

SOUNDS, LINES AND COLORS: SYNESTHETIC CODES IN LIGETI'S MUSIC*

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ABSTRACT

Few modern composers have explored the relationship between sound and image to a greater extent than Ligeti. A self-proclaimed synesthete, he relied on both explicit and implicit visual stimuli to influence his creative process at every level. The arts of painting and graphics provided him with a sense of the decorative, while computer-generated images such as the Julia or Mandelbrot sets supplied him with new and modern means of inspiration. Recognized as a great connoisseur of the fine arts, from Canaletto and Guardi to Picasso, Magritte and the collages of Peter Balke, he seemed to blend sounds, lines and colors in his music, developing compositional methods from pictorial techniques and optical effects. Ligeti borrowed the continuous transformation technique from Escher, the blurring manner from Cézanne, and also had recourse to the so-called *objets trouvés* from Pop Art, from which he created brilliant musical collages. Moreover, he made subtle use of the *Augenmusik* manner of depicting words in music in *Three Fantasies After Hölderlin* or in *Nonsense Madrigals*, and also sketched in sounds a *Self Portrait with Reich and Riley*. Owing to the presence of a multitude of visual references in his music, Ligeti occupies a unique territory of

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intersensoriality and articulates a poetics of synesthesia. The composer himself regarded his work as a window on an eternal sonorous landscape, inviting us to celebrate his music as a brilliant *trompe l'oeil* of 20th century music.

Keywords: Ligeti, fine arts, Escher, Cézanne

“Do you dream in color?” [14] This is a perfect question for a composer like Ligeti, who constantly glanced toward the visual arts, in search for inspiration. It is also the right question to address to a self-confessed synaesthete, who sketched in sounds a *Self-portrait with Reich and Riley, (with Chopin in the background)*¹⁰⁸. However, Ligeti should not be regarded as an artist who merely replicated paintings, launching himself naively into the territory of visual representations, but rather as an artist who placed art on an exophoric axis (if we were to borrow the term used by Tony Côme [4]), probing territories on the border of music and applying his own methods of combining sound and image. Such an aesthetic graft eventually served to enrich his compositional palette – a capital sin according to Adorno [1], who strongly argued against the idea of “pseudomorphism” (by which he meant any kind of boundary transgression between the different artistic mediums). Adorno's ideas made even the investigation of such connections thoroughly unpopular, if not risky to the scientific approach, especially when combining the temporal arts (*nacheinander*, according to Lessing [10]) with the spatial arts (*nebeneinander*), completely incompatible in their aesthetic function.

However, Adorno's ideas failed to convince the artists against using such “manoeuvre”, so that many of them enthusiastically indulged in a pan-aesthetic adventure. On the one hand, we can detect a duality in the practising of the arts or in their full and independent manifestation in one and the same author, such as Pound, a poet who composed music, or Kokoschka, a painter who wrote an opera libretto. To the same category we can add Schönberg, Marcel Mihalovici – the Romanian naturalized in France, or Ede Terényi from Cluj, all of whom masterfully alternated the compositional pen with the painting brush.

¹⁰⁸ *Selbstportrait mit Reich und Riley (und Chopin ist auch dabei)* is the second in the cycle of pieces for piano four hands – *Drei Stücke*, composed by Ligeti in 1976 and dedicated to the famous piano duo Alfons and Aloys Kontarsky.

Still more interesting, but in equally flagrant disregard of Adorno's ideas, should be considered the fusion between artistic mediums in defining a unique product: Mondrian paints geometric shapes which echo the steps of the foxtrot by means of the "explosive syncopation against the frame" [5, p. 185], Kandinsky conceives his color-tone drama *Yellow Sound* (1912), Varèse operates a transposition of technology to music, in a Dada manner, launching a new concept called "machine aesthetic". Morton Feldman defines his own oeuvre as something between painting and music [6, p. 25], while Skryabin sets a synesthetic event with light, color and music in his piece *Prometheus*. However, music history has also recorded a famous case of a true synesthete artist in the person of Olivier Messiaen.

The idea of fusing the artistic mediums is in perfect line with Bertrand Castel's creative efforts of inventing the "ocular harpsichord" (*Clavecin pour les yeux*, 1725), Alexander László's patented device "color piano" and his book *Farblichtmusik* (Color-Light Music) [2, p. 85], or Carol Bérard's vision of *Chromophonie* (1925), where he pleads for the union of sonorous and luminous vibrations in the artistic act.

In Ligeti's case one can analyze the fusion between music and the fine arts at a multitude of intersecting points, starting with the naturalistic manner of evoking the Carpathian landscape in his *Romanian Concerto*, at the beginning of his compositional career. 25 years later, but using a much more complex arsenal and musical language and showing an obvious penchant for the surrealist tone, he sets a vividly sonorous depiction of Breughelland in the opera *Le grand macabre*, with two of Breughel's pictures in mind: *The Land of Cockaigne*¹⁰⁹ and *The Triumph of Death*.

But these are but two of the simplest cases in Ligeti's oeuvre, which overall is an apotheosis of synesthetic codifications and in which sounds, lines and colors are integrated into a coherent vision.

On closer inspection one has to acknowledge a criss-crossing of the discursive boundaries in Ligeti's music: as in a genuine *blending mode* process, literature and philosophy generated visual sensations which later became musical substance, fuelling an entire chain of meanings and

¹⁰⁹ *Le Pays de Cocagne*, the equivalent in Western European culture to a heavenly country of wealth and eternal feast. The German translation *Das Schlaraffenland* means a land flowing with milk and honey.

conditions. The writings of Gyula Krúdy or Carl Popper sparked the composer's imagination, who converted the literary text into the pixelated image of the precise time-measuring mechanisms, which eventually ended up as irregular beats on the staff. Pieces such as *Poème symphonique for 100 metronomes*, *Clocks and Clouds*, fragments from the *Chamber Concerto* and *Les horloges démoniaques* from *Nouvelles aventures*, all represent hallmarks of Ligeti's style in the 60s and 70s, as well as visual alterities of the mainsprings, minute hands and second hands in action. The transition from the well-defined multiple beats of differently set clocks towards their dilution into a suspended, indefinite temporal flow, calls for a famous associative value in the fine arts, explicitly evoking, in Ligeti's music, Dali's soft watches¹¹⁰:

Example 1: György Ligeti, *Chamber Concerto*, 3rd Movement, bars 58-61

The image shows a page of a musical score for György Ligeti's *Chamber Concerto*, 3rd Movement, bars 58-61. The score is divided into two systems. The first system includes woodwind parts for Piccolo (Picc.), Oboe (Ob.), Clarinet 1 (Cl. 1), Clarinet 2 (Cl. 2), Cor, Trumpet (Trbn.), and Piano (Pf.). The second system includes string parts for Violin 1 (Vn. 1), Violin 2 (Vn. 2), Viola (Via.), Violoncello (Vc.), and Oboe (Ob.).

At the top of the first system, there are markings: "Picc. *Silenzio, senza tempo* (colla parte al [N])" and "59". The woodwind parts have dynamic markings like *ff* and *sf*, and some have performance instructions in German and French, such as "nur einmal anblasen (attack only once)" and "gestopft/blagued" vs "offen/ouvert".

The string parts have a complex rhythmic pattern of notes. The Violin 1 part has German lyrics: "den Bogen nehmen / take bow" and "at l'attaque". The Violin 2 part has German lyrics: "den Bogen nehmen / take bow" and "al l'attaque". The Viola part has German lyrics: "den Bogen nehmen / take bow" and "al l'attaque". The Violoncello part has German lyrics: "den Bogen nehmen / take bow" and "al l'attaque". The Oboe part has German lyrics: "den Bogen nehmen / take bow" and "al l'attaque".

At the bottom right of the string parts, there are performance instructions in German and French: "sehr spitz und hart / very pointed and hard", "sehr spitz und hart / very pointed and hard", "sehr spitz und hart / very pointed and hard", "sehr spitz und hart / very pointed and hard", "sehr spitz und hart / very pointed and hard", and "möglich / possible".

¹¹⁰ See Salvador Dali, *Soft Watch at the Moment of First Explosion*, ink on paper, 1954.

Ligeti's pieces of the 60s and 70s, labeled according to their musical substance as static and dynamic, rely upon the visual support of optical effects; the composer's explanations¹¹¹ of his piece *Continuum* for harpsichord point to a misleading *mimesis*: a continuous landscape "sliced" into very small pieces, as if seen through a fence. The rapid succession of the small "cuts" eventually generates, through audio-video compression, the perfect continuity of the whole.

However, Ligeti's music is not formatted according to the principle of photographic "developments" or of the conversion of images into sound. In fact, it is the absorption of painterly effects and optical techniques as applied to music that should be emphasized. Composer Dora Cojocaru perfectly grasped and subtly described this aspect of Ligeti's music, which she likened to a labyrinthine universe, exposing its primary components: "water, mirror, spider web, clock, mechanism – regarded as the remnants of some forgotten myths" [3, p. 83]. In Ligeti's case, the habit of fuzzing the melodic lines and contours encountered a creative stimulus in the Impressionist techniques, and especially in Cezanne's paintings (from whose art the composer confessed to have borrowed the illusion of "movement without movement"), but at the same time in the optical effect known as "blurring function" which the composer studied in the Electronic Music Studio in Cologne. This sensation is created not only by the micro-polyphonic fabric determining the "image granulation" and neutralizing both harmony and rhythm, but also by the manner in which Ligeti plays with unequally-tempered intonation; the micro-intervallic distortions promoted in his music become the equivalent of an improper focal point, as if it were an unclear vision, and eventually of an "optical aberration" transposed into sound. Such a thing occurs in *String Quartet No. 2*, in the *Double Concerto*, or in *Ramifications*. The micro-intervallic accidentals are precisely marked in the score, coexisting with the same notes at their natural pitch, the acoustic outcome being perceived as a "hazy" sonority:

¹¹¹ *All Clouds Are Clocks*, film produced by Barrie Gavin, BBC, London, 1975.

Example 2: György Ligeti, *String Quartet No. 2*, 2nd Movement, bars 10-12

Maurits Escher's graphics had a profound influence on some of Ligeti's works; he brilliantly rendered in music the optical illusion of continuous metamorphosis, or that of stairs ascending and descending in an endless loop. No other piece better conveys this image than the piano study *Vertige*, in which the composer uses a continuous glissando known as the "Risset effect"¹¹² (which in Anglo-American musicology is known as the *Shepard scales* or *Shepard's paradox*) in order to create the acoustical illusion of a perpetual rise or fall¹¹³:

¹¹² After the name of French composer Jean-Claude Risset, a pioneer of electronic music who experimented with numerous sound, timbral and rhythmic effects.

¹¹³ See Maurits Cornelis Escher, *Relativity*, Lithograph, 1953.

Example 3: György Ligeti, *Study for Piano No. 9, "Vertige"*, bars 1-6

dediée à Mauricio Kagel
Étude 9: Vertige
Auftragswerk der Stadt Gütersloh

Prestissimo *) sempre molto legato, $\text{♩} = 48$ (very even / sehr gleichmäßig **)

ppp
una corda
senza ped.

(4) ***

In two of his piano studies¹¹⁴, Ligeti drew inspiration from the work of Constantin Brâncuși; he “knocked over” the *Endless Column* on the piano keyboard, faithfully reconstructing the repeated modular structure of the Romanian sculptor’s work, through the melodic design:

Example 4: György Ligeti, *Study for Piano No. 14, "The Endless Column"* b.1-4

dediée à Vincent Meyer
Étude 14: „Columna infinită“
Kompositionsauftrag der westfälischen Wilhelms-Universität, Münster

Presto possibile, tempestoso con fuoco, $\text{♩} = 105$ *)

16 fff sempre con tutta la forza, legato possibile

very little pedal **)
wenig ped.

3

¹¹⁴ *Study No. 14, "The Endless Column"* and *Study No. 14a, "The Endless Column"* (Book II).



Photo 1: Constantin Brâncuși – *The Endless Column*, Târgu Jiu, 1938

Ligeti's laboratory reveals his habit of initiating the construction of a work from a simple drawing, used as a mnemotechnical device and accompanied by verbal references, and only then supplanting the general design by a score, as the composer himself confessed in an interview made in France¹¹⁵. On this occasion he explained that the sketching stage should not be confused with a graphical score¹¹⁶; to Ligeti the composer, this represents an ideal tool for the organization of the sound material and for the empirical mapping of the raw material, on a musical level.

Features of Pop Art and cartoon movies also attracted Ligeti's attention for musical adaptation; he converted the *10 Pieces for Wind Quintet* into a sequence of vividly colored cartoons replete with pantomime gestures, just as the *collage technique* and the use of *objets trouvés* constitute a common practice in *Le grand macabre*. Regarding his opera, which he ironically ascribed to a special genre ("anti-anti-opera"), the composer

¹¹⁵ *Interview avec György Ligeti*, film produced by Arte, Paris, France, 1998.

¹¹⁶ There are two of Ligeti's works that make an exception, in which he made use of graphic notation, and which were written under the impact of his stay in Cologne, in the electronic music studio: *Glissandi* (1957) and *Artikulation* (1958). The latter was subject to a musicological study conducted by Costin Mioreanu, a Romanian composer established in Paris [13].

stated: "I take bits of actual music or signals, put them in an unfamiliar context, distort them, not necessarily making them sound humorous but interpreting them through distortion, just as a surrealist painting presents the world" [11, p. 59].

There is no doubt that Ligeti's understanding of music was largely visual, in the most subtle sense possible. There is solid proof in the choral pieces *Nonsense Madrigals* or in the triptych of *Hölderlin Fantasies*; Ligeti's way of providing a musical-visual correspondent to the words employed, as in the *decoratio* of musical rhetoric, dates back centuries ago to the Eye-music (*Augenmusik*) times [12, pp. 263; 321; 326], enhancing the expressive power of the piece.

Always receptive to the new scientific theories as well as to the latest advances in technology, Ligeti created aesthetic links between music and the fascinating world of fractal geometry, chaos theory, *blow-up principle*¹¹⁷, window technique or computer generated images, all acting as a hidden visual armature of his music, especially from the mid 70s onwards.

While all these might be viewed as pure speculation, the abundance of explicit references to the Fine Arts in Ligeti's manuscripts prove that his music intimately intersects a multitude of visual references, discarding the idea of a strict disciplinary demarcation. The polysemic substance in Ligeti's works therefore requires an analytical approach through a set of *overlay* techniques, able to simultaneously probe the two intertwined layers of reading: visual and aural.

The documents stored at the Paul Sacher Foundation in Basel serve as ideal tools for deciphering Ligeti's codes of lines, shapes and colors expressed in sounds. Randomly choosing a few manuscript pages, we focus on the sketches of the *Piano Concerto* which include Ligeti's following remarks:

"Klee, Hundertwasser, Bosch-Breughel (*cluster*), like Cézanne's water¹¹⁸, 5th Movement Gaudi"¹¹⁹ – the last one combined with some surprising jazz references such as Charlie Parker's *Ornitology* or *Yardbird*.

¹¹⁷ A prominent mark of postmodernity, in which the explosion of the visual is all pervading.

¹¹⁸ Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Konzert (Kl., orch. 1985-1988) Skizzen und Entwürfe*. Hungarian, in the original: "mint a Cézanne viz".

¹¹⁹ *Ibidem*.

The *Violin Concerto* also keeps the visual as an undercurrent, the manuscript pages being extremely rich in such elements: one of the versions that Ligeti imagined for the 1st Movement considered as reference points Eyck's art, Grünewald's angel wings¹²⁰ kept in Colmar, and Seurat's painting technique, while the 4th Movement alludes directly to the stroboscopic images on the computer screen¹²¹.

The poetics of synesthesia can equally be traced in the sketches of some of his uncompleted works, showing that Ligeti relied on visual stimuli until the last phase of his creative life: in the manuscripts of the opera *Alice's Adventures in Wonderland*, the composer marks, again, the name of Breughel the Elder and his painting *The Land of Cockaigne* ("*Schlaraffendland* – but luminous"¹²²), and continues by evoking Picasso's paintings *Guernica* and *La danse*, associated with the word "violenza", but also the syntagm *objets trouvés* and the name Pollock¹²³. *Labyrinth*, another uncompleted work, intended as an extended piece for large orchestra for the conductor Esa-Pekka Salonen, makes reference to the *Raster System* (an image representation technique used in software applications, in the form of arrays of pixels), as well as to the painters Seurat, Signac, Turner and Cézanne, the composer noting in the sketches the words "*Lights and colors* or *Sea change*"¹²⁴.

The same piece makes reference to the avant-garde artist Tinguely with his *Enfer mécanique*, to the optical effect given by the superposition of two grids at a small angle, known as the "moiré pattern"¹²⁵, and also to the pixel idea as part of the contemporary imagery absorbed by Ligeti in his music. His sketches of the unfinished *String Quartet No. 3* build more bridges between sound, line and color, in a cross experience; "Alhambra ornaments", "in Escher's metamorphoses footsteps"¹²⁶, speak of

¹²⁰ Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Konzert (VI., orch. 1990) Skizzen und Notizen*. Hungarian, in the original: "angyalzsármnyak". The exhibits are housed in the Unterlinden Museum in Colmar, France.

¹²¹ *Ibidem*.

¹²² Hungarian, in the original: "Schlaraffendland de fényvetető". Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Werkprojekte und Fragmente. Alice in Wonderland. Skizzen und Notizen 1/3 SGL/2*.

¹²³ Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Skizzenbuch Braun (Oktav) 1990-2003* and Folder: *Werkprojekte und Fragmente. Alice in Wonderland - Skizzen und Notizen*.

¹²⁴ Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Skizzenbuch Braun (Quart) 1992-2001*.

¹²⁵ *Ibidem*.

¹²⁶ Ligeti Collection, Paul Sacher Foundation, Basel. Folder: *Skizzenbuch Braun (Quart) 1992-2001*. Hungarian, in the original: "metamorfózisok Escher nyomán".

Ligeti's undogmatic approach to composition and of his manner of avoiding automatic settings in music creation.

That Ligeti clearly developed a system of musical and visual interdependence becomes increasingly evident as we draw closer to the composer's manuscripts. It is astonishing how he combines apparently contradictory stylistic worlds from music and the fine arts, blending his sources of inspiration with amazing virtuosity. The manuscripts of his piece *Ramifications* surprisingly place next to each other the names of Bosch and Fahlström¹²⁷, while the *Requiem* finds a visual basis again in Bosch, but at the same time in El Greco or in the mannerist and Baroque painters¹²⁸. Ligeti himself compared the *Dies irae* to "a colorful picture-book, with new images conjured up all the time, in every third line", also adding: "Here I definitely wanted to paint pictures in music; my aim was a virtual representation" [11, p. 49]. The organic links between sound and image in Ligeti's oeuvre are clearly pinpointed by Dora Cojocarú who, in an extensive and thorough research on the music of this iconic composer of the second half of the 20th century, identifies the mechanism by which Ligeti achieved the fusion of these two artistic domains: "/ ... / the music of this composer generates, at every moment, the most attractive color and visual associations. They possess a specific structural arrangement which creates direct analogies to similar structures in other branches of art (literature, graphics, painting). Based on some particular features, music opens out toward the image, but without remirroring it illustratively; it will not generate synesthetic sensations, but rather will reassert itself synaesthetically" [3, p. 81].

Given all this, Ligeti would seem the ideal artist to be commissioned by the city of Nürnberg, in 1971, a piece celebrating the 500-year anniversary of painter and printmaker Albrecht Dürer, to which the composer's response was the piece *Melodien*, written in 1971.

But his connection with the fine arts also reaches towards the performance of his pieces. The composer discusses in painting terms even the choice of the performing artists, as well as the way his music should remain recorded for posterity (see the Sony Ligeti Edition collection). Especially memorable in this truly privileged context are his collaborations with world-renowned artists and ensembles: Pierre Laurent Aimard,

¹²⁷ Ligeti Collection, Paul Sacher Foundation, Basel, Folder: *Ramifications* (Skizzen).

¹²⁸ Ligeti Collection, Paul Sacher Foundation, Basel, Folder: *Requiem 1/6* (Skizzen).

Saschko Gawriloff, Irina Kataeva, Elisabeth Chojnacka, Tabea Zimmermann, conductor Esa-Pekka Salonen, the Arditti Quartet, The King's Singers and others. According to the composer's own words¹²⁹, his works should be presented, through interpretation, as if in a gallery exhibition, enhanced by the art of the performing musicians, exactly as pictures are displayed in the best light possible.

While the composer described his pieces as open windows capturing fragments of an ever-changing landscape, allowing us to see his oeuvre as a brilliant *trompe l'oeil* of 20th century music, we could also say that his music, as seen through Ligeti's "looking glass", fits perfectly Douglas Hofstadter's definition of a *strange loop* [9], forever inviting us to solve its "puzzle" in order to unlock and parcel out new levels of meaning. Moreover, the oeuvre of the composer originating from Transylvania could provide Hofstadter with fresh ideas for writing a new book entitled "Popper, Escher, Ligeti" [8], extending his eternal golden braid into a new and fascinating dimension.

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¹²⁹ *Interview avec György Ligeti*, film produced by Arte, Paris, France, 1998: "Comme un peintre veut exposer les tableaux dans un endroit bien éclairé". The explanation is preceded by the composer's following remark, made in a sober tone: "C'est ma vanité artistique! Et mon droit."

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