

AMY BAUER

»A Space That Already Exists«

Ligeti's Recursive Model of Musical Experience

Ligeti did not often specify spatial arrangements in his scores; when they appear they are generally linked to the dynamic and timbral requirements of a work, as in, for instance, the echo violins and trumpet in *Apparitions* (1958–59), the keyboard placement in the *Chamber Concerto* (1969–70), or the soloists in the *Double Concerto* (1972). Yet the »function of space in today's music« – to borrow the title of an early essay by the composer – was central to his compositional aesthetics. It embraced the placement of instruments on the concert stage, the movement of sound around the hall, the listener's perceptions of music and, in a larger sense, the space implied by the history of the musical materials themselves, alongside explicit references to past music. Ligeti seems to draw every possible aspect of musical space under one capacious metaphorical umbrella, given that, as he notes, »neither in everyday experience nor in abstract thinking are time and space separable«.¹

There is a recursive element to Ligeti's comments on the perception of musical space in both its material and metaphorical aspects, as momentary perceptions accrue to larger models of form, or allusions to past music accumulate into a larger notion of musical history as space. The composer's essays and interviews indicate an interpretive path through this thicket which the following essay attempts to chart. I begin with the early *Die Funktion des Raumes in der heutigen Musik* (1960) and its comparisons between music and the visual arts, followed by the essay *Form in der Neuen Musik*² and its discussion of spatial music throughout history. I then relate Ligeti's comments and writings on music and space directly to several of his works from the 1960s onward, and to Ligeti's ideas on how contemporary music might embody both a new, more concrete sense of musical space that reflects a critical understanding of its own history.

¹ György Ligeti: »Die Funktion des Raumes in der heutigen Musik«, in: *Gesammelte Schriften*, Bd. 1, ed. Monika Lichtenfeld (Veröffentlichungen der Paul Sacher Stiftung 10), Mainz 2007, p. 108; first published as »Die Entdeckung des Raumes in der Musik«, in: FORVM 76, April 1960, pp. 152–154; all translations from the original by the author unless specified otherwise. ² This essay exists in several forms; citations reflect the version published as »Form in der Neuen Musik«, in Ligeti: *Schriften 1* (see fn. 1), pp. 185–199.

Die Funktion des Raumes in der heutigen Musik

Ligeti's *The Function of Space* posits a new era that will displace a prior »spaceless« listening practice – attributed to Classical-Romantic aesthetics – in which the direction of sound waves, and the space in which we listen, were irrelevant to the form of a work.³ According to the composer, the older practice was ruled by a causal teleology, based on the forward motion of the tonal system; the listener caught up in the harmonic flow was transfixed only by temporal issues, never spatial ones. As Ligeti notes, it was not always so: the antiphons of Gregorian chant, the poly-choral singing of the Renaissance, and the Venetian early baroque all exploited spatial effects of near and far. In the intervening years spatial effects became just that: dramatic effects unrelated to the form and substance of a musical work.

At the time of writing Ligeti dated the birth of a new spatial music to Stockhausen's works of the latter 1950s, *Gesang der Jünglinge*, *Gruppen*, *Carré* and *Kontakte*. He saw John Cage's *Concerto for Piano and Orchestra*, and the electronic, tape and chamber works by European colleagues Luciano Berio, Herbert Eimert, Gottfried Michael Koenig, Bruno Maderna and Henri Pousseur as taking up the challenge of a truly spatial music. Technical developments such as multi-channel sound and rapidly-spreading innovations in electronic music obviously spurred new approaches both in- and outside the studio. But with Adornian logic, Ligeti credits the historical evolution of musical material itself for the emergence of »music in space«. In his words: »The sequence of tension and relaxation, expectation and fulfillment was disturbed and finally disappeared from the harmonic context«. ⁴ By forgoing the motion provided by functional harmony, these contemporary works halted the flow of form through time. Such music made us more aware of space, prompting one of Ligeti's first psychological metaphors: spatial associations, which had been a subliminal feature of all music prior to this, were rising to consciousness in the new music.

Ligeti dates his own preoccupation with static music to an evening in 1950 Budapest, spent walking through the cold after musing in a café with Endre Szer-vánszky.⁵ He envisioned a music »without melody, without rhythm, a music in which the figures – many swarming little figures – would no longer be recognizable as details but were entwined in one another, intermingled with one another, in which the colors would shimmer and iridesce«. ⁶ Ligeti's works of the 1960s took up a dual challenge: they attempted to outline visceral, felt musical spaces while employing a harmonic language that proceeded without palpable development.

3 Ligeti: »Funktion des Raumes« (see fn. 1), p. 107. **4** Ibid., p. 108. **5** György Ligeti in Bálint András Varga: *From Boulangier to Stockhausen: Interviews and a Memoir*, Rochester, N.Y. 2013, p. 49. **6** Ursula Stürzbecher: *Werkstattgespräche mit Komponisten*, Cologne 1971, p. 36.

Atmosphères (1961) functions as a formal illustration of this approach, as a plane of sound composed of 56 instruments is compressed into a funnel at measure 29, and expands again at measure 44. Further contractions shift towards the upper (mm. 39, 66, 88), middle (m. 53) and lower bounds (mm. 40, 76, 98) of the pitch gamut at regular intervals, sculpting the contours of the largely static work as it moves through space. The end of the Cello Concerto's first movement (1966) finds the deep notes of the double-bass doubling the harmonics of the cello at the octave, in Ligeti's words »so that an almost infinite space opens up between the two registers«. ⁷ *Lontano* (1967) exists as a monumental, largely stationary form given tangible dimension by both its expansion and contraction, and the movement of breakaway instrumental groups and audible motives percolating on the work's margins. According to the composer, the chromatic, rhythmically-indivisible writing of these works functions as a proper historical expression of the musical material, adapted to a post-serial landscape. But Ligeti clearly saw these technique as promoting his own model of spatial form in new music. As he explained in an interview with Denys Bouliane, micropolyphony and similar textures promote the physical delineation of musical space, such that »the time that elapses during the performance is turned into space«. ⁸

Visual Analogues

The Function of Space also contains one of Ligeti's first references to the visual arts as a model for the new music. In a flat image the depth of space must be simulated, created through illusory methods, while the temporal dimension is not evident. But it is not only time that becomes space: »Space evokes time«, and vice versa, their unity forged by implied movement and spatial relations. ⁹ Each particular era and genre of art bears its own »tempo marking«, its own virtual, associatively-formed time, in addition to the »scanning time« (*Abtastzeit*) that marks the expanse of time experienced by a work's beholder. A viewer's eye traverses paintings by individual artists at contrasting rates, as Ligeti avers, »from the ›presto‹ of the Italian Futurists or today's ›action painting‹ to the ›largo molto sostenuto‹ of Byzantine ikons or of many Mondrian paintings«. ¹⁰

Ligeti's prescient observations on the viewer's experience of temporality in visual art seem to predate art theorist Michael Fried's famous essay *Art and Objecthood* from 1967. Fried's essay was directed against the »literalist work« – his preferred term for minimalist art – which in his opinion, usurped the »pictorial« focus

⁷ György Ligeti in *Conversation with Péter Várnai, Josef Häusler, Claude Samuel and Himself*, trans. by Gabor J. Schabert / Sarah E. Soulsby / Terence Kilmartin / Geoffrey Skelton, London 1983, p. 52.

⁸ Denys Bouliane: »Geronnene Zeit und Narration: György Ligeti im Gespräch«, in: *Neue Zeitschrift für Musik* 149, May 1988, p. 21. ⁹ Ligeti: »Funktion des Raumes« (see fn. 1), p. 108. ¹⁰ *Ibid.*, p. 109.

of art proper, a focus that modernist art preserves through the discipline of »shape«.¹¹ Fried locates temporality as the key that unlocks this new artwork, one that promotes the absorptive attention of a viewer in order to produce a unique, expansive sense of »time both passing and to come, *simultaneously approaching and receding*, as if apprehended in an infinite perspective«.¹² Ligeti's detailed descriptions of his early works similarly often describe them as a series of graphic images: the overall form of *Apparitions* is a »dark block surface followed, through a sudden explosion of light, by a high register block«, the *Dies irae* of the *Requiem* (1963–65) is an immobile picture-book, *Volumina* (1961–62; rev. 1966) is a »sculpture which is empty«, and the dark progress of *Lontano* is suddenly illuminated from behind as in an old master's painting.¹³ Later interviews with the composer often refer to the inspiration gained from Paul Cézanne's mature paintings, which are not merely inert but capture a palpable sense of inner temporality. In them »[t]ime is not an object of painting, and yet time was painted there«, rendered heavy and solid; in his »clumsiness« at capturing perspective, Cézanne captured in high art the notion of »frozen time«.¹⁴ Ligeti's artistic inspirations gradually grew more fanciful, and geometrically complex. They included the engravings of M. C. Escher, which explicitly influenced the harpsichord work *Continuum* (1968) and the fourth movement of the Sonata for Viola.¹⁵ Ligeti mentioned Giovanni Battista Piranesi's *Carceri d'invenzione* (shown in Fig. 1), as influencing *Lontano* in a letter to Ove Nordwall, and Richard Steinitz discovered that an unfinished orchestral work by Ligeti included Piranesi as the provisional movement title.¹⁶ Both graphic artists are cited as influencing the piano etudes, where optical illusions are mapped onto their acoustic corollaries, while the general notion of a topological »twist« in space animates the *Facsar* movement of the viola sonata.¹⁷

But what of »primary and real« time in modernist music? According to Ligeti's *The Function of Space*, our awareness of spatial aspects in twentieth-century music dates to Adorno's observations on Debussy and Stravinsky in *Philosophy of New Music*, whose music required listeners to retrain their ears, and perceive succession

11 Michael Fried: »Art and Objecthood«, in: *Art and Objecthood: Essays and Reviews*, Chicago, Ill. 1998, p. 150. **12** *Ibid.*, p. 167. **13** *Ligeti in Conversation* (see fn. 7), pp. 43, 49, 92. **14** Hans-Joachim Erwe: »Interview mit György Ligeti«, in: *Zeitschrift für Musikpädagogik* 37, November 1986, pp. 9f.; Bouliane: *Geronnene Zeit und Narration* (see fn. 8), p. 21. **15** György Ligeti: *Monument, Selbstportrait, Bewegung. Drei Stücke für zwei Klaviere*, program note for the premiere in Cologne on May 15, 1976, reprinted in: *Gesammelte Schriften*, Bd. 2, ed. Monika Lichtenfeld (Veröffentlichungen der Paul Sacher Stiftung 10), Mainz 2007, p. 278; György Ligeti: *Sonata for Viola Solo*, program note for the premiere in Gütersloh on April 23, 1994; reprinted in *Ibid.*, p. 309. **16** Ove Nordwall: *György Ligeti*, trans. by Hans Eppstein, Mainz 1971, p. 90; Richard Steinitz: »The Study of Composers' Sketches, and an Overview of Those by Ligeti«, in: *Contemporary Music Review* 31, 2012/2–3, p. 131. **17** Karol Beffa: »György Ligeti: le grand totem«, in: *Diapason* 503, May 2003, p. 66; Ligeti in Varga: *From Boulanger to Stockhausen* (see fn. 5), p. 46.

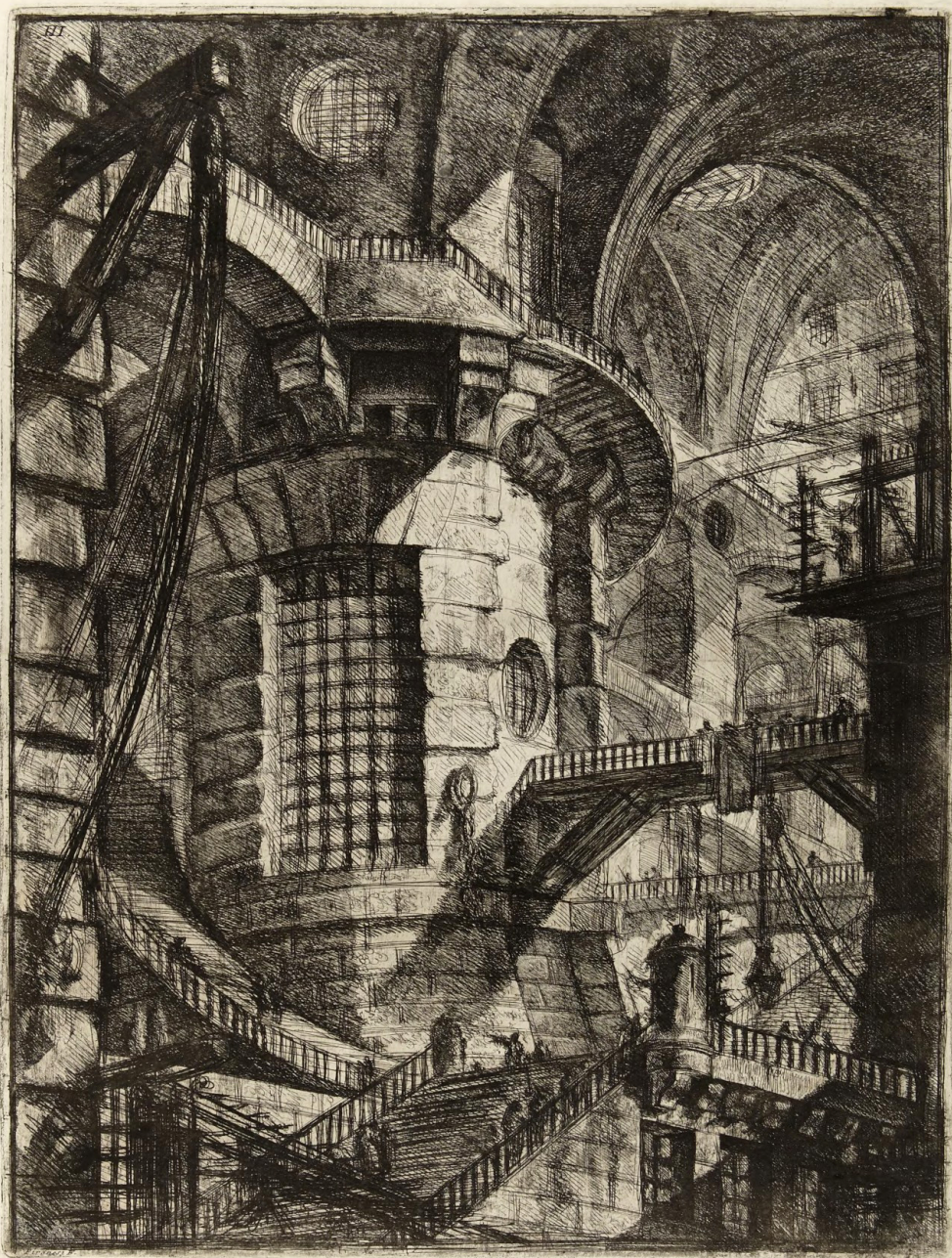


Figure 1 Giovanni Battista Piranesi, *Le Carceri d'Invenzione*, plate III: *The Round Tower*. Etching, 1761. Princeton University Art Museum, x1938-13 c.

as simultaneity, as an eye wanders over a painting.¹⁸ Ligeti cites the most essential property of space as its reversible quality, perfectly embodied by Webern's motivic figures, which seem to circle and return without end. This retrograde motion reached its culmination in select works of integral serialism, with their sonic carpets of mighty »oriental« calm [*orientalisch-mächtiger Ruhe*].¹⁹ Ligeti considers the translation of imaginary space into the material space of performance and listening – into real directions and real distances – a job for post-serial composers. The far-reaching consequences of the spatial revolution in music will require changes to notation, performance practice and concert halls. *The Function of Space*, it is important to note, takes great care to distinguish such concrete spatial relations, and our perception of them, from a separate space of musical reference and allusion. Ligeti experimented with the former, yet he ultimately seemed more enthralled by the latter: the creation of an imaginary, associative space that relied on deeply entrenched metaphors and a sense of temporality beyond the work itself.

Form in der Neuen Musik

For the 1965 congress on musical form at Darmstadt, Ligeti sought the aid of Carl Dahlhaus in composing one of his most extensive essays. The result – *Form in der Neuen Musik* – further relates musical form to cognitive categories of temporal and spatial perception. Metaphors that consider pitch change as orientation in vertical space, and pitch duration as representing horizontal space, are here expanded by an impression of spatial depth shaped by dynamics and tone color. According to the composer listeners experience music as a kind of inverted, illusionary perspective, given that musical shapes and events *themselves* both create the »space« we hear and also occupy an imaginary space: a space that – for each listener – already exists.

This recursive cognitive model – in which local perceptions accumulate to construct a broader notion of musical space – allows Ligeti to expand his previously-developed spatial metaphor to embrace imaginary harmonic, syntactic, historic and architectural spaces. Part of this larger musical imaginary is the notion that there exists some ideal object »music« that can be conceived of as pure, temporal process. Yet the mere process of phenomenological perception draws on prior associations, abstractions, memories and predictions, to establish the space in which an individual work exists: both as a form in itself, one that relates to other works, and one which connects to the sum total of musical history. Our musical present thus becomes a potent concentrate of »all music previously experienced«.

18 Theodor W. Adorno: *Philosophie der neuen Musik*, Tübingen 1949, cited in Ligeti: »Funktion des Raumes« (see fn. 1), p. 110. **19** *Ibid.*, p. 111.

Ligeti shadows Adorno when he asserts that musical syntax »is transformed by and through history«. What is formed in music is already »form«, not mere material to be acted upon. Yet Adorno's subject wrestled with a tradition that subsisted as latent, sedimented musical structure. Ligeti's metaphor assigns the past a role external to the work: the weight of compressed history – as accumulated and represented time – produces an »imaginary time« of a higher power; history is always already an imaginary space, one that unites musical substance, rhetoric, and affect.²⁰

Ligeti's subsequent commentary illuminated what he meant by this »imaginary time«, and what it meant for his aesthetics. Speaking to Eckhard Roelcke he noted that »Stravinsky found a unique solution by preparing early music as a corpse. He stuffed her«. ²¹ In contrast, Ligeti reads his own *Lontano* as a meta-reference: both a nuanced parody of Bruckner's orchestration and its reliance on organ registrations, and an expression of sound drawing nearer and farther in a vast space, as allusions to Mahler and Debussy percolate to the surface.²² And despite its graphic score and radical sound, the composer insisted on *Volumina*'s subtle ties to tradition: »under the surface, there remain vestiges of past writing for the organ. In some places you can sense certain baroque figurations [...]; Liszt and Reger and the romantic sound of the organ are also there, playing a subliminal role«. ²³ A registral graph of *Volumina* in Figure 2 shows the way in which spatial expansion and density correlates with a view of the work as a traditional theme and series of 13 variations. And Ligeti remarked that the orchestral work titled *San Francisco Polyphony* (1974) was more Viennese than American, as it alluded to the music of Berg and Mahler. According to the composer, in these works we experience »distance, remoteness, as an aura of feeling that surrounds this music [...] understood as a purely musical category. [...] Programme music without a programme, music that is developed extensively in its associations, yet pure music«. ²⁴

Form in the New Music determines that aspects of form in a larger sense ultimately obey a »dream logic«, an atemporal, halting sense of progress, which forms an »immense net that drags itself through the ages«. Composers affix to this or that »place«, creating new knots, patterns and rips in the structure. Yet from a great distance, »one sees almost transparent bundles of thread which imperceptibly cover the tears: even what is seemingly without tradition has a secret connection to what was«. ²⁵ This poignant image evokes Lacan's concept of the gaze, the split subject expressed in visual terms, its internal alienation expressed as »a gaze imagined in the field of the other«. The subject, gazing at the snarls and kinks of »the system of musical form and its history« sees that alienated Other staring back at him, from a

20 Ligeti: »Form in der Neuen Musik« (see fn. 2), p. 187. **21** György Ligeti / Eckhard Roelcke: »Träumen Sie in Farben?«. *György Ligeti im Gespräch mit Eckhard Roelcke*, Vienna 2003, p. 197.

22 Ligeti: *Ligeti in Conversation* (see fn. 7), p. 56. **23** *Ibid.*, p. 95. **24** *Ibid.*, p. 102.

25 Ligeti: »Form in der Neuen Musik« (see fn. 2), pp. 187ff.

point that excludes herself as viewer. The Real of music remains inaccessible; we can glimpse its deformations only in the knots and torn threads that appear to conceal the truth. The transparent threads of history are thus the object-cause of desire: they resemble not simply the inert substance of musical form, but that which causes the subject to desire to at all, and thus that which causes new music to enter the world.²⁶

String Quartet No. 2 (1968)

If as Ligeti avers, new music enters the world through an oblique connection with what was, this appears differently in different works and genres. Ligeti's works of the 1960s arguably culminate in his Second String Quartet of 1968, and its veiled »imaginary time of a higher power«. In a sense, String Quartet No. 2 comes to terms with Ligeti's personal legacy since 1954, after success, scandal and a degree of security in his technical language prompted a retrospective turn. Intended as an index of the composer's techniques to date, the second quartet was his first work composed with more than two movements since 1956. The first movement is marked *Allegro nervoso* as if to comment ironically on the »burden of tradition«, the very attempt to compose a quartet after »Beethoven's last quartets, or Bartók's fourth and fifth quartets, or the *Lyric Suite*, or after Schoenberg«. ²⁷ The second quartet follows a retrospective narrative, rewriting the first quartet as a series of variations on a chromatic theme, what the composer called a »dissolved manifestation« of the earlier work. ²⁸ Unlike the first quartet which summoned the ghosts of Bartók and Berg, the second quartet draws more audible cues from Webern, as well as reaching further back in time to discrete but related movements of Beethoven's Op. 130.

Ligeti's *Allegro* substitutes shifting *sostenuto* and *meno mosso* sections for Op. 130's *Adagio* and *Allegro*. As extreme distillates of a formal contrast that once embraced melody, harmony, texture, dynamics and tempo, they imply an irrevocable dissolution of Beethoven's already fragmented sonata form. The quartet's movements are all variations on the same chromatic thought, as reflected through the prism of what had become for Ligeti well-defined tropes of the fragmented (movement I), the static (II), the mechanical (III), and the »threatening« (movement IV, whose condensed form Ligeti compares to a dwarf star). This chromatic kernel recursively expands and contracts in space throughout the work, accompanying the constant shifts in style and rhythm. Hence a circular re-evaluation of the musical object is encoded into the fabric of the second quartet. Suffused with allusion, the quartet floats above the tradition, as if tethered to it by a kind of lifeline.

²⁶ Amy Bauer: *Ligeti's Laments: Nostalgia, Exoticism and the Absolute*, Farnham 2011, pp. 93–109.

²⁷ Ligeti: *Ligeti in Conversation* (see fn. 7), p. 103. ²⁸ *Ibid.*, p. 14.

♩ = 74 Allegro con delicatezza – stets sehr mild – / – always very mildly –

»wie aus der Ferne« stets akzentlos,^{*)} liquid, ohne jede merkbare metrische Einteilung bzw. Pulsation, stets sehr gleichmäßig.^{**)}
 »as though from afar«, without accents,^{*)} liquidly, with no perceptible metrical division or pulsation, very even at all times.^{**)}

V

sul tasto, senza colore, sempre legatissimo ***
 sempre *pp*

sul tasto, senza colore, sempre legatissimo ***
 sempre *pp*

sul tasto, senza colore, sempre legatissimo ***
 sempre *pp*

sul tasto, senza colore, sempre legatissimo ***
 sempre *pp*

N. B. In diesem Satz sind #, b, ♮, falls nicht geändert, für die Dauer des jeweiligen Taktes gültig.
 In this movement #, b and ♮ are valid for the whole bar, unless changed.

*) Ausnahme – wo Akzente besonders angegeben sind (doch fallen diese nicht mit der metrischen Einteilung zusammen.)

Except where accents are specifically prescribed (but these do not coincide with the metrical subdivision.)

**) Gilt für Takt 1–17: Anzahl der Töne pro Takt bzw. Takteinheit approximativ.

Applies to bars 1–17: the number of notes per bar or beat is approximative.

***) Bogenwechsel alternierend zwischen den einzelnen Instrumenten.

Changes of bow should alternate between the instruments.

Figure 3 György Ligeti: Opening of String Quartet No. 2, V, Allegro con delicatezza.

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Although published a few years later, Ligeti's article *Spatial Effects in the Music of Gustav Mahler* suggests that the composer drew on techniques similar to those of Mahler in his 1960s works.²⁹ *Spatial Effects* employs the opening of the Fifth Symphony's Trauermarsch to make a crucial point about spatialization in music. Although instruments are not distributed in space, Mahler begins with a monodic fan-

²⁹ György Ligeti: »Raumwirkungen in der Musik Gustav Mahlers«, in: *Schriften 1* (see fn. 1), pp. 297–284; first published as »Gustav Mahler und die musikalische Utopie 1: Musik und Raum«, in: *Neue Zeitschrift für Musik* 135, 1974/1, pp. 7–11.

fare, a trumpet signal that will recur amid varied accompaniments. Throughout the movement this simple melodic phrase transports us in both space and time. The fanfare itself undergoes a journey, accumulating references and import as it continues, to establish its own history. When the theme reappears again at the end, it is heard twice in the trumpets, but its response comes in the flutes. This »echo« functions as an acoustic illusion: the flute – due to its weak overtone structure – resembles a trumpet heard from a colossal distance.³⁰

Like the first movement of Mahler's fifth symphony, the final movement of Ligeti's second quartet opens with a rapidly-reiterated minor third: a D \sharp^4 –F \sharp^4 in all four parts marked »from afar«, as shown in Figure 3. And like Mahler's signal, this third recalls both D \sharp –E–F kernel that began the quartet and the entire journey it has taken through subsequent movements. The quartet's finale rewrites its complex opening movement, echoing the arch forms of Bartók's fourth and fifth quartets. As a summary of the quartet as a whole, the final movement is both expansive and reflective by turns. The anxiety of influence signaled by the first movement's *Allegro nervoso* is transmuted into an *Allegro con delicatezza* of surpassing calm that only twice exceeds a *piano* dynamic.

Over time, Harald Kaufmann's notion of the Second Quartet as the »Endgame« of music – a drama of empty placeholders for the traditional conventions of theme and embellishment – became itself a convention, for a genre whose central meanings retained their rootedness in a continuous, if idealized, tradition.³¹ Yet the second quartet preserves the character Dahlhaus identified with the eternally new: the »quality of incipient beginning«³² made permanent. Time once again becomes space, expanding outward from a harmonic and genre-specific center, in the words of Fried »*simultaneously approaching and receding*, as if apprehended in an infinite perspective«.

Space and the New Music

How does this notion of historical distance explain the gradual introduction of space and the visual as central to modern music as a whole? Ligeti spoke often of Stravinsky and Debussy's static treatment of form: the former »treats time in such a way that he cuts slices out of it, so to speak, and places them on top of and next to each other like blocks«, while the latter composed hovering »sound states«.³³ But these incipient tendencies can be found in the nineteenth-century, in the Prelude to Wagner's *Rheingold* or the dense, unsystematic weaving of Schumann's in-

30 Ibid., pp. 280f. **31** Harald Kaufmann: »Ligeti's zweites Streichquartett«, in: *Melos* 37, 1970, pp. 181–186. **32** Carl Dahlhaus: *Schoenberg and the New Music*, trans. by Derrick Puffett / Alfred Clayton, Cambridge 1987, p. 13. **33** Bouliane: »Geronnene Zeit und Narration« (see fn. 8), p. 21.

ternal voices, which Ligeti characterizes as »a musical form that has overflowed the banks«. ³⁴ And these tendencies are not confined to modernist art and music: Ligeti often referenced literature as well, speaking of the many figures that crowd the space of Brueghel's paintings. ³⁵ The most telling literary reference in this regard involves inspiration Ligeti took from an evocative scene in Kafka's *Das Schloss*. In an interview with Hans-Joachim Erwe he discusses the passage in which the protagonist K. stands alone in a wintry courtyard. A coachman slowly reverses his horses into a stable, while an official backs away in the opposite direction; »first the officer retreats into the building, then the sleigh retreats, and then the total freezing of time«. ³⁶

As in art and literature, the expression of space in music has a demonstrable link to its material as well as to history. The simultaneous multi-layered treatment of accent in Mahler and Stravinsky influenced the muted entrance of fifty-six strings in *Atmosphères*, which imparts a clear sensation of spatial dimension. ³⁷ Ligeti's famous solutions to non-atonal tonality were also dependent on their spatial disposition, as in the seventh piano etude *Galamb Borong*, where a different non-interlocking whole-tone scale is assigned to each hand. When the hands play in the same register, we hear the »gamelan tones«: a super-chromatic six-tone scale with a shadow that functions as an illusory reference to the paired tuning found in the Balinese Gamelan, where each of two metallophones of the same type are tuned slightly differently. ³⁸ As the hands move further apart, we hear each scale distinctly, creating a pronounced »split in our hearing«, a harmonic perception that uses spatial disposition to undermine the reality of twelve-tone temperament. ³⁹ Similarly, we hear two different pitch collections – black key pentatonic and white key diatonic – mesh like zippers at the beginning of the first piano etude *Désordre*, only to move further and further apart, revealing both their modal composition and their existence as imperfect copies of one another. The etude closes as they sail off opposite ends of the keyboard as if continuing in a wider space, illustrated by the bottom figure in Ligeti's early sketch of the work, in which the hands are represented by two halves of a wedge opening outward (Figure 4).

The union of musical space and historical allusion in Ligeti's music is nowhere more evident than in the Trio for violin, horn and piano (1982). The correspondence of musical and historical space reaches its apex in the trio's final movement, which is structured by a chromatic lament melody that echoes Romanian folk, Baroque and

34 Ligeti in Varga: *From Boulanger to Stockhausen* (see fn. 5), p. 49; *Ligeti in Conversation* (see fn. 7), p. 78. **35** György Ligeti / Tom Service: »Prelude for Pygmies«, in: *The Guardian* 17 Oct. 2003, p. 11.

36 Erwe: »Interview mit Ligeti« (see fn. 14), p. 10. **37** *Ligeti in Conversation* (see fn. 7), pp. 76, 85.

38 See for instance Michael Tenzer: *An Introduction to Balinese Music*, Seattle, Wash. 1991.

39 Manfred Stahnke: »György Ligeti und Manfred Stahnke. Gespräch am 29. Mai 1993«, in: Ders. (ed.): *Musik – nicht ohne Worte. Beiträge zu aktuellen Fragen aus Komposition, Musiktheorie und Musikwissenschaft* (Musik und 2), Hamburg 2000, p. 130.

ETUDES POLYRYTHMIQUES

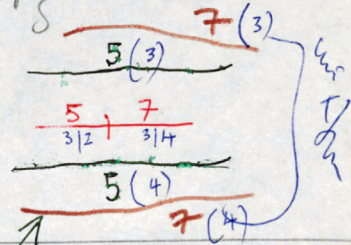
I. POUR PIERRE BOULEZ (DEDIÉ À?) [À SON LX^e ANNIVERSAIRE]
 "Pulsation"
 pianiste: Herbert Henck
 commune de la SÜDWESTFAL, Baden-Baden

«Étude ~~5/7~~ 7/5»

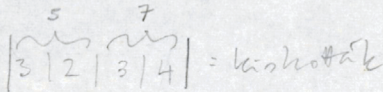
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NAGY: KONTUR = többesviss
 köteq: Öntörvél
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Banda-banda hétérfőia

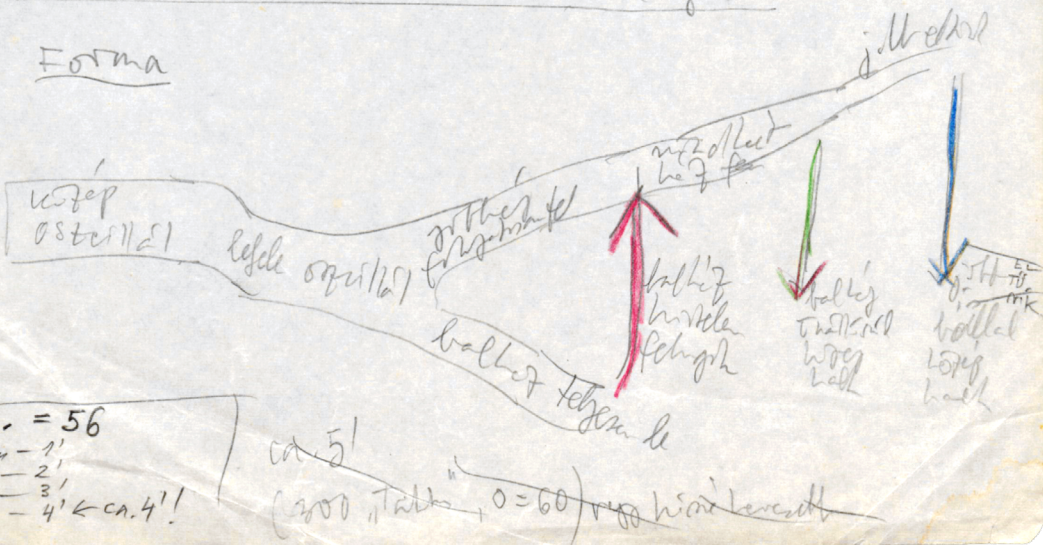


+ helyeselt
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köröphotta'ak: 12 → 3 + 3 + 3 + 3 = p' egység
 8 → 4 + 4 + 4 = p' egység majd eltoldott

NAGYKÖTEQ? (TATA? Ganda' metq?)

Forma



0 = 56
 56 Talán - 1'
 112 " - 2'
 168 " - 3'
 224 " - 4' ← ca. 4'!

ca. 5'
 (200 Talán, 0 = 60) ...

contemporary lament practice. The lament melody returns to its opening pitch after traversing one final circuit, to echo its role as part of a larger musico-historical cycle, as it opens a yawning registral gap, a kind of ontological pun that renders the expanse of history palpable, as shown in a registral graph of the final 20 measures of the work in Figure 5. The piano that enters in the coda with a bright major iteration of the passacaglia in octaves 5–6 returns to the mood of Beethoven's *Lebewohl* motive, which opened the trio; at the same time it recalls the »transforming effect« of the F major violin phrase that returned in the Adagio mesto of Brahms's Horn Trio, »like a ray of light piercing the gloom«.

Ligeti's essay *What does the composer of our time expect of the organ?*, written for a Walcker organ symposium in 1968, applies this fusion of historical and physical space to organology as a separate discipline.⁴⁰ The organ, as a putative Procrustean bed for composers, is compared to the notion of a single, Procrustean musical language. Ligeti discusses the fantastic machines of Athanasius Kircher as a means of introducing the »chicken and egg« problem with regard to instrumental development. Adolphe Sax built the saxophone and Berlioz's music followed, whereas Wagner demanded a new tuba and it was built. A certain »historical inertia« afflicted the acceptance of the valve horn. Both a given historical instrument and an inherited musical language are presented as a kind of bondage, whose ties may be stretched, but not torn, lest they force a revolution in musical thinking. The organ provides a model case of this kind of historical tension, as it has never kept pace with changing compositional ideas. Hence the groundbreaking shift in organ writing that Ligeti dates to 1960, with a nod to the famous premiere of *Volumina*, as composition not for the organ but against it.⁴¹

Ligeti's conception of musical space went beyond simple tropes of visual analogues and static vistas to embrace a philosophical conception – expressed in both his music and writings – that linked the modern evolution of harmonic languages, instruments, playing techniques and performance spaces directly to his invocation of a »critical tradition«, in the words of Hermann Sabbe.⁴² If history is *always already* an imaginary space, the musical substance, rhetoric, and affect of an individual work can operate to expand that space, in an ever-changing relation that resists static postmodern or historical paralysis, to link Ligeti's conception to contemporary concerns with materiality and embodiment. The physical articulation and mapping of space in the music of Ligeti prefigures the defining feature of much spectral and timbral-focused music that places sound, timbre, and the liminal at the center of its aesthetic. Samuel Wilson in *New Music and the Crises of Materiality* explores

40 György Ligeti: »Was erwartet der Komponist der Gegenwart von der Orgel?«, in: *Schriften 1* (see fn. 1), pp. 217–230; first published in Hans Heinrich Eggebrecht (ed.): *Orgel und Orgelmusik heute. Versuch einer Analyse*, Stuttgart 1968, pp. 168–183. **41** *Ibid.*, p. 219. **42** Hermann Sabbe: »Vorausblick in neue Vergangenheit. Ligeti und die Tradition«, in: *Neue Zeitschrift für Musik* 1993/1, pp. 4–7.

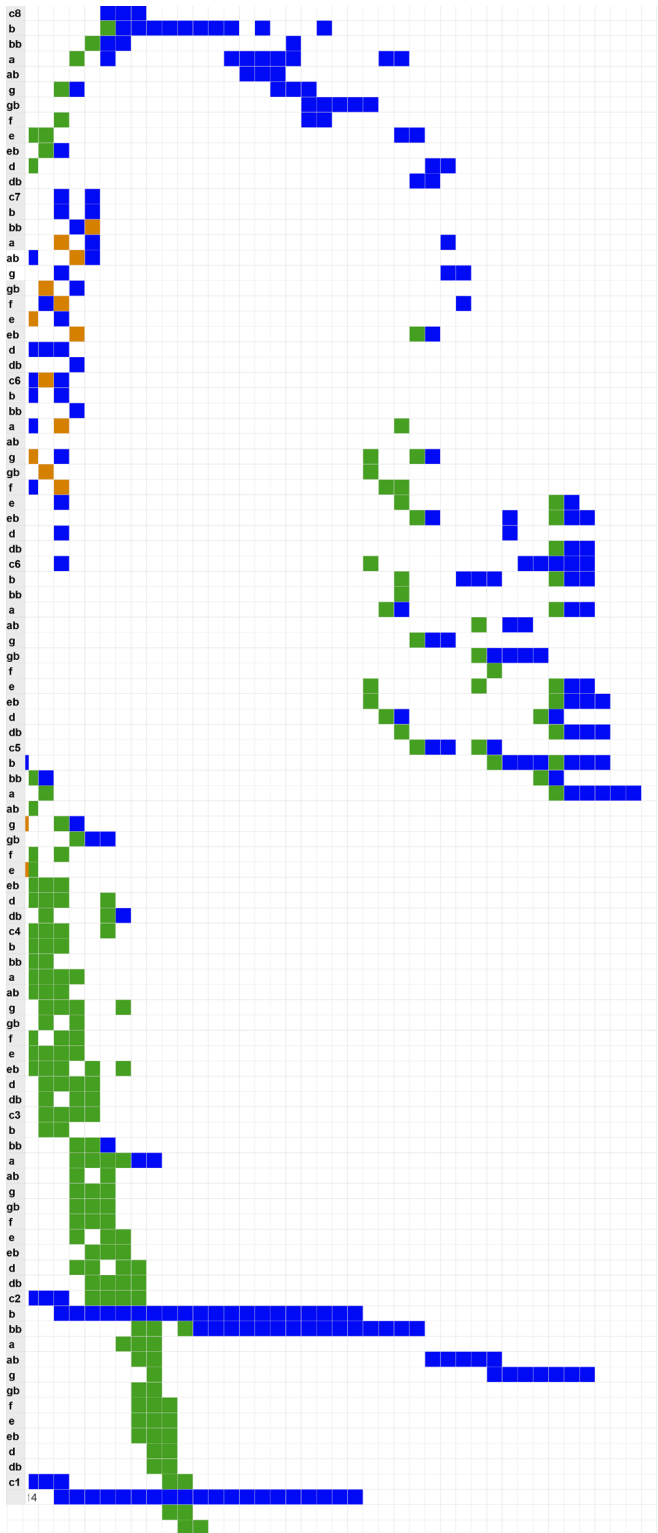


Figure 5 György Ligeti: Horn Trio, regstral graph of final 20 mm.

what it might mean to understand »new music as material(ist) practice«, explained by Christoph Cox as a theory that explores the texture and affects of the material »through and against which« sound is transmitted.⁴³ But the music of Ligeti also unites that physical, material expression of space with its metaphorical expression as the intertwined if »transparent« threads of a complex history, all of which draw listeners into a collaborative space of musical meaning.

Abstract

»A Space That Already Exists«. Ligeti's Recursive Model of Musical Experience

Ligeti did not often specify spatial arrangements in his scores; when they appear they are generally linked by necessity to the dynamic and timbral requirements of a work. Yet the »function of space in today's music« – to borrow the title of one of his essays – was central to his compositional aesthetics. The scholar looking for a concise formula for this important conception may despair, as Ligeti seems to draw every possible aspect of musical space under one capacious metaphorical umbrella, given that »neither in everyday experience nor in abstract thinking are time and space separable«.

Ligeti's essays on form indicate an interpretive path through this thicket. Listeners experience music as a kind of inverted, illusionary perspective in which shapes and events – despite creating the »space« we hear – appear placed in a space that already exists. This recursive cognitive model begins with the imaginary syntactic, historic or architectural space implied by a piece, and works backward to the phenomenological experience of that piece: the associations, abstractions, memories and predictions that accompany a listener through the work's temporal unfolding.

I further argue that Ligeti's conception of musical space went beyond simple tropes of visual analogues and static vistas to embrace a philosophical conception – expressed in both his music and writings – that linked the modern evolution of harmonic languages, instruments, playing techniques and performance spaces directly to his invocation of a »critical tradition«, in the words of Hermann Sabbe. As opposed to Adorno's notion of musical tradition as sedimented structure, Ligeti's metaphor assigns the weight of the past a role external to the work. If history is *always already* an imaginary space, the musical substance, rhetoric, and affect of an individual work can operate to expand that space, in an ever-changing relation that resists static post-modern or historical paralysis, to link Ligeti's conception to contemporary concerns with materiality and embodiment.

»Ein Raum der bereits existiert«. Ligetis rekursives Modell musikalischer Erfahrung

Ligeti hat in seinen Partituren selten räumliche Anordnungen festgelegt; wenn sie auftauchen, sind sie in der Regel bedingt durch spezifische dynamische und klangliche Anforderungen. Dennoch war die »Funktion des Raumes in der heutigen Musik« – um den Titel eines seiner Essays zu übernehmen – von zentraler Bedeutung für seine kompositorische Ästhetik. Wissenschaftler, die nach einer prägnanten Formel für dieses wichtige Konzept suchen, werden wohl verzweifeln, denn Ligeti versammelt alle mög-

43 Samuel J. Wilson: *New Music and the Crises of Materiality*, London 2021, p. 1; Christoph Cox: »Beyond Representation and Signification: Toward a Sonic Materialism«, in: *Journal of Visual Culture* 10, 2011/2, pp. 148f.

lichen Aspekte des musikalischen Raums unter einem großen metaphorischen Dach, da »weder in der alltäglichen Erfahrung noch im abstrakten Denken Zeit und Raum [...] trennbar« seien.

Ligeti's Schriften zur Form weisen einen interpretatorischen Weg durch dieses Dickicht. Der Hörer erlebt die Musik als eine Art umgekehrte, illusionäre Perspektive, in der Formen und Ereignisse – obwohl sie den »Raum« schaffen, den wir hören – in einem bereits existierenden Raum platziert erscheinen. Dieses rekursive kognitive Modell beginnt mit dem vom musikalischen Werk implizierten imaginären syntaktischen, historischen oder architektonischen Raum und arbeitet sich rückwärts zur phänomenologischen Erfahrung des Stücks vor: zu den Assoziationen, Abstraktionen, Erinnerungen und Vorhersagen, die den Hörer durch die zeitliche Entfaltung der Musik begleiten.

Ich argumentiere weiterhin, dass Ligeti's Konzeption des musikalischen Raums über einfache Tropen visueller Analogien und statischer Ausblicke hinausgeht und eine philosophische Konzeption umfasst, die – sowohl in seiner Musik als auch in seinen Schriften – die moderne Entwicklung von Harmonik, Instrumentation, Spieltechnik und Aufführungsraum direkt mit seiner Identifikation mit einer »kritischen Tradition« (Hermann Sabbe) verbindet. Im Gegensatz zu Adornos Vorstellung von musikalischer Tradition als sedimentierter Struktur überträgt Ligeti's Metapher dem Gewicht der Vergangenheit eine Rolle außerhalb des Werks. Wenn die Geschichte *immer schon* ein imaginärer Raum ist, können die musikalische Substanz, die Rhetorik und der Affekt eines einzelnen Werks diesen Raum erweitern, in einer sich ständig verändernden Beziehung, die sich der statischen postmodernen oder historischen Lähmung widersetzt, um Ligeti's Konzeption mit zeitgenössischen Anliegen in Bezug auf Materialität und Embodiment zu verbinden.

Autorin

Amy Bauer is Professor of Music at the University of California, Irvine. She has published articles and book chapters on the music of Thomas Adès, Carlos Chávez, Marc-Andre Dalbavie, Georg Friedrich Haas, Helmut Lachenmann, Mauro Lanza, David Lang, György Ligeti, Olivier Messiaen, Gabriela Ortiz, Salvatore Sciarrino, Helena Tulve, and Claude Vivier, as well as on the television musical, recent opera, spectral music, and the philosophy and reception of modernist music and music theory. Her monographs include *Ligeti's Laments: Nostalgia, Exoticism and the Absolute* (Ashgate, 2011), and the collections *György Ligeti's Cultural Identities* (Routledge, 2017), co-edited with Márton Kerékfy, and *The Oxford Handbook of Spectral Music*, co-edited with Liam Cagney and Will Mason (Oxford, 2022).