truth.<sup>39</sup>

Partch described his system as a “play of relative consonance against relative dissonance.”<sup>40</sup> It is in this, and not in the possible autistic ringing of pure intervals, that the exotic appeal of Partch’s compositions lies.

Partch also mentions American pop music in this context, which, “despite some shortcomings, owes nothing to a half-educated and academic Europeanism.”<sup>41</sup>

From one standpoint the twentieth century is a fair historical duplicate of the eleventh. At that time the standard and approved ecclesiastical expression failed to satisfy an earthly this-time-and-this-place musical hunger; result: the troubadour...<sup>42</sup>

Partch himself toured the U.S. for many years as a traveling singer, accompanying himself on his “Adapted Viola,” a viola with a cello neck, with nail markings for the natural interval positions.

At this point it becomes necessary to go briefly into the details of Partch’s scale. We cannot give a detailed account of the system and Partch’s instruments here. But in order to indicate the possibilities that interested Ligeti, we must at least hint at outlines. Ligeti said in a 1973 conversation with Clytus Gottwald:<sup>43</sup>

The inner structure of these chords is always a major or minor chord, sometimes with seventh, ninth or undecimal. But the succession of the chords is very strange. The chord that is “normal” according to our rules suddenly slips into another chord that belongs to a completely different tonality, indeed to a completely different tuning system. Very soon one becomes aware that an adaptation to the Procrustean bed of our tempered-tonal music is completely inappropriate to Partch’s music. With him, these are not different tonalities in one system, but different systems of tonalities that cross each other,

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<sup>38</sup> Partch 4

<sup>39</sup> Partch, preface xvi

<sup>40</sup> Partch 154/156

<sup>41</sup> Partch 52

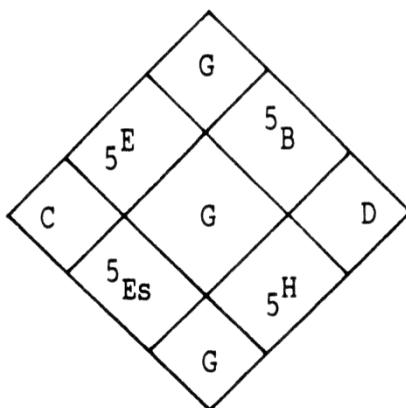
<sup>42</sup> Partch 52

<sup>43</sup> Ligeti (2007), vol. 1, 468. Edited version of a conversation with Clytus Gottwald for broadcasts by Süddeutscher Rundfunk Stuttgart on October 6, 1972 (“Die amerikanische Avantgarde”) and April 27, 1973 (“Harry Partch - ein Randsiedler der Avantgarde”). First published under the title “Tendenzen der Neuen Musik in den USA. György Ligeti im Gespräch mit Clytus Gottwald”, in *Melos/NZ*, (1975), no. 4, 266-272.

complement each other, relate to each other. So it is a tonal composition of “higher order”. And it is not impossible that the musical ideas of the tramp Harry Partch will still prove fruitful in the future development of music.

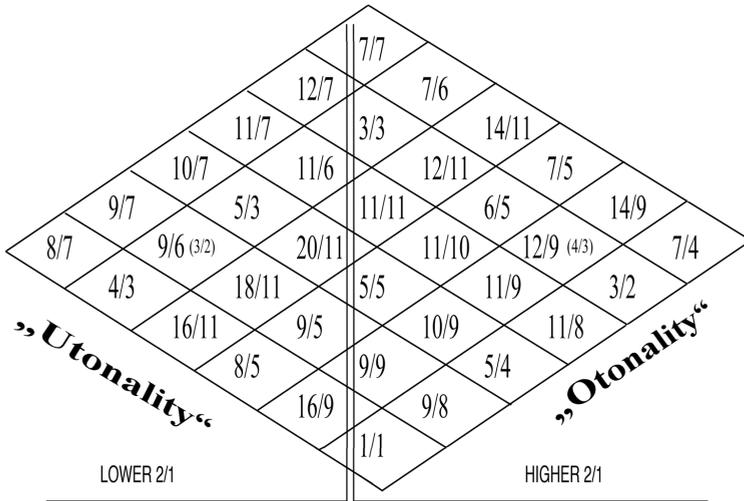
Partch starts from a 1/1 fundamental G. Analogous to the mirror thinking of major-minor dualism, he first builds his small “Tonality Diamond”. I note this with the note names known to us and add an index for the natural thirds as an indication of the comma deviation for the 5<sup>th</sup> tone of the natural tone scale, 5/4. Thus, for example, tone B as the natural third above G is approx. 21.5 cents lower than in Equal Temperament. The difference is the famous syntonic comma 81/80. “81” means the fourfold superimposed pure fifth, i.e., not counting the octave, 3<sup>4</sup>. “80” refers to the natural third 5/4, multiply octavated. Analogously, the Eb under G is 21.5 cents higher.

**E.g. 3**



**Partch, Small “Tonality Diamond”, in my transcription.**

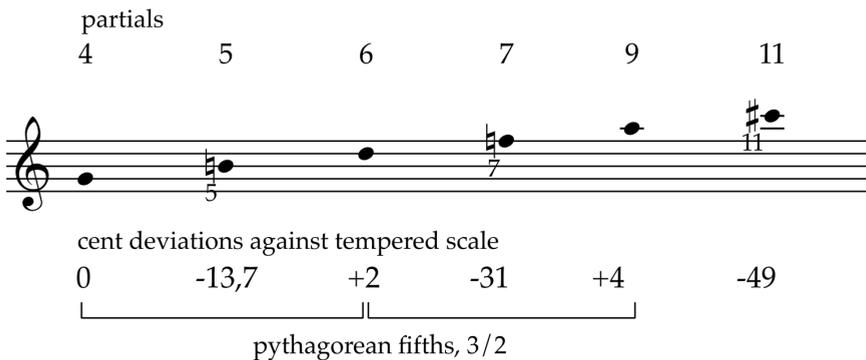
From this, Partch develops a large “Tonality Diamond” including the 7<sup>th</sup> and 11<sup>th</sup> naturals. Partch avoids our note names and writes only intervallic ratios. We find the further development of our “major” chord on the paths to the upper right, the “minor” chord on the opposite paths to the upper left. Partch calls his extended major “Otonality”, his extended minor “Utonality”:



Partch, Expanded “Tonality Diamond”, in his proportional writing.

We can visualize these extensions using the natural tone series and its inversion. I note indices for the various commas, whose cent deviations against Equal Temperament are given below:

**Otonality on G**





In the 1990s, Ligeti's desire for a new quasi-tonal language seemed to grow stronger. It was even rumored that he wanted to have a 43-tone organ built in the Partch scale after a temporarily planned move to Paris. Nothing came of either.

### *The Beginning of the Concerto*

Ligeti does think of Partch and the possibilities of his "Just Intonation", but he by no means uses it systematically. He completely omits the inversion of the natural tone series, if we disregard the minor-oriented chords in his work. Instead, we find in Ligeti an again personal, "schräge (oblique)" harmony,<sup>45</sup> a constant asymmetry and freedom of pitch treatment. This is evident from the very beginning in his "Praeludium", the 1st movement of the *Horn Concerto*.

### E.g. 4

The image shows a musical score excerpt for the beginning of the 1st movement of Ligeti's "Praeludium". It is divided into two systems, Bar 1 and Bar 5. The top staff is for Woodwinds, the middle for Cor. 1-4, and the bottom for Flute+Strings and Str.+Trb. Annotations include "Whole tone structure beating against horns", "D♭ - D♭ beating", "G - G beating", "Eb - Eb beating", "just 9/8 on Eb", "almost just on Eb 21/20/18/14", "septimal pitches", "like a 'wrong Penultima'", and "Ultima 'just intoned'". Chord symbols include Eb 8, Eb 9, F 7, F 8, Eb 7, Eb 10, B♭ 7, F 11, B♭ 9, B♭ 10, B♭ 11, and B♭ 12.

**E.g. 4a: Beginning of 1<sup>st</sup> movement, "Praeludium". Excerpt from Ligeti's manuscript (with deviations from the printed score)**

<sup>45</sup> Ligeti (2007) vol. 2, 312

GYÖRGY LIGETI: HAMBURGISCHES KONZERT FÜR HORN UND KAMMERORCHESTER...

Bar 9

Woodwinds

asymmetrical distorted "spectrum" on Eb

asymmetrical distorted "spectrum" on Bb

Bar 11

Strings  
(Ligeti: "leicht tiefer greifen, weniger als einen 1/4Ton"  
- fingering less than a quarter tone lower  
C (Fl.) sounds into the string chord, beating with deep-C#

Vibraphone

G# like a "distorted third"

G# - low-Ab beating

G# (Trp.) sounding until String chord

Cor. 1-4 "tempered" G!

Cor. solo in B

Cor. 1 in F

only Eb - Db just: 8/7

Trb.+Cb.

Trb.-A: to be thought as "distorted fundamental Bb"

Cor. solo in Bb +Cor.3 in Eb

**E.g. 4b: Beginning of 1<sup>st</sup> movement, "Praeludium", continued. Excerpt from Ligeti's manuscript (with deviations from the printed score)**

Bar 13

Woodwinds

Bar 14

Tubular Bells

Bar 15

Timp.

Cor. solo in Bb +Cor.3 in Eb

"spectral" section on Eb, with added fourths underneath

G - G beating

Str.

Trb.+Fag.

followed by *fff* Fag./Str. eighth notes

**E.g. 4c: Beginning of 1<sup>st</sup> movement, "Praeludium", continued. Excerpt from Ligeti's manuscript (with deviations from the printed score)**

Ligeti begins with the just intonation second 9/8 in the Eb horns, but almost immediately creates a beating against the F horns by adding the septimally lower Eb (7<sup>th</sup> harmonic, natural seventh above F). Also note F as the 8<sup>th</sup> harmonic of the F horn is not identical to harmonic 9 (also an F) of the Eb horn. This idea of harmonic ambivalence will permeate the entire *Horn Concerto*. Natural spectra are implied and countered. In the "Praeludium," for example, the whole-tone structure of the woodwinds in bar 4 can be read as a distorted "spectrum" on Eb: The septimally low Db (Eb horn 4, 7<sup>th</sup> harmonic) becomes tempered Db (flute 2), the notes Eb and F (tempered in basset horn 2 and flute 1) are still close to the natural notes of the horns, but the

natural note G (*E<sub>b</sub>* horn 3, 10<sup>th</sup> harmonic) is clearly set against the non-indexed, tempered note G (basset horn 1). Tone A (oboe) suggests an 11<sup>th</sup> harmonic on *E<sub>b</sub>*. This would have to be a quarter tone lower. However, this A could also belong to the scale on F that runs through the entire passage up to bar 5 with many asymmetries.

In bar 5, Ligeti builds considerable harmonic tension by mixing root F (“partials” 4, 6, 11, 12), then root *B<sub>b</sub>* (9, 10, 11, 12 in linearity) and *E<sub>b</sub>* (9, 10). Overall, Ligeti uses the whole like a “false penultima,” which in Renaissance terms is the tension chord before the ultimate resolution: the “ultima” in Ligeti is the fifth *B<sub>b</sub>-F*. The “Penultima” is a real witty-quirky Ligeti setting, it contains in the bass the fifth fall F to *B<sub>b</sub>* (“bass clausula”), the “tenor clausula” C to *B<sub>b</sub>*, also the “soprano clausula” low/E to F in the solo horn. Interwoven into this clausula development is the foreign-tuned G as the 5<sup>th</sup> harmonic above *E<sub>b</sub>*, which still comes from the initial development and has somehow been left hanging from the possible initial root *E<sub>b</sub>* as a true 5/4 third.

Bar 9 brings a distortion of an implied “spectrum” on *E<sub>b</sub>*. Its 5<sup>th</sup> harmonic G is distorted twice, downward to *G<sub>b</sub>* in the bassoon, upward to G (9<sup>th</sup> harmonic) in horn 1. Note A in basset horn 2 distorts harmonic 11 of an *E<sub>b</sub>* “spectrum” upward by a quarter note. This is followed by a next distortion of a possible “spectrum” on *B<sub>b</sub>*, starting with the bass note A instead of *B<sub>b</sub>*, and “metallized” by the two higher components C and *A<sub>b</sub>* in vibraphone played **ff**. The chord tones E-G#-B-C could refer to the *B<sub>b</sub>* harmonics 11-14-17-18: E -49 cents, G#/*A<sub>b</sub>* -31 cents, B +5 cents, C +4 cents. The horn solo fills a *B<sub>b</sub>* overtone melody whose 7<sup>th</sup> “partial” low/*A<sub>b</sub>* beats against G# of the trumpet.

In bar 11, the solo horn’s *B<sub>b</sub>* line modulates to F in F horn 1, with Ligeti mixing in a specially tuned string chord. Here the basic idea is a neutral third structure with inherent asymmetry. Many components beat on the one hand against the F-“overtones” buildup of horn 1, and on the other hand manifestly against existing tones, e.g. the C of the flute against the low/C# of violin 1.

Bar 13 brings a chord of fourths in the woodwinds and a very special “neutral” C-G-A-E chord, with the neutral third low/E with its sub-fifth low/A suggesting a kind of misplaced pentatonic.

This first part of the prelude ends with a blend of the *E<sub>b</sub>* naturals 3, 4, 5, 9, real in the horns and imagined in the strings, with a sub-fourths layering in the strings in bar 14.

The brief *stringendo* that follows leads to a distorted, quasi-diatonic final chord that includes harmonics on the root notes E (Cb.), *E<sub>b</sub>* (Hr. 3 and 4), F (Hr. 1 and 2), and *B<sub>b</sub>* (Hr. solo), except for the “tempered” notes *B<sub>b</sub>* and D



#### 4. The Second Movement: Tonality Flux in “Choral”

The 2<sup>nd</sup> movement “Signale, Tanz, Choral” first leads over six bars into the world of overtone excerpts, except for a few echo-like overlaps. Here the proximity to European or African signal (horn) music becomes clear.<sup>47</sup> In the “Choral” from the 2<sup>nd</sup> movement, Ligeti places a melody “*in rilievo*” in the 2<sup>nd</sup> horn, i.e. in the foreground, which, charmingly harmonically disguised, is accompanied by the other tutti horns. Woven into this is a Partch technique that Partch called “Tonality Flux”.<sup>48</sup> Here tones are often continued in microtonal steps. This creates a kind of tonal inflection, a kind of watery meloharmonicity. I give an example from Partch:<sup>49</sup>

E.g. 6

1st chord Otonality	2nd chord Utonality
------------------------	------------------------

The diagram illustrates the 'Tonality Flux' technique with three staves of music. Each staff shows a transition from a first chord to a second chord. The first staff shows a shift of +35.7 cents. The second staff shows a shift of -35 cents. The third staff shows a shift of +35.7 cents. The notes are connected by arrows indicating the transition between the two chords.

#### Tonality Flux, a Partch example is transcribed

The first chord is on A<sup>7</sup>, which is the natural seventh below central tone G. The second chord hangs below F<sub>7</sub>, the natural seventh above central note G which does not appear. Both chords contain natural thirds, either as 5/4 above A<sup>7</sup>, or as 4/5 below F<sub>7</sub>. We hear 1<sup>st</sup> a natural “major” chord, then 2<sup>nd</sup> a natural “minor” chord. All notes are linearly connected in sixth-note steps around 35-36 cents. In Partch’s last work, his opera-oratorio stage work: *Delusion of the Fury*, such tonality flux connections play a major role.

<sup>47</sup> Notes on sound examples are given in Appendix 1.

<sup>48</sup> Partch (1974), 187ff

<sup>49</sup> Partch 189, Diagram 13 transcribed.

In the following analysis of Ligeti's "Choral", the phenomenon of tonality flux is represented by arrows: Solid arrows indicate steps smaller than a quarter tone. Dashed arrows refer to "non-octaves":<sup>50</sup>

E.g. 7

The image shows a musical score for the 'Choral' section of Ligeti's Hamburg Concerto. It features four horn parts (Cor. 1-4) and a woodwind section. The horn parts are labeled with their respective notes: Cor. 1 (Fa), Cor. 2 (Mi), Cor. 3 (Mib), and Cor. 4 (Re). The woodwind section includes B♭maj. (16|9), Woodwinds, Trp., V.1, V.2, Va., Vc., and Cb. The score includes annotations for 'CANTUS FIRMUS in rilievo al fine' and various dynamics like 'p' and 'pp dim. mor.'. Arrows indicate tonality flux between notes in different parts.

2nd movement "Signale, Tanz, Choral", "Choral" analysis, notes according to manuscript

<sup>50</sup> A mistake in the Schott edition: the second note, measure 14, in the 3<sup>rd</sup> horn is a repeated low/Db according to the manuscript. The articulation marks are completed according to the manuscript.

Ligeti's harmony in this movement also indicates a distorted major-minor tonality with an additional tone in each case. The chord descriptions with root and inversion, given for the upper line, are analytical approximations omitting the microtonal deviations. It is not unlikely that Ligeti had these classically or jazz-oriented chords in mind, since otherwise no non-tonality chords occur at all.

### 5. Spectra

The meloharmonically most complex movement is the fifth, "Spectra". The large-scale hoquetus idea is interesting to follow. On gap, Ligeti confronts steadily distorted, partially distorted, or not at all distorted spectra on various and mixed root notes.

Ligeti begins with a hoquetus scene of the horns on the root notes B $\flat$  (solo) and E (four tutti horns). In bar 4 he uses an E spectrum, going from the 8<sup>th</sup> to the 18<sup>th</sup> "partial". This time the woodwinds also get the "right" arrows for the appropriate partials, undistorted. Cheekily, however, the trombone plays the wrong fundamental note B $\flat$ , which still refers to the previous hoquetus between the fundamental notes B $\flat$  and E. Ultimately foreign to this spectral event is the F minor chord in bar 4. Here, too, I suspect Ligeti's "Clausula thinking" in the direction of the Renaissance: the chord A $\flat$ -C-F is a penultima to G-D-G, with added fifths in bars 5/6, even provided with a minor third B $\flat$  in the trombone, and with the jazzy "major7" G $\flat$ /F $\sharp$ , multiplied in the trumpet, oboe and strings.

E.g. 8

The 5<sup>th</sup> movement "Spectra", bars 1-6

In bars 4-5, we find the partials 12 and 18 from the E spectrum, enharmonically reinterpreted as *Cb* and *Gb*. *Cb* goes “sighing” (Gesualdo!) to *Bb*, foreign to a string fifth chain G-D-A-(E omitted)-B-F#-C#-G#. The omitted note E becomes, as at the beginning, the fundamental of a spectrum of the tutti horns, combined with fundamental *Bb* of the solo horn. From bar 5 onward, this creates a double spectral world between E and *Bb* as at the beginning, not shown in the example above.

The woodwinds “pollute” this double spectral world from bar 6. The low strings with the ending fifth A-E do not fit in, standing “dirty” to the low basset horns with F and *Ab*. Tirelessly, however, the tutti horns blow their spectrum on E with now rapidly changing short spectra of the solo horn, which in bar 13 creates a fine non-octave friction with note F# of the 4<sup>th</sup> horn with the extremely high 13<sup>th</sup> partial of the spectrum on *Bb* (note low/G). The extremely high F of the bassoon as well as the oboe-A form here together with the solo horn low/G an inharmonic “spectral” component to the tutti horns, which are all harmonically on E with the notes 9, 11, 12, 13, 15. A distorted whole-tone chord results from low/A#: low/A#, B, low/C#, low/D#, F, low/G, A immediately before the crash of bar 13 into the bass cluster *Ab*-A-*Bb*-B-C, not shown in the following example:

**E.g. 9**

The image shows a musical score for bar 13. It consists of three staves. The top staff is labeled 'Woodwinds' and shows a single note on a treble clef staff. The middle staff is labeled 'Cor. solo in Bb' and shows a single note on a treble clef staff. The bottom staff is labeled 'Cor. 1-4 in E' and shows a sequence of notes on a treble clef staff. The notes are labeled with numbers 9, 11, 12, 13, and 15. There are downward-pointing arrow accents under the notes labeled 11 and 13. A box highlights the notes 11, 12, 13, and 15.

**“Spectra”, bar 13**

This speculative meloharmonic situation is continued in bar 15: A spectrally imagined wind chord on D with D-low/F#-low/G#-A-low/C-E with corresponding arrow accents for the spectral tones 10 (low/F#), 11 (low/G#), 12 (A), 14 (low/C) and 18 (E) is provided with further high components by string flageolets, these being the spectral tones 13 (low/B), 15 (low/C#), 17 (D#) and 19 (F). The latter is also a distorted whole tone scale. Ligeti gives here

exact and correct deviation indications from the temperament for the strings, related to the fundamental D.

E.g. 10

bars 15-18  
quasi on D

Woodwinds

Woodwinds

Cor. solo

Cor. tutti

Tubular Bells

Trp./Trb.

Strings

Strings

Flag. distorted whole tone scale

Streicher loec gestauchte A-Naturtöne

G distorted tone 7 low G distorted tone 14

“Spectra”, bars 15-18

In bar 16, similar to the final chord of the 1<sup>st</sup> movement, a partially compressed spectral chord on A appears in the strings: A-low/C#-low/D#-E is spectrally exact (notes 8, 10, 11, 12) with the corresponding deviation indications. Below this, however, the double bass with tone G does not fit (too high relative to the 7<sup>th</sup> partial), nor does the G above it (too low relative to the 14<sup>th</sup> partial).

The end of the movement, again similar to the 1<sup>st</sup> movement penultima/ultima-like, is formed by the fifth Db-Ab. But looking closely, these are only hints to old ideas of a “finalis”. In Ligeti’s reality a never ending “circle” is a better interpretation of his thinking. Ligeti was always looking for possibilities to cancel the arrow of time with its directional tendency and to form time like a static spatial structure.

## 6. Summary of the Microtonal Procedures in the *Horn Concerto*

Ligeti takes a mischievously playful approach to the phenomenon of the “natural tone series”. He uses various procedures to approach or distort it:

1. There are indeed “real” spectra in various orders of magnitude, from 2 tones (tones 7+8, 1<sup>st</sup> movement, beginning) to linear spectra (such as tones 5, 7, 9, 11, 10, 6, in the 4<sup>th</sup> movement, beginning solo horn) to 11 tones (tones 8-18, 5<sup>th</sup> movement, bar 4, here I add tempered tones with the correct arrow accidentals).

2. Spectra experience small, as if random microtonal changes or “pollution” in the course of the partial tone series, see the beating of the partial tones 7, 8, 9, 10 on Eb, bars 1-4, movement 1. Another example is found in the 6<sup>th</sup> movement from bar 27, where a “spectrum Bb” pretends to be one: neither tone 5/10/20 nor tone 7 are in tune with the fundamental Bb. The next “spectra” on A and Ab are also “faked”:

### E.g. 11

	quasi on B $\flat$	quasi on A	quasi on A $\flat$	Bass G, but not a real "fundamental"
Woodwinds / High Strings		G "wrong" 7th tone on A C 19th tone on A?	A $\flat$ 8th tone on A $\flat$ F# "wrong" 7th on G# E $\flat$ 6th on A $\flat$	Woodwinds
Cor.1 in F	quasi 9th on B $\flat$	7 ("wrong" 11th on A)	"wrong" 15th on A $\flat$	
Cor.2 in E	7 ("wrong" 5/10/20 on B $\flat$ )	quasi 9 on A	19th tone on A $\flat$ ?	
Cor.3 in F	quasi 3/6 on B $\flat$	"wrong" 8 on A	"wrong" 5 on A $\flat$	
Cor.4 in E	5 ("wrong" 7/14 on B $\flat$ )	quasi 3 on A	"wrong" 13 on A $\flat$	
Tr.		"wrong" 7 on A	4 on A $\flat$	Va.
Trb. / Low Strings			"wrong" tones 5 / 15 on A $\flat$	etc.

### *Horn Concerto*, 6<sup>th</sup> movement from bar 27, quasi-spectra

3. Deviating tones join around real spectral nests, example 5<sup>th</sup> movement, bar 16, where two “false” 7<sup>th</sup> resp. 14<sup>th</sup> tones G join the fundamental A around central naturals 8, 10, 11, 12. Immediately thereafter, the “wrong”

11<sup>th</sup> tone B $\flat$  is added to E around central 14, 16, 17, 18, 19, as well as A, which is to be located as the “wrong 21<sup>st</sup> tone”.

4. Linear spectra appear on top of each other in semitone intervals, with up to four fundamental tones. An example is the “Choral”, 2<sup>nd</sup> movement, from bar 16.

5. Spectra on different root notes are nested in a hoquetus-like manner, as in the 5<sup>th</sup> movement.

6. Spectra are placed in a completely alienating environment of tempered anonymity, example 5<sup>th</sup> movement from bar 4.

7. Spectra are combined in such a way that new, distorted quasi-spectra are created. One example is the final chord of the 1<sup>st</sup> movement. Another example is the end of the 3<sup>rd</sup> movement, where a chord built as if “free” arises with partials on D: 5, on E $\flat$ : 7, on E: 8, on F: 10. I suspect an overall logic, building up in the bass on G: partial 3, on B: 4, on D: 5, on E $\flat$ : 7, on E: 8, on F: 10. Above these are added fourths and major thirds with some omissions, all in all tones E A (D) G C F A (D) F $\sharp$ , B.

**E.g. 12**

The image shows a musical score for five instruments, each with a chord. The staves are labeled as follows:

- Crotales:** *15<sup>ma</sup>* (15<sup>th</sup> measure), notes: G $\sharp$ 4, A4, B4, C5.
- Strings:** *8<sup>va</sup>* (8<sup>va</sup>), notes: G $\sharp$ 4, A4, B4, C5.
- Cor. 1+2:** notes: F4, E4.
- Cor. 3+4:** notes: E $\flat$ 4, D4.
- Fag./Cb.:** notes: G $\sharp$ 3, B3, D4.

***Horn Concerto, final chord of the 3<sup>rd</sup> movement,  
combination of various spectra***

8. Ligeti’s idea to build a sequence of virtually “classical” seventh chords and their inversions seems like a joke. This can be found in the 7<sup>th</sup> movement “Hymnus”.<sup>51</sup>

<sup>51</sup> By the way, in bar 4 there is a wrong low/D in horn 1 in the Schott edition, which must be a third lower, a low/B analogous to the manuscript. The whole movement is badly edited, as Alessio Elia proved in his dissertation. ELIA 320ff

However, I have made an attempt here to analyze György Ligeti's *Horn Concerto*, a work with extreme use of integer ratios from the overtone series interlaced with tempered tones, in his hybrid language. The tempered, classical 12-tone way of thinking is confronted in Ligeti's work with five horns that blow natural harmonics throughout (except for stopped notes) and thus deviate from the temperament played by the other instruments. Sometimes they deviate extremely, up to a quarter tone, as to the 13<sup>th</sup> harmonic even by 60 cents. Ligeti's playful handling of the idea of a "spectrum" was demonstrated: spectral ideas are partly fulfilled, whereby Ligeti uses three categories of special accidentals, each for the different deviations from the tempered scale. In part, however, spectra are hybridized via deliberately "misplaced" accidentals or tempered tones that do not fit into the spectra actually thought of.

Ligeti's intention goes in the direction of a fuzzy harmony, which partly approaches a sound from the environment of non-central European music. From the sketches for the *Horn Concerto*, we can discern directions rather than manifest spheres of influence. These reach, in addition to European references from art music or ethnic music, as far as Africa and Southeast Asia.

Natural meloharmony is not used as a general supporting principle, but as only one component of a sound construction. This brings an overall coloration of the work towards a "oblique" sound world. In the sketches appear figurative words like "sigh", "chaos", "forest", "signal", which mix with more abstractly connoted words like "mosaic", "kaleidoscope". The interweaving of a pictorial world with a structural-musical world points to an essential core of Ligeti's composing. Ligeti rarely commented on this entanglement. Rather, his concern was to point to the structural level, even in texts specifically on the *Horn Concerto*.

Ligeti himself wrote about his *Horn Concerto* twice in program notes:

### ***Hamburg Concerto***<sup>52</sup>

The reason why I wrote a concerto for solo horn and four natural horns (in the orchestra) lies in my interest in novel harmonies. Behind this is that I have - for many years now - rejected both total chromaticism and Equal Temperament. They have become more and more consumed in centuries of European music history - chromaticism since Wagner's *Tristan*. Several contemporary composers share my aspirations, but others have reverted to simple-minded tonality or modality. One of my former students, Manfred Stahnke, developed

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<sup>52</sup> Ligeti (2007), vol. 2, 311f. Introductory text to the premiere at the concert cycle "Das neue Werk" at Norddeutscher Rundfunk, Hamburg January 20, 2001

fruitful paths to alternative tonalities. He followed the tradition ranging from Harry Partch to Ben Johnston to James Tenney to Dean Drummond. Tired of chromaticism, I look for a kind of non-tempered diatonicism, but one that allows for different harmonic linkages than those of historical European tonality.

Natural horns are the ideal instruments for alternative pitch systems. However, I do not write fashionable overtone music, but use the overtones for non-overtone chord combinations. I have not created a fixed ordered system but let the sounds loose so that - in self-organization - other kinds of tonal relationships emerge than those of tradition.

The four natural horns are joined by two basset horns, which play in temperament and blend with the horns to create a unified sound. The solo horn plays alternately valve horn F-Bb and the natural horn in F, and the four orchestral horns change their tuning from movement to movement. In this way, I have a rich variety of harmonic combinations at my disposal.

### **About the *Hamburg Concerto*<sup>53</sup>**

I composed the Hamburg Concerto for solo horn and orchestra between 1998 and 2002. In this piece I experimented with non-harmonic, very unusual sound spectra. In the small-sized orchestra, there are four natural horns, each of which can produce harmonics 2 through 16. I can give some horns, or each horn, different fundamental tones and compose new kinds of sound spectra from the harmonics of these fundamental tones. These harmonics sound "oblique" in relation to the harmonic spectra; they are harmonics that have not been used before. I have worked out "weird" consonant harmonies, and also dissonant ones with complex beating. The degree of fusion of the horn notes is particularly high, and to saturate the sound the two clarinetists play basset horns. The sound mixture sounds soft, even the spectra with the strange beating.

### **The world premieres:**

Commissioned by the ZEIT-Stiftung, Hamburg  
January 20, 2001 Hamburg, NDR, Rolf-Liebermann-Studio (D) -  
Marie Luise Neunecker, horn - conductor: George Benjamin - ASKO  
Ensemble (premiere 1st-6th movement)The premiere of the complete work  
with the 7th movement "Hymnus" took place on September 30, 2002 in  
Utrecht, again with the ASKO Ensemble and Marie Luise Neunecker, this  
time conducted by Reinbert de Leeuw.

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<sup>53</sup> Ligeti (2007), vol. 2, 312. Introductory text for the booklet accompanying the CD edition on Teldec Classics (The Ligeti Project IV, 8573-88263-2), Hamburg 2003.

## 7. Another “Hymn”

In Ligeti’s sketches, Alessio Elia discovered an incomplete, sensual short alternative to the last movement “Hymnus” and added it to his dissertation. I was curious about the sound and realized this “Hymnus” alternative, which is unpublished, via MIDI. The following note example is based on Elias’ transcription from the sketches and adds the articulation:

E.g.13

VIII Hymnus György Ligeti

Lento  
Maestoso

Fl.

Fl. Picc.

Oboe

Cor. bassetto

Fg.

Corno solo  
Fa Sib  
*pp poco in rilievo (quasi p)*

Cor. 1  
Fa  
*pp con sord.*

Cor. 2  
Mi  
*pp con sord.*

Cor. 3  
Fa  
*pp con sord.*

Cor. 4  
Mi  
*pp con sord.*

Tr. (Do)  
*con sord. pp*

Ligeti’s sketch of an alternative, ultimately discarded “Hymnus” version, obviously only the beginning

I essentially follow Alessio Elia's transcription and add the articulation.<sup>54</sup>

Soundfile as MIDI version to Ligeti's "Hymnus" sketch:  
please ask the author for a link: ms@manfred-stahnke.de

This essay is a distillation from: Manfred Stahnke: György Ligeti – Eine Hybridwelt, Chapter 6, BoD, Norderstedt, 2022.

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## THE VOICE OF THE UPIC: TECHNOLOGY AND VIRTUAL AGENCY

PETER NELSON<sup>1</sup> 

**SUMMARY.** I have previously situated the UPIC of Iannis Xenakis, a computer music instrument of legendary intransigence, as set apart from the mainstream of electroacoustic technologies, developing its own “voice” as the utterance of “prophetic” traces: ancient, not modern. Here, I will approach the sound of the UPIC from the perspective of Robert Hatten’s recent theory of “virtual agency.” The sounds of the UPIC confound traditional notions of meaning in music as expressive – in a human sense and reconfigure what Brian Kane calls the “audile techniques” of a “community of listeners.” Yet the works made with this technology remain engaging and meaningful to us as music. In this paper, I will explore the idea of ‘virtual agency’ as extended to non-human agents, as figured by the events and appearances of the natural world, and consider the ways in which Xenakis allows us, as listeners, to engage with these “virtual agents” through their traces, evident in the graphism of the UPIC’s interface.

**Keywords:** UPIC, Xenakis, virtual agency, Hatten, vitality, energy.

### Introduction

I want to consider, here, the UPIC computer system, developed by Iannis Xenakis and a team of collaborators through the 1970s and ‘80s. There are a few reasons for my continuing fascination with this device: first, there is my own encounter with the UPIC, which took place while I was an associate of the organisation, les Ateliers UPIC between the presentation of the system at the Huddersfield Festival of Contemporary Music in 1987, and its presence at the Radio France concert celebrating Xenakis’s 70th birthday in 1992. This encounter produced the strong feeling of attachment that I have

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to the *sound* of the UPIC: it's almost vocal quality, the "grain" of its sound, which gives an expressive charge that is unlike any other sonic material and sets the UPIC apart from other developments in computer generated and electroacoustic musics. Second, there is my feeling that the UPIC project encapsulates some of the key elements of Xenakis's art: its multi-facetedness and radical openness; its corporeal and situated, as well as its intellectual and spiritual determinants. Third, the work that Xenakis made with the UPIC, particularly the first work, the interludes for the Mycenae polytope, collected together as the piece Mycenae Alpha, has for me a haunted quality that provokes questions about the ways in which music comes to have meaning for us. This is sound made through a combination of graphic instincts as old as humanity, and the most contemporary of digital technologies, and this combination seems to me to reveal the place and purpose of technology itself in the animation of what I will call virtual agency.

### Virtual Agency

I am taking the notion of virtual agency from the recent work of the musicologist and semiotician, Robert Hatten, whose central concern has been to find a detailed explanation of how music has meaning.<sup>2</sup> My own recent concerns have been around notions of attachment in art; the ways in which we attach ourselves to works we love, and those works in turn create in us a sense of attachment outwards from them, particularly the sense of attachment that creates practices of care for other selves and for the environment we all inhabit.<sup>3</sup> Hatten's theory of virtual agency proposes a strong role for music in the creation of attachments, and it seems to me that the work of Xenakis has the power to attach us into networks of care that matter for our current and future political and ecological challenges. In this sense, music does not simply have meaning, it *does work*, and the creative insights of Xenakis allow his music to do specific work in specific ways. Since this discussion concerns a unique technology, the UPIC, which may be unfamiliar, I will begin by examining some of its main functions and motivations. Then I will consider more fully the notion of virtual agency and try to develop some of the potentials of that theory for the understanding of an aesthetics of attachment. Finally, I will try to consider what it is about Xenakis's works for the UPIC that gives them their particular, haunting allure.

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<sup>2</sup> Hatten, Robert S. "A theory of virtual agency for Western art music." In *Musical meaning and interpretation*. Indiana University Press, Office of Scholarly Publishing, Bloomington, 2018.

<sup>3</sup> Nelson, Peter. "What's the Use of Music?" In *Proceedings of the Xenakis 22: Centenary International Symposium*, Athens & Nafplio, Greece), 24-29 May 2022, pp. 33-42. <https://xenakis2022.uoa.gr/proceedings/> [accessed 22-09-2023]

## UPIC and the Sonic Imaginary

The history of the UPIC, as related in an article by three of the collaborators in its building, Gérard Marino, Marie-Hélène Serra, and Jean-Michel Raczinski, reveals some elements of the basic conception of the device.<sup>4</sup> Marino and Serra are programmers and software designers, Raczinski is an electrical engineer. Their account thus focuses on the practicalities of the UPIC's design, development, and operation, but they begin their article with an account of what they take to be the UPIC's key attributes and originary insight. They start with an anecdotal account of the conception of the UPIC in relation to the materials for Xenakis's early orchestral work *Metastasis*, and, in particular, in relation to a key conceptual element of Xenakis's invention, the glissando. They write:

graphic representation has the advantage of giving a simple description of complex phenomena like glissandi or arbitrary curves. Furthermore, it frees the composer from traditional notation that is not general enough for representing a great variety of sound phenomena.<sup>5</sup>

This statement gives the graphic image, and the process of drawing as a sort of direct access to the imagination, the status of an initial insight, and it asserts a fundamental link between graphic image and sound phenomena. This link between the visual and the audible is registered in terms of speed:

If the system is fast enough, the composer gets the result of his work directly, so that the exchange between thought and ear is made very easy and immediate.<sup>6</sup>

This proposes the system as a sort of rapid prototyping environment for the process of composition, where the access granted to the imagination by drawing is put into a feedback loop with the aural imagination. However, this process of composition is freed not just from traditional notation, but in fact from all previous compositional strategies. They write:

the system should not impose predefined sounds, predefined compositional process, predefined structures, and so on. It is essential for the creative mind that ideas do not go through theories or limitations that might not suit the composer.<sup>7</sup>

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<sup>4</sup> Marino, Gérard, Marie-Hélène Serra, and Jean Michel Raczinski. "The UPIC System: Origins and Innovations." In *Perspectives of New Music*, 31, 1, Winter, 1993, pp. 258-269.

<sup>5</sup> Marino, Gérard, Marie-Hélène Serra, and Jean Michel Raczinski. "The UPIC System: Origins and Innovations." In *Perspectives of New Music*, 31, 1, Winter, 1993, pp. 258-269.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

This presents the UPIC as a sort of *tabula rasa*, and echoes Xenakis's own view, when he writes,

In musical composition, construction must stem from originality which can be defined in extreme (perhaps inhuman) cases as the creation of new rules or laws, as far as that is possible; as far as possible meaning original, not yet known or even foreseeable.<sup>8</sup>

This presents a moment of what James Mooney and Trevor Pinch call the "sonic imaginary".<sup>9</sup> "In a sonic imaginary," they write,

sound itself has a sociomaterial agency and makes a crucial difference in how worlds are enacted. ... we treat the imaginary as an emergent phenomenon from the material world.<sup>10</sup>

The "material world" here includes not just the technical device of something like the UPIC but also the conceptual, social, and actively embodied practices that make up the apparatus of music. In categorizing sound as "an emergent phenomenon", Mooney and Pinch are also suggesting that it is the product of more mysterious, originary forces, and that it may not "come first" as we shall see in a moment.

## Polyagogy

The heterogeneity of the list of features above, that evoke the sonic imaginary of the UPIC, in fact prompts the system's name: the first two letters U and P stand for *Unité Polyagogique*. Xenakis explains this name in one of his published interviews with Bálint András Varga:

"Polyagogique" is my coinage: "agogie" means training or introduction into a field; "poly" means many. When designing we are working in space with our hands (geometry); in constructing rhythmic models we have to compute distances (geometry and arithmetic); also, general forms. And finally, there's the sound. All those things together ... make "polyagogique".<sup>11</sup>

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<sup>8</sup> Xenakis, Iannis. *Formalized music: thought and mathematics in composition*. Revised ed., additional material compiled and edited by Sharon Kanach. Pendragon Press, Hillsdale, NY, 1992, p. 258.

<sup>9</sup> Mooney, James, Trevor Pinch. "Sonic Imaginaries: How Hugh Davies and David Van Koevring performed electronic music's future." In ed. Antoine Hennion, Christophe Leveau, *Rethinking Music Through Science and Technology Studies*, Routledge, London, 2021, pp. 113-149.

<sup>10</sup> Ibid. p. X

<sup>11</sup> Varga, Bálint András, and Iannis Xenakis. *Conversations with Iannis Xenakis*. Faber and Faber, London, 1996, p. 121.

This account of the UPIC's core conception brings together notions of sound, space, and number in a way that seems to me to propose *music* - let's call it that - as a sort of "challenging object".<sup>12</sup> This term, introduced by Matteo Valleriani in his discussion of Galileo, applies as follows: we know what music is in general, but there is no "canonical explanation" for it. Indeed, Xenakis seems to explode this object, "music" into multiple "fields": space, rhythm, sound, each with its own sort of epistemology - geometry, arithmetic etc. - that the UPIC seeks to combine into a unity. How do these foundational, conceptual elements help us to listen to the sound of the UPIC?

My experience, presenting the UPIC in public demonstrations, assisting composers to use it for making their own works, and composing with it myself, only confirmed the legendary intransigence of the device. As Dimitris Kamarotos remarks:

One of the reasons why many surprising difficulties for the users remained after their first contact with the system was due to the influence of how the system was promoted: as an intuitive, non-technically inclined system encouraging creativity. People were promised they would be able to make music, or at least complex, interesting sound structures without any knowledge of computers, or even music.<sup>13</sup> (255)

When Xenakis speaks of *agogie* as "training or introduction" I think he is not really describing the UPIC as a tool for education and learning in the obvious sense. Learning to use the UPIC is an education in itself; a means of exploration of the "challenging object" that is music. The extreme openness of the technical apparatus of the UPIC makes it a fertile space for puzzlement as well as for creative play. It seems to me emblematic of the conception of the UPIC that sound comes at the end: as Xenakis says, "And finally there's sound," marking the distinction Xenakis makes between *in-time* and *outside-time* structures. When the composer, and my colleague at Les Ateliers UPIC, Brigitte Robindoré refers to the perception of the UPIC's sound as being "somewhat harsh," she is registering the frequent sense of disappointment of people using the device for the first time, and even Xenakis himself seemed not always to be convinced.<sup>14</sup> There is a moment, in an interview given at the

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<sup>12</sup> Valleriani, Matteo. *Galileo Engineer*. Boston studies in the philosophy of science. Springer, Dordrecht [Netherlands] London New York, 2010.

<sup>13</sup> Kamarotos, Dimitris. "The UPIC in Greece: ten years of living and creating with the UPIC at KSYME." In ed. Peter Weibel, Ludger Brümmer, Sharon Kanach, *From Xenakis's UPIC to Graphic Notation Today*, Hatje Cantz, Berlin, 2020, p. 255.

<sup>14</sup> Condorcet (Robindoré), Brigitte. "Beyond the Continuum: the undiscovered terrains of the UPIC." In ed. Peter Weibel, Ludger Brümmer, Sharon Kanach, *From Xenakis's UPIC to Graphic Notation Today*, Hatje Cantz, Berlin, 2020, p. 403.

Huddersfield Festival in 1987 where the UPIC was showcased, when Xenakis seems to express some regret about its functioning. In answer to a question about the quality of computer-generated sound, he said the following:

The natural sounds, yes, they are, indeed they are richer. Of course, the instruments for instance have still a very fine sound which can be very complex, provided that you write in such a way that this can be shown, and the computer is still poor in that domain. I think it's not a matter already of the technology, but also of thinking and theories.<sup>15</sup>

Here is a moment when we understand that, for Xenakis, technology is not at all the labor-saving automaton of the Modern era, but fundamentally a matter of “thinking and theories,” in which the non-modern aspects of his own thought come to the fore. How then, given these testimonies to disappointment, can we gain a more positive encounter with the sound of the UPIC?

In a recent paper entitled “The Voice of the UPIC: Technology as Utterance,” I situated the UPIC as set apart from the mainstream of electroacoustic technologies, developing its own “voice” as the utterance of what I identified as “prophetic” traces: ancient, not modern in intent.<sup>16</sup> This argument arose out of an attempt to allow the UPIC to be heard, not as a poor version of something it is not - a machine for the synthesis of hyper-real, digital instrumental sound, like the outputs of computer synthesis languages such as SuperCollider, or commercial keyboard samplers and synths - but rather as its own voice. In that earlier paper, I tried to characterize the voice of the UPIC as a voice of enunciation, rather than replication, and I tied the notion of enunciation to an oracular moment. However, enunciation is in any case a sign of agency, and I now want to consider the notion of the virtual agency that seems to me to lie behind the sound of the UPIC.

## Energy

In his book on Xenakis, Makis Solomos identifies *energy* and *abstraction* as two of the key determining factors of Xenakis's art.<sup>17</sup> The energy, in the first place, is the energy of the event, and the key events in this case are historical events: the street demonstrations and actions of resistance in which Xenakis participated as a young man. The abstraction is

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<sup>15</sup> Xenakis, Iannis. Public interview with Richard Steinitz at the Huddersfield Festival of Contemporary Music, 1987. Transcribed by the author.

<sup>16</sup> Nelson, P. “The Voice of the UPIC: technology as utterance.” In ed. Reinhold Friedl, Thomas Grill, Nikolaus Urbanek, Michelle Ziegler, *Xenakis2022: Back to the Roots*. mdw press, Wien/Bielefeld, 2024.

<sup>17</sup> Solomos, Makis. *Iannis Xenakis*. PO Editions, Mercues, 1996.

the identification of invariant properties that characterize those events. Thus, Solomos writes:

To naturalise the street demonstrations in question means to break the concentration on their surface phenomena in order to get at their material elements: their richness, their warmth, their interior energies.<sup>18</sup>

At the same time, Solomos identifies two aspects of energy that motivate events: an energy of the event itself, and a creative energy that inhabits the imagination before and after the event. He writes:

Energy which channels tension without eliminating it, as the desire to create something *ex nihilo*, and the universalism that comes from a powerful imagination ... these are inextricably linked ...<sup>19</sup>

The thing about energy is that it always appears as a dynamic form; a form producing time by means of invariant properties inherent to it, properties that provide not only the keys to abstraction but also moments of recognition that can identify the energetic form as emanating from another *self*. As Daniel Stern notes: "Our minds tend to see vitality forms whether they come from nature, self, or other humans."<sup>20</sup> This tendency is a signifying tendency; a predisposition to understand energy as motivated, and to draw from that recognition of motivation a sense of another self to which we are drawn: as kindred, in enmity, in awe, or perhaps in abstract fascination. It is this tendency that Robert Hatten puts to use in trying to identify the ways in which music is meaningful to us, as he traces the types, trajectories, and interactions of energetic forms within the surface manifestations of musical sound. Hatten uses the term *virtual agency* to account for the motivations that we interpret as we sense the forms of vitality in music as signs of another self: a virtual self, in Hatten's terms. For Hatten, these other, virtual selves with their rhetorical elaborations of identifiable topics are always human in character, but I think that we can, as Stern suggests, identify and feel drawn to a variety of energetic characters that may include, but are not restricted to the human. It is indeed the generation of the presence of specifically non-human energies that are none the less sympathetic - in the sense that they draw us to them - that seems to me to characterize a key aspect of Xenakis's creative power. One further consequence of this focus on the trajectories of

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<sup>18</sup> *Naturaliser les manifestations en question signifie briser les fixations de surface pour restituer pleinement leur côté concret : leur richesse, leur chaleur, leur énergie intérieurs.* Ibid. p. 111.

<sup>19</sup> *Énergie qui canalise la tension sans l'éliminer, souci de création ex nihilo et universalisme qui tient d'un imaginaire puissant ... sont inextricablement liées ...* Ibid. p. 109.

<sup>20</sup> Stern, Daniel. *Forms of Vitality*. Oxford University Press, Oxford, 2010, p.30.

forms of vitality is that it moves the discussion around the challenging object of music away from ideas of expression and emotion, topic and rhetoric, towards a consideration of sympathy and attachment, and of the ways in which the *virtual* in music draws us to the forces that surround us. It is in his exploration of these forces that Xenakis makes his most significant artistic contributions.

One of the key features of Robert Hatten's work is the detail with which he seeks to encounter the virtual agencies of music. His analyses take account of the particulars of specific human cultures and focus on the possibilities for identifying the *topics of discourse* and the *semiotic strategies* within those cultural specifics. I do not doubt the usefulness of this line of thinking, but it seems to me that music has a wider set of dynamic and agential possibilities than those set out by Hatten, and it is these I want to touch on now, briefly, in order to get a better sense of what it is that I find so touching about the sound of the UPIC.

For Hatten, the implied agents in music are necessarily human agents, but I do not consider humans to be the only possible agents. Indeed, where Hatten locates his agencies within a highly circumscribed view of a shared culture, I want to suggest that culture, as Hatten describes it, is not required for the recognition and companionship of other selves. Indeed, Hatten's entirely understandable, yet notably Eurocentric view of culture depends on Enlightenment values that do not, in my understanding, accord with Xenakis's entirely pre-modern stance. Xenakis himself was quite explicit about his orientation. In an interview given at the Huddersfield Festival in 1987, he states quite clearly: "I brought myself up into the ancient Greek tradition, that's for sure,"<sup>21</sup> and in a published interview with Bálint András Varga: "I felt I was born too late - I had missed two millennia."<sup>22</sup>

### **Ancient Energies**

To get a sense of the implications of that stance, and to substantiate my claim that we respond to more than the human, I want to consider very briefly a few moments from anthropological literature. First, I turn to the account of culture presented by Eduardo Viveiros de Castro, for whom culture is all-encompassing rather than particularizing. As he tells it:

For Amazonian peoples, the original common condition of both humans and animals is not animality but, rather, humanity. Animals are ex-humans (rather than humans, ex-animals). ... To say, then, that animals and spirits are people,

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<sup>21</sup> Xenakis, Iannis. Public interview with Richard Steinitz at the Huddersfield Festival of Contemporary Music, 1987. Transcribed by the author.

<sup>22</sup> Varga, Bálint András, and Iannis Xenakis. *Conversations with Iannis Xenakis*. Faber and Faber, London, 1996, p. 15.

is to say that they are persons; and to personify them is to attribute to non-humans the capacities of conscious intentionality and social agency that define the position of the subject.<sup>23</sup>

This is to reposition the concepts of nature and culture, proposing that there is one culture, inhabited by many natures, a repositioning that suddenly makes possible the mutual recognition and relation of selves of many sorts, including the meteorological, the spiritual, and even the supernatural.

One of the consequences of thinking about human experience in terms of signs, which is what Hatten's notion of virtual agency proposes, is the opening up of a discourse that is not so much about "meaning" or emotion as it is about community. Signs make connections, of different types and availabilities, and while meanings may be open to interpretation, it is the connection itself that is undeniable. Here is an example of the interpretative possibilities of a sign, related by the anthropologist Eduardo Kohn. He is recounting a difficult journey into the heartlands of the Amazon basin, delayed by bad roads and landslides:

... after a fitful night, I was still out of sorts. I couldn't stop imagining different dangerous scenarios, and I still felt cut off from my body and from those around me. ... Trying at least to act normal, and in the process compounding my private anxiety by failing to give it a social existence, I took my cousin for a short walk along the banks of the Misahuallí river ... Within a few minutes I spotted a tanager [a type of bird] feeding in the scrubs at the scruffy edges of the town ... I rolled the focus knob [of my binoculars] and the moment that the bird's thick black beak became sharp I experienced a sudden shift. My sense of separation simply dissolved. And, like the tanager coming into focus, I snapped back into life.<sup>24</sup>

There are several observations to make about this passage. First, the bird appears as a sign of a "self". It is a self that is not human, but one which locates the human within a grounded context. The ground appears because the sign is - to use the terminology of Charles Sanders Peirce - indexical: it points to something. The panic that Kohn felt at the start of the passage is attributable to signs that are symbolic, that is whose arbitrary meanings can - and do - "run wild". The indexical nature of the sign that is the bird connects Kohn in a sympathetic, directed way that creates a grounded sense of community. The "self" that appears with the bird also allows the definition of an "I"; a "myself". As Kant proposed, in his late lectures on anthropology, the source of our sense of world begins with the face-to-face encounter,

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<sup>23</sup> De Castro, Eduardo Viveiros. "Exchanging perspectives: the transformation of objects into subjects in Amerindian ontologies." In *Common Knowledge*, 25, 1-3, 2019, pp. 22-23.

<sup>24</sup> Kohn, Eduardo. *How forests think: toward an anthropology beyond the human*, University of California Press, Berkeley, CA, 2013, p. 47f.

characterized by sympathy: the presence of an “I” in the company of a “you”.<sup>25</sup> From this initial encounter comes the sense of *company* where, as expressed by Joao Pina-Cabral, “more than two persons interact with a shared set of worldly affordances.”<sup>26</sup> In Kohn’s account we understand that the “selves” required for these processes of subject formation are not required to be human: only other subjects. The sight of the bird is the sign of a subject.

It seems to me that this story is related to the notion of “interior energy” described by Solomos. The abstractions that Xenakis was able to make from his encounters, both physical and mathematical, with the events of the world allowed him to perceive virtual agencies of immense power, channelling energies of elemental form and allowing us, as listeners, a situated sense of sympathetic connection with a set of “selves” we had not otherwise encountered in the art of our day: selves that are sometimes awe-inspiring or terrifying, overwhelming or confronting, but which, none the less, through their dynamic forms, manifest as sympathetic figures that allow us to attach to the energies of the universe not as abstract, sublime moments of separation, but as committed moments of community. This, for me at least, is what makes the music of Xenakis so exhilarating: the virtual agencies at play are not acculturated, in the Enlightenment sense, or even recognizable, in the sense of representing forces we already know. They come from a beyond, that the particular insights of Xenakis allowed him to explore, and which, despite their strangeness, are nevertheless clearly *real*.<sup>27</sup> On the *tabula rasa* of the UPIC, these agencies appear in graphic form, like cave drawings, whose sonic energy emerges as a moment of utterance. Perhaps this is what Xenakis means when he says:

Composing is a battle. It should be an unconscious battle ... It’s a struggle to produce something interesting. Of course I can’t define what I mean by that. From my point of view it can’t be defined.<sup>28</sup>

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<sup>25</sup> Kant, Immanuel. “Lectures on Anthropology.” In ed. R. Louden & A. Wood, trans. R. Clewis & G. Munzel, *The Cambridge Edition of the Works of Immanuel Kant*, Cambridge University Press, Cambridge, 2012 [1798].

doi:10.1017/CBO9781139028639

<sup>26</sup> Pina-Cabral, Joao. “Company and the mysteries of a dugout canoe.” In *Journal of the Royal Anthropological Institute*, 2022, 10.1111/1467-9655.13814, p. 2.

[https://www.researchgate.net/publication/362770271\\_Company\\_and\\_the\\_mysteries\\_of\\_a\\_dugout\\_canoe](https://www.researchgate.net/publication/362770271_Company_and_the_mysteries_of_a_dugout_canoe) [accessed 22-09-2023]

<sup>27</sup> For a discussion of energy in Xenakis’s instrumental works, see García De La Torre, Mauricio. “El fenómeno de la activación sonora en la obra de Iannis Xenakis.” In *Pilacremus, Centenario Xenakis 1922-2022*, Seminario Universitario de Investigación en Creación Artística, SUICREA, UNAM, CDMX, México, December 2022, pp. 71-98.

<sup>28</sup> Varga, Bálint András, and Iannis Xenakis. *Conversations with Iannis Xenakis*. Faber and Faber, London, 1996, p.204.

Except, of course, that we know it when we hear it, because the virtual agencies at play buzz with life.

## Conclusion

What I have tried to do here is to think about the UPIC, and the works that Xenakis made with the system, in terms of production and enunciation, rather than as composition with sound synthesis: as the consequences of a process of sonic revelation similar to those achieved by Xenakis through his use of mathematics and logic. The graphical interface of the UPIC is, in one sense, another moment of abstraction, taking the physical, embodied experience of the hand and the eye encoded as they are with millennia of image-making, and providing a blank space for the exploration of the ways in which images spring from and outline their own virtual agencies. These double traces, of visual line and sonic energy, mark the *polyagoric* aspect of the UPIC, opening up an area of exploration where virtual agencies are registered as shifting shapes: as Xenakis says, in an interview with Bálint András Varga:

I believe that what is lacking today: a theory about shapes. Perhaps in twenty, thirty, forty years' time, fundamental shapes will be classified along with their applications and expressions in different fields of observation and production. ... And what's the meaning of a line? How does it come about? It's as if a point gave birth to a next point and so on until you get a line.<sup>29</sup>

This is the sense of an energy created, as Xenakis says in *Towards a Philosophy of Music*, "*ex nihilo*", but also the sense of mystery that is invoked by those virtual agencies, forces, and energies from deep in the cosmos, whose traces we register, and whose company we seek.<sup>30</sup>

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<sup>29</sup> Ibid. p. 207.

<sup>30</sup> Xenakis, Iannis. "Towards a Philosophy of Music." In *Formalized music: thought and mathematics in composition*. Revised ed., additional material compiled and edited by Sharon Kanach. Pendragon Press, Hillsdale, NY, 1992, pp. 201-241.

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## ARTISTIC PRACTICES IN THE CONTEXT OF THE EVOLUTION FROM WEB 1.0 TO WEB 3.0

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**SUMMARY.** This article examines the evolution of artists' interaction with the audience in the context of media culture, linked to the updates of communication mechanisms on the Internet, from the static Web 1.0 to the interactive Web 3.0. The aim of the article is to show the connections between the changes in authorship models and mechanisms of interaction with the audience in artistic practice and the evolutionary development of web technologies. The transformation of contemporary artistic forms is the result of the active influence of digital technologies and the associated collapse of the existing hierarchy between author, performer and audience. The study discusses the strengthening of the interactive component in artistic practices, parallel to the development of Internet technologies from Web 1.0 to the semantic Web 3.0 and analyzes the overlapping of these processes and their mutual influence in the context of post humanist perspectives. It was found that artistic collaborations through collective authorship are a characteristic model of authorship for this phase of Internet development. It was noted that the evolution from Web 2.0 to Web 3.0 opens new possibilities for the creation of multisensory experiences, thanks to the use of VR (Virtual Reality) and AR (Augmented Reality) technologies, which

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are actively used by artists in artistic practices and works, for example in operas or concerts. In addition, the active development and integration of artificial intelligence technologies in artistic practices has been identified. By analyzing musical projects of different genres and forms, the transformative influence of web culture on contemporary artistic practices becomes clear.

**Keywords:** artistic practices, music, internet, technologies, interactivity, communicative models' development

Over the past decades, a change in how individuals perceive their place in the surrounding environment, as well as in their relationships with technologies. Transformations in the creative process illustrate the search for new ways of perceiving art and methods of communicating with the audience. These trends are realized both in physical space and in virtual worlds generated with the help of digital technologies.

Thus, social networks and internet platforms have become possible platforms for implementing artistic projects, enabling not only a new level of interaction between the author and the audience but also network users to create and disseminate their own content which can exist as part of a global artistic project. The aim of the article is to identify the connection between changes in authorship models and mechanisms of interaction with the audience in artistic practices and the evolutionary development of web technologies.

The theoretical foundation of the study is composed of works dedicated to the history of media and new media (M. McLuhan, Robert K. Logan), covering historical and technical aspects of the internet's evolution from Web 1.0 to its current state — Web 3.0, among which are T. Team, K. Nath, S. Dhar and S. Basishtha, J. Hashmi. A separate category of sources reflects the practical aspects of the functioning of artistic practices in the context of Web 2.0 — Web 3.0, as well as existing attempts to forecast their further development paths, including publications by B. Marr, S. Ransome, L. Hertz. The aspects of correlation between these processes and their interpretation through the scientific lens of posthumanist views are analyzed based on the research of representatives of critical and philosophical posthumanism, N. Katherine Hayles, F. Ferrando.

The growing presence of technology in everyday human life is one of the vectors of posthumanist research. This presence has a profound impact on art, significantly changing its forms and contributing to the renewal of genre characteristics, along with the transformation/destruction of traditional hierarchical relations between the author/authors and the audience. In this communicative chain, a machine can emerge as a co-author, evidencing a trend away from a human-centric future in art in particular. The focus of this

article's authors is specifically on the aspect of interactivity, through the dynamics of which a connection between the development of internet technologies and changes in artistic practices has been revealed.

The history of Web 1.0 began in 1989. Web 1.0 was characterized by static web pages with limited interactivity, where information flowed in one direction from content creators to passive consumers. Thus, at this stage of the Internet's development, artists predominantly used websites as virtual portfolios or digital galleries to showcase their works. The active development of digital technologies, including Web 2.0, began in 1999 and continued throughout the first two decades of the 21st century. For this stage, dynamics and interactivity are characteristic features. It was during this period that Facebook, Twitter, TikTok, and YouTube emerged — social platforms that allow users to exchange content and provide feedback on it.

According to Robert K. Logan, "Web 2.0 represents the fact that the community of Web users recognize that the Web is more than an Internet based shared space for audio, visual, and text, but that it has become". The researcher cites Marshall McLuhan<sup>6</sup> quote in support of his opinion, a "living [vortex] of power creating hidden environments (and effects) that act abrasively and destructively on older forms of culture" (p. v), and, as such, has taken on a life of its own"<sup>7</sup>. Artists gained access to new digital tools that facilitated interaction among internet users, particularly allowing them to comment, disseminate various information, and share their own content. This development significantly altered traditional approaches to art making and sharing, enabling a more democratic and participatory form of cultural production. "Collective creation and the production of open and continuously evolving works are two of the most appealing artistic breakthroughs the Internet can offer to creators in general and to music composers in particular"<sup>8</sup>. An example of such a collective open project is Wiki-piano – an interactive piece for piano and internet community, initiated by composer Alexander Schubert. Everyone is welcome to contribute to this global network piece at any time and from anywhere in the world through its internet page, which shows the current state of the piece and allows visitors to make changes, such as adding audio or video files, leaving comments, etc. The project's web page serves as the score of the piece.

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<sup>6</sup> McLuhan, M. (1994). *Understanding Media: The Extensions of Man*. The MIT Press

<sup>7</sup> Logan, R. (2016). *Understanding New Media* (1st ed.). Peter Lang. Retrieved from <https://www.perlego.com/book/1991551/understanding-new-media-pdf> (Original work published 2016)

<sup>8</sup> *MTG - Music Technology Group (UPF)*. URL: [https://mtg.upf.edu/files/publications/FMOLD\\_exa.pdf](https://mtg.upf.edu/files/publications/FMOLD_exa.pdf) (date of access: 30.01.2024).

The contemporary state of digital technologies and the latest mechanisms for creating and perceiving artistic content not only significantly influence the development of art, but also constantly change the rules of interaction and communication. “When we say that Web 3.0 is ‘decentralised’ we mean that it seeks to shift power and control back to the users, and create a more open and distributed web that is not controlled by any single entity”<sup>9</sup>. In the context of the current stage of technology development, artistic projects are bringing to the forefront posthumanist aesthetics, which blur the lines between natural and artificial, between humans and their prototypes in virtual space. In recent years, immersive technologies that simulate the effect of immersion and alter the traditional frames of perception have been gaining increasing popularity.

Ben Shneiderman has stated that virtual reality offers a lively new alternative for those who seek immersion experiences via blocking out the real world with goggles on their eyes<sup>10</sup>. Virtual reality offers the possibility for audience participation in interactivity, choosing paths of event development within an immersive artistic work/space. Such interaction fundamentally affects human perception of another reality.

In the opera “Miranda: A Steampunk VR Opera” by composer Kamala Sankaram, the audience is endowed with the powers of a jury, capable of affirming or denying evidence, thus influencing the decisions within the trial process of suspects accused of murdering the main character — Miranda Wright. The opera features three scenario outcomes, namely its finale, depending on which of the three suspects is convicted by the audience, who becomes co-authors of a portion of the dramaturgical action. This innovative approach integrates VR technology to create a unique, participatory experience, illustrating the profound impact of digital technologies on contemporary artistic practices and audience engagement. The music of the opera “Miranda: A Steampunk VR Opera” is rich in polystylism, combining elements of baroque opera, popular music, hip-hop, tango, rock, and more. Each style corresponds to a different character in the opera. The performers (vocalists and instrumental ensemble) play their parts in real time, simultaneously being represented by digital avatars. This format blends the means of live theater with cinematic effects, which are unavailable in the stage format of the work. In our opinion, the opera’s format is determined by the search for new theatrical formats in the context of the COVID-19 pandemic; however, such experiments combined with immersive technologies are considered quite promising. It should be noted

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<sup>9</sup> *How Artists can Embrace Web 3.0* — Sarah Ransome Art. (n.d.). SARAH RANSOME ART. <https://www.sarahransomeart.com/blog/how-artists-can-embrace-web-3>

<sup>10</sup> Serafin, S., Erkut, C., Kojs, J., Nilsson, N. C., & Nordahl, R. (2016). Virtual Reality Musical Instruments: State of the Art, Design Principles, and Future Directions. *Computer Music Journal*, 40(3), 22–40. <https://www.jstor.org/stable/26777007>

that at this stage, the audience can influence the dramaturgy of the work only to the extent determined by the author. However, in the future, it is likely that the degree of variability in the development of events, dependent on the audience's decisions, will increase. This, in our opinion, could lead to the gamification of art. According to N. Katherine Hayles "Virtual reality technologies are fascinating because they make visually immediate the perception that a world of information exists parallel to the "real" world, the former intersecting the latter at many points and in many ways. Hence the definition's strategic quality, strategic because it seeks to connect virtual technologies with the sense, pervasive in the late twentieth century, that all material objects are interpenetrated by flows of information, from DNA code to the global reach of the World Wide Web"<sup>11</sup>.

The role of Artificial Intelligence in artistic practices, which has actively entered the toolkit of artists, particularly in the era of Web 3.0, deserves special attention. An example of its use can be seen in the work CONVERGENCE by Alexander Schubert<sup>12</sup>. The piece has two versions — a live performance and a digital version of the work, and represents the interaction of human and technology. "Convergence' utilizes the concept of artificial intelligence to explore the characteristics of human musicians and then create new units based on these recordings. In this work, players interact with their created partners, seeing themselves transformed and changed. It metaphorically and parametrically presents a constructed world"<sup>13</sup>.

Thus, we acknowledge the transformation of human experience in the online space thanks to the evolution of the Internet and specifically information technologies, as well as their impact on artistic projects that go beyond online boundaries or have a combined online-offline nature. "Web 3.0 potentially offers a range of exciting opportunities for artists to expand their reach, protect the value and authenticity of their artwork, and connect with a global audience of buyers and collectors. As the Web 3.0 ecosystem continues to evolve, it is likely that even more powerful tools and technologies will emerge that can help artists to thrive in the digital world"<sup>14</sup>.

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<sup>11</sup> Hayles, N. Katherine. (1999) *How we became posthuman: virtual bodies in cybernetics, literature, and informatics* / N. Katherine Hayles. 364 p.

<sup>12</sup> Alexander Schubert. Alexander Schubert - Convergence [Ensemble Resonanz] @Kampnagel/Eclat, 2021. *YouTube*.

URL: <https://www.youtube.com/watch?v=o5UXkJWJciQ> (date of access: 30.01.2024).

<sup>13</sup> Story of Convergence. *ensemble resonanz*.

URL: [https://www.ensembleresonanz.com/resonanz-digital/themen/story\\_of-convergence](https://www.ensembleresonanz.com/resonanz-digital/themen/story_of-convergence) (date of access: 30.01.2024).

<sup>14</sup> *How Artists can Embrace Web 3.0 — Sarah Ransome Art.* (n.d.). SARAH RANSOME ART. <https://www.sarahransomeart.com/blog/how-artists-can-embrace-web-3>

Junaid Hashmi talks about another vision of Web 3.0, the researcher believes that Metaverse “to provide an immersive 3D virtual space where humans can interact through VR headsets and AR glasses giving almost a real-life experience, yet virtually”<sup>15</sup>. It’s likely that the Metaverse, in the future, will unify all existing environments and methods of human interaction within the Internet network.

In our view, although the Metaverse and Web 3.0 can interact and complement each other, they present different concepts. The Metaverse is a concept of a virtual world, or a set of virtual worlds, that can interact with one another. Its main goal is to create a shared virtual space (which could be a social platform, a game, or simply virtual/augmented reality) where users can communicate through avatars. Among the common features between these concepts is the idea of decentralization, the potential use of smart contracts (a key component of Web 3.0) to automate activities in virtual space. Thus, the integration and interaction between them can create new communication possibilities in the digital space.

The evolution from Web 1.0 to Web 3.0 correlates with post humanist concepts through the reevaluation of relationships between people, technology, and art. Within the framework of Web 3.0, art aims to change perceptions of traditional roles of the artist and the viewer, expand the boundaries of perception and participation in art, and raise questions about the impact of technologies on our identity and coexistence with machines.

In recent years, Japanese concerts featuring the 3D hologram of Hatsune Miku, one of the most popular virtual performers, have gained immense popularity. Hatsune Miku is the first Vocaloid developed by Crypton Future Media following Yamaha’s release of Vocaloids Meiko (November 5, 2004) and Kaito (February 17, 2006). The first “live” concert of the virtual idol Hatsune Miku took place on August 22, 2009, at the Saitama Super Arena during the annual anime song music festival (Animelo Summer Live) in Japan. To date, there are two virtual operas featuring Hatsune Miku. The first, “The End,” dates back to 2013 and did not involve real live performers. It was created with contributions from designer Louis Vuitton and director Toshiki Okada, premiering at the Theatre du Chatelet Opera House in Paris. The second, “Weebmalion” — an opera buffa, emerged in 2018, written by Polish composer Krzysztof Żelichowski and performed with the participation of Hatsune Miku and real tenor Aleksander Kunach.

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<sup>15</sup> Hashmi, J. (2023, August 7). *The Journey from Web 1.0 to Web 3.0*. LinkedIn: Log In or Sign Up. <https://www.linkedin.com/pulse/journey-from-web-10-30-junaid-hashmi>

Art created within the scope of Web 3.0 becomes a universe where each work is a specific hypertext interconnected with a new semantic web and largely relies on virtual and augmented realities, blending digital elements with the real world. Artistic practices within Web 3.0 are open-ended, blur semantic boundaries, envisage the plurality of texts across different linguistic (audial, verbal, visual, interactive) levels and their connection; they demolish the barriers between the author and the listener/viewer, creating a unique space for communication between them; and unite various styles and genres, merging virtual and real spaces.

A vivid example of the creation of artistic universes is virtual concerts, which have gained tremendous popularity among musicians and popular performers since 2019. Among the first virtual performances were the concert by DJ Marshmello in the computer game Fortnite and a VR concert by American violinist and composer Lindsey Stirling in collaboration with the startup Wave.

The emergence of the world's first VR concert by Lindsey Stirling on her YouTube channel was likely propelled by the global COVID-19 pandemic, during which nearly all of humanity was restricted from live communication. During the concert, the violinist was in a special studio, and thanks to cutting-edge technologies, her digital avatar was created in virtual space, fully replicating her movements and the sound of the violin, while viewers had the opportunity to watch the concert and listen to it using virtual reality headsets such as the HTC Vive and Oculus Rift. The experiences of Marshmello and Lindsey Stirling inspired similar concerts by other famous performers. We emphasize that all the mentioned changes undoubtedly provide artists with extensive opportunities through new ways of interacting with the audience, while also requiring quick response and adaptability to new conditions that continue to accelerate development.

To summarize, the development from Web 1.0 to Web 3.0 and the corresponding changes in artistic practice, which have shaken traditional notions of the creative process and the mechanisms of human-computer interaction, raise questions about human identification in the digital virtual space that correlate with the posthumanist concepts that emerged at the end of the 20th and beginning of the 21st century. This goes hand in hand with the use of new digital tools, the active involvement of the audience and practical and scientific approaches and confirms Marshall McLuhan's position that "The effects of technology do not occur at the level of opinion or concepts but alter sense ratios or patterns of perception steadily and without any resistance"<sup>16</sup>.

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<sup>16</sup> McLuhan, M. (1994). *Understanding Media: The Extensions of Man*. The MIT Press

Proof of the correctness of McLuhan's position has indeed been provided by the proliferation of various technological tools and methods in the context of Web 3.0. By analyzing examples of artistic projects in which the aforementioned tools and methods were used, we note the strongest influence of technologies on the creative process, which was reflected not only in the forms and genres of the projects analyzed, but also in the established artistic communication models and rules of interaction — from simple observation/listening to full immersion, participation in the creative process or active involvement in the action. Web3 technology and the art industry have come together to radically change the art world. This will not only have a very positive impact on society but will also play an important role in promoting cultural engagement<sup>17</sup>.

## Conclusions

The evolution of the Internet, from static websites that only allowed users to view page content to the modern interactive network, has, in our opinion, had a strong impact on the nature of artistic practice. Thus, thanks to the gradual evolution of the Internet from Web 1.0 to Web 3.0, artists have been given the possibility of interactive engagement with their audience, which could lead to an even greater blurring of the boundaries between the natural and the artificial, between humans and their virtual avatars.

The authors of the article conclude that the gradual convergence of web technologies with the art sphere is taking place in parallel with the strengthening of the interactive component in both areas. Especially in Web 3.0, interaction has reached its highest level, which in our opinion will further change the world of art. It is obvious that the further development of technologies will continue to expand the boundaries of artistic expression and communication, as the dynamic interaction between art and technology, which has been activated especially in recent decades, contributes to the continuous development and transformation of the mechanisms of artistic creativity.

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<sup>17</sup> Web3 in art: Implications for artists, art collectors, and the art industry. *LeewayHertz - AI Development Company*. URL: <https://www.leewayhertz.com/web3-in-art/> (date of access: 30.01.2024).

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**Orientation:** Portrait

**Paper size:** A4

**Layout: From Edge:** Header = 4.8 cm, Footer: 4.6 cm;

**Tick the boxes:** *Different odd and even and Different first page!*

### FONT:

ARIAL, the size of the letters = 11;

### PARAGRAPH:

Align text: Justify.

First Line Indentation: Left, 1.25 cm.

Line spacing: Single

Spacing Before Lines: **0 pt**; Spacing After Lines: **0 pt**.

**STYLES:** Normal.

### TITLE OF THE PAPER:

**Font:** ARIAL, MACROS, BOLD, the size of the letters = 12; Align text: Center

### NAME OF THE AUTHOR:

The author's name is placed under the title:

**Font:** ARIAL, MACROS, BOLD, the size of the letters = 11; Align text: Center

The order of the name: first name then surname.

Name of several authors are separated by a comma.

**FOOTNOTES:** the size of the letter = 9; Align text: Justify; Line spacing: Single

Spacing Before Lines: **0 pt**; Spacing After Lines: **0 pt**.

**!!! Important:** The titles that are quoted into the footnotes will have their translation into English put in **round brackets in Italic the (*Translated Title*)**

- Hanging: 0.35 cm

*Studia UBB Musica* uses the **MLA8 Citation System**. For Guide, click here:

<http://www.easybib.com/guides/citation-guides/mla-8/>

### Citation Example for books:

Coca, Gabriela. *Ede Terényi – History and Analysis*. Ed. Cluj University Press, Cluj-Napoca, 2010.

### Citation Example for papers:

Coca, Gabriela. "A Profile Sketch in the Mirror of one Work: Sinus for Clarinet Solo by Cristian Misievici." In *Studia UBB Musica*, LVI, 2, 2011, pp. 287-303.

### Punctuation is important!

When quoting a **Web Page**, the **date of access** must be mentioned in brackets.

### BIBLIOGRAPHY, called: REFERENCES

- The size of the letters in the list of references: 10.

**!!! Important:** The titles of the books (or papers, web pages links) that are quoted into the footnotes must be noted in the list of references as well!

**TABLES:** will be numbered in Arabic (for example: **Table 1**) - written above the table on the top right. They are written using Font: ARIAL, BOLD, the size of the letters = 11, Alignment: right

**On bottom of the tables:**

- The title of the table: centered, on bottom of the table, the size of the letters: 10
- The content of the table: size of the letters: 10

**MUSICAL EXAMPLES:** will be numbered in Arabic (for example: **E.g. 1**) - written above the example on the top right. They are written using Font: ARIAL, BOLD, the size of the letters = 11; Alignment: right.

**On bottom of the example:**

- The origin of the musical example (Composer, Work, and Measures Number taken from the score) is mentioned: on bottom of the example, with the size of the letters: 10, ARIAL, BOLD; Alignment: Center

**FIGURES and PICTURES:** the quality of the figures / pictures, the Xerox copies or the scanned drawings must be very high quality.

- The Figures and Pictures will be numbered in Arabic (for example: **Figure 1** or **Picture 1**) - written above the example on the top right. They are written using Font: ARIAL, BOLD, the size of the letters = 11, Alignment: right.

**On bottom of the figures and pictures:**

- Under each illustration, there must be an explication of the figure / picture attached with the size of the letters: 10, ARIAL, BOLD; Alignment: center.

\*

**Each study must be preceded by a SUMMARY into English of 10-15 lines:**

- Indent full text of summary in the left side: 1.25 cm
- FONT: ARIAL, the size of the letters = 10.

\*

**Each study must be containing under the summary 3-6 KEYWORDS extracted from the study.**

- Indent in the left side: 1.25 cm
- FONT: ARIAL, the size of the letters = 10.

\*

**Each study must include, next to the name of the author** on the footnote there must be mentioned the name and the address of the institution where he/she is hired, the profession (the didactic rank), and the contact e-mail address of the author.

\*

**Each study must contain a short AUTOBIOGRAPHY of the author (ONLY 10-15 LINES), placed after the REFERENCES at the end of the paper.**

- The autobiography should be formulated as a cursive text, in the 3rd person singular.
- The size of the letter: 10.

**In this short autobiography, the author can link to a personal web page, where readers can find more information about himself and his work. This excludes Facebook pages. We recommend institutional pages, or a profile page on [www.academia.edu](http://www.academia.edu).**