

GMTH Proceedings 2016

Herausgegeben von | edited by
Florian Edler und Markus Neuwirth

›Klang‹: Wundertüte oder Stiefkind der Musiktheorie

16. Jahreskongress der | 16th annual conference of the
Gesellschaft für Musiktheorie
Hannover 2016

Herausgegeben von | edited by
Britta Giesecke von Bergh, Volker Helbing,
Sebastian Knappe und Sören Sönksen



Dieser Text erscheint im Open Access und ist lizenziert unter einer
Creative Commons Namensnennung 4.0 International Lizenz.



This is an open access article licensed under a
Creative Commons Attribution 4.0 International License.

Chao-Chiun CHOU

“The Depth of Sound”

The Creation of Sonic Space in Works by Giacinto Scelsi and Gérard Grisey

ABSTRACT: This article discusses the conception and creation of space in works by Giacinto Scelsi and Gérard Grisey. Based on the fact that both composers conceived of space as closely related to the energetic, internal structure of sound, I propose a textural approach that emphasizes the interlinear relationship to examine the construction of space in their work. In two works for solo instruments, *Ygghur* and *L'Âme ouverte*, Scelsi generates numerous micro-vibrational movements and timbral contrasts from a drone voice, creating a sense of space. In the third movement of Grisey's *Quatre chants pour franchir le seuil* space is created through an imitative polyphonic writing associated with the poetic idea of echo. The textural writing in these works shows the decisive role of movement in the creation of sonic space, inspired by the energetic character of sound.

Schlagworte/Keywords: Gérard Grisey; Klangraum; Giacinto Scelsi; sonic space; spectral music; Spektralmusik; Textur; texture

Space has become an important subject matter in musical composition. However, as many musicologists have already pointed out, space is a polysemic notion in music.¹ It may be related to the spatialization in the real, three-dimensional space and/or to the organization of notes in the two-dimensional, imaginary, and metaphorical tonal space.

In this article, I will discuss how, stemming from the interest in inner sonic energy, Italian composer Giacinto Scelsi (1905–1988) and French composer Gérard Grisey (1946–1998) created impressions of three-dimensional sonic space within a two-dimensional space. Firstly, I will present each composer's conceptions of sonic space that were closely related to their understanding of sound and musical time. Secondly, I will examine how Scelsi created sonic space in his works based on “one single sound”. Finally, I will show how Grisey used/included sonic space in his last work, *Quatre chants pour franchir le seuil* (*Four Songs to Cross the Threshold*), 1999.

1 See, for example, French musicologist Makis Solomos' discussion on »Espace sonore (sonic space)« (Solomos 2013).

1. Scelsi's and Grisey's ideas on sonic space

The conception of sonic space by both Scelsi and Grisey was based on one fundamental criterion: sound is a dynamic and organic object and should be considered as such when used in compositions. Whereas Scelsi's sonic concept had a spiritual and mystical origin, Grisey's approach was more scientifically based.

For Scelsi, sound was the essential and most "powerful" element in the world. He wrote, "The Sound is the first movement of the immovable, and this is the beginning of the Creation."² According to Scelsi, a sound is spherical and dynamic in essence. Apart from the two generally perceived dimensions – pitch and duration – a sound, being spherical, contains a third dimension: "depth." This clearly suggests the existence of an inner-sonic space. He mentioned that while the invention of perspective hundreds of years ago made it possible to create the impression of spatial depth in painting, a similar technique for creating depth in music was never developed. For Scelsi, the real musicians are those who can reach the "core" of the spherical object that is sound.

Scelsi once referred to the harmonic series in a sound and the movement of these harmonics as a possible way of creating depth. According to Scelsi, "the upper and lower harmonics (which we hear less) sometimes give us the impression of a more immense and complex sound, besides that of pitch and duration, but it is difficult for us to perceive its complexity."³ In this regard, sonic depth seems to be derived from the sound spectrum. However, Scelsi seldom used "spectral techniques" in his composition, as are common in Grisey's works. By "spectral techniques," I refer to the procedure which consists firstly in the "decomposition" of a particular sound into as many partials as possible and then in the use of these partials as materials for timbral synthesis as well as for linear, melodic, or rhythmic writings. For example, in Grisey's orchestral work *Transitoires* (1980–81), he used up to the 55th partial of an E-flat sound. There is a real sense of enlargement of the inner sonic space by "digging into the core" of a single sound. The spectral approach to reach the "core" of sound in Grisey's work generates a close relationship between sonic space and musical time. In other words, "digging" into the inner sonic space has a temporal consequence. Indeed, for the energetic and evolutionary inner structure of a sound to be perceived on

2 Scelsi 2006, 127. My own translation.

3 Ibid., 126. My own translation.

this compositional level, the microscopic inner structure needs to be exteriorized to a larger scale in time and space.

Scelsi's focus on a single sound and his perspective on artistic creation resulted in a similar conception of musical time. Influenced by Zen Buddhism, he talked about the necessity of expanding a single sound in order to observe and perceive its inner energy. He also claimed that the creative force of an artist lies in his ability "to stop the movement and to crystallize an instant of the duration...and to project this instant...in a verbal, sonic, or plastic material."⁴ Thus, "music is the result of the projection and the crystallization in a sonic material of a moment of the duration..."⁵ In other words, a piece of a musical composition can be regarded as capturing a specific moment of a sound's energetic flux and expanding this instant into a longer span of time.

2. Texture and timbre as generators of space in Scelsi's music

With these elements in mind, I will now examine Scelsi's attempt to create sonic depth in works based on the conception of expanding a single sound, especially in conjunction with a reduced instrumental formation, as in solo instrumentals. As I already pointed out, Scelsi seldom used the harmonic series of a sound. Therefore, our question can be stated more precisely: how did he create sonic depth or spatial sense with a limited number of pitches, harmonics, and timbral materials?

As vibration and movement are two principal elements in Scelsi's concept of sound, it seems reasonable to propose a textural approach that focuses on "the interactions, interrelations, and relative projections and substances of component lines or other component sounding factors."⁶ This kind of approach, focusing on interlinear relationships, seems all the more appropriate if we take Scelsi's compositional procedure into consideration. In fact, although Scelsi claimed that he had never "com-posed" – by which he meant put different "things" together – he did often combine several tracks of recorded sounds. As we shall see, in his works, especially those for solo instruments, the "drone" plays an important role as the basis of sonic movement. Therefore, I argue that in Scelsi's works, sonic

4 Ibid., 203. My own translation.

5 Ibid., 150. My own translation.

6 Berry 1976, 184.

depth is related to the different writings of micro-vibrational textures from one pivotal sound.

The superposition of different recorded tracks as well as the connection between sonic depth and textural writing is apparent in *Quattro pezzi per orchestra ciascuno su una nota sola* (*Four Pieces for Orchestra each on a single note*), 1959. For example, the first piece is based on the pivotal pitch F and structured as the succession of two kinetically contrasting sections: one relatively animated, the other relatively stable. In the animated sections, textural writing contains various inter-linear interactions created by microtonal, rhythmic, timbral, and dynamic movements. As for the stable sections, the textural writing is simpler. There are less sonic vibrations – especially with no microtonal movement (except the beginning section) – and less instrumental layers. In addition, these two contrasting sections are also combined with two different registral spaces: the stable ones are limited in one octave (F_3 – F_4), while the animated ones always unfold in two octaves (F_2 – F_4). The correspondence between the reduced registral space and the stable sections and that between the “expanded” registral space and animated sections seem to reinforce the connection between textural writing and the sense of space.

Quattro pezzi per orchestra is written for an ensemble of twenty-five musicians and contains rich timbral and textural variations. French Composer Tristan Murail argues that the depth of sound in Scelsi’s work is “primarily a question of working with timbre, taken in the broadest sense: the global timbre of the orchestra as a whole.”⁷ However, many of Scelsi’s works are for solo, duo, or larger ensembles with similar timbral features (for example a string trio or quartet).⁸ I argue that, in this kind of work, the textural writing or the “inter-voice” relationships becomes more decisive for the creation of sonic depth, as this dimension seems to be generated from the “drone” voice played on the pivotal pitch. I will demonstrate this with textural writing based on the drone voice in two of Scelsi’s works for solo instruments: *Ygghur* (1965) and *L’Âme ouverte* (*Opened Soul*), 1973.

7 Murail 2005, 176.

8 It can always be argued that the final instrumental setting of a Scelsi piece actually represents decisions made by a transcriber. Thus, talking about Scelsi’s »composition« is problematic. However, research on the Scelsi Archives shows that Scelsi did give indications about instrumental setting for the transcription, especially for smaller formations (solo and duo). See Jaecker 2013, 146–148. Besides, as Sandro Marrocu (2013, 158–159) argues, instead of the recording and remixing tapes, which are doubtlessly closer to the sound captured at the moment of inspiration, Scelsi intended the »written scores« to become his artistic legacy.

In *Ygghur* for solo cello, the specific way of notation already implies that the solo instrument is conceived as comprising two or three interactive voices. Each string of the cello is noted on its own staff.⁹ In the second movement of *Ygghur*, the cello is almost “divided” into two instruments. Firstly, we have a bowed string instrument playing sustained notes mainly on the second string; secondly, a percussion-like string instrument playing *pizzicato*, and on other strings there are scraping and striking sounds. This movement requires up to seven different percussive effects.¹⁰ In addition, the whole second movement should be played without vibrato, according to Scelsi. Because different kinds of vibrato normally play an important role in his music as one of the “vibration” generators, we should now look for other ways of putting the sound in motion in the absence of vibrato.

The drone is played using the bowed (or the “first”) instrument on the second string and interrupted only two times during the whole movement. In regard to pitch, the drone itself moves within a very narrow intervallic space. Starting with the pivotal pitch, B₃, it moves back and forth between B₃ and C₃ quarter-flat. It stays stable at C₃ quarter-flat during the central section (measures 26–40) and starts moving between the two notes again before finally going back to B₃. However, the drone is regularly in a contrapuntal relationship with other sounds played also by the bowed instrument on B₃ and B₄ (sometimes as harmonic sounds, as seen in Example 1.1). The contrapuntal interaction and the “quarter-tone” distance between the drone and another line constitute the most basic way of moving sound. These kinds of rhythmic and microtonal interactions around the drone can be regarded as the simplest “vibration” and the “micro-movement” of and around a single sound, which is typical in Scelsi’s compositions.¹¹

In addition to the bowed instrument, there is another contrapuntal “voice” that seems to grow more and more independent from the drone: the percussive (or the

9 *Ygghur* also requires *scordatura* tuning. For the first movement, the violoncello should be tuned to D^b₂, B^b₂, D^b₃, B^b₃; for the second and third movements, C[#]₂, B₂, D₃, B₃.

10 The seven percussive effects are 1) *pizzicato* with the bow touching the string lightly; 2) left-hand *pizzicato* without pick; 3) a finger without pick, striking the string; 4) thumb with pick, striking the string; 5) thumb with pick, scraping the string vertically; 6) index finger with pick, scraping the string vertically; 7) *pizzicato* with middle finger on the string, touched by the thumb with pick on the note indicated in the score.

11 In 1944, Scelsi wrote: »In fact, a simple sound already produces a harmonic series that constitute in some way a melodic element. Moreover, the difference in loudness of a sound causes a fluctuation of the sound’s pitch, which constitutes an interference and another relationship/connection with the melodic element« (Scelsi 2006, 93. My own translation).

“second”) instrument. Indeed, the very first percussive sound appears after the drone moves for the first time to C_3 quarter-flat in measure 4. It is a *pizzicato* on B_3 played on the first string.¹² On the first drone line, the percussive sounds are mainly played on B_3 and B_4 (as seen in Example 1.1). The contrapuntal effect is primarily due to the timbral contrast. However, the counterpoint becomes more sophisticated when the second drone line starts on C_3 quarter-flat in measure 13. In addition to the timbral contrast, there are more variations of pitch. Indeed, the percussive part starts to appear on other pitches: F sharp (which is the first harmonic of B), G sharp, and C sharp. We can view the last two pitches as adjacent notes to the B–F sharp fifth. However, if we consider the drone’s pitch (C) as fundamental of a harmonic series, the G sharp and C sharp become more distant. As the drone gradually starts to settle on the C_3 quarter-flat, the percussive sounds are played more often on G sharp and C sharp. They also literally open the registral space: in measure 33, G_2 and G_2 sharp are the lowest notes of the whole movement (as seen in Example 1.2).

We can definitely view the use of distant partials and the expansion of registral space between the drone and the percussive part as ways of creating sonic depth. However, what seems more interesting is that on some occasions, the percussive effects make the pitches almost unrecognizable. As in measure 33, we hear strikes of low sounds without necessarily recognizing the pitch. Here, the impression of sonic depth is more of a result of the notes “becoming a pure timbral object”, in contrast to the drone that is played with constant timbre and recognizable pitches. French musicologist Daniel Charles argues that, in Indian Mridangam music, the “becoming-timbre” (*devenir-timbre*) element generated by a drone is a kind of outburst.¹³ We can also consider the percussive part as the “becoming-timbre” voice in *Ygghur* and thus also as the outburst of energy of the pivotal sound (the drone). It is this outburst of energy that gives the sound depth.

12 Specifically, a *pizzicato* played with the bow slightly touching the string.

13 See Charles 2011, 45 f.

Arc: half wood, half hair on the fingerboard \pm 1 cm from the bridge.
The second piece must be played without oscillation.

4 $\text{♩} = 88$

|| Contrapuntal bowed string voice creating a quarter-tone interval with the drone

I.c. 

II.c. *FAST. 1st Drone line on B*
pp 

III.c. 

IV.c. 

5 Encircled notes: the percussive notes played on B and F#

pp *mf* 

pp *mf* 

pp *mf* 

Example 1.1: Giacinto Scelsi, *Ygghur*, 2nd movement, mm. 1-7

30 **4** **3** **5**
4 **4** **4**

mp *mf* 

Drone on C quarter-flat

mp *mf* 

mp *mf* 

mp *mf* 

Encircled notes: the percussive notes played on various pitches.

9 **3** **4** **35** **3**
4 **4** **4**

ppp *pp* 

ppp *pp* 

ppp *pp* 

The lowest notes of the movement.

Example 1.2: Giacinto Scelsi, *Ygghur*, 2nd movement, mm. 30-36

The outburst of sonic energy can also be more subtle, as in *L'Âme ouverte* for solo violin. The extension of sonic depth is not achieved by the enrichment of texture or by the outburst of the energy at the “becoming timbre” moment, yet, there is a real concentration on the micro-movement of sound. As in *Ygghur*, there is a continuous drone voice played on the second string and a contrapuntal voice starting five quarter-notes later. The depth of sound comes from the intervallic distance between the two voices. The distance remains mostly very narrow, mainly between semitone and unison, and often stays within a quarter-tone span. The expansion of this intervallic space to a minor third plus a quarter-tone represents the “climax” of the piece (see Example 2).

More important than this expansion of space are the movement and the inter-linear relationships between the two voices. In fact, the interlinear distance creates a tiny “vibrational” phenomenon – the beats. As the piece should be played without vibrato or other techniques, such as tremolos and trills, the beats become the main vibrational element. Scelsi notated carefully on the score the number of beats per second that should be caused by the intervallic relation (see Example 2). French musicologist François-Xavier Féron points out that some numbers can only be generated by intervals smaller than an eighth-tone. He argues that because it is almost impossible to play this kind of microtonal interval, the violinist can only “adjust to the best” to create the number of beats as close as possible to the indication. Therefore, it is actually the beats that control the microtonal interval instead of the other way round.¹⁴ Thus, it is the vibration of sound that dictates the evolution of “vertical space.” Moreover, like the “becoming timbral moment” in *Ygghur*, the impression of sonic depth generated by the beats can only be fully perceived while listening. Carried out at the esthetic level, the sonic depth in Scelsi’s work gains a sense of three-dimensionality.

14 See Féron 2008, 227.

Example 2: Giacinto Scelsi, *L'Âme ouverte*, mm 16–21

3. Grisey: echo, imitative polyphony, and space

Considering sound as a holistic object, Scelsi proceeds to create sonic depth through extreme concentration on a single sound, resulting in textural writing based on micro-vibration and micro-movement. On the contrary, in Grisey's works, digging into the inner space of sound is at the same time an enlargement of the sonic field (*champ sonore*) caused by integrating different kinds of sound and creating multiple temporal scales. Depth is the result of this enlargement of sonic space, where the temporal-spatial movement can settle on or shift between different scales. Indeed, besides the characteristic "instrumental synthesis," or timbral writing, there is also a characteristic textural-temporal writing in Grisey's works: the temporal proportional and imitative polyphony (i.e., the beginning section of *Tempus ex Machina* for percussion). The proportion between voices is often deduced by numerical analysis of an *objet sonore*, or "sonic object." This kind of multi-layer temporal writing seems to resemble the perspective technique mentioned by Scelsi even more than the micro-vibrational writing in his own work.

In the third movement of his last work, *Quatre chants pour franchir le seuil* for soprano and 15 instruments, Grisey creates a sonic space through temporal poly-

phonic writing that reflects the poetic theme of echo. In fact, the third song “D’après Erinna” (“After Erinna”) is “the song of the death of the voice,” using a poem by an ancient Greek poet, Erinna de Telos that reads as such: “Dans le vide d’en bas l’écho en vain derive. Et se tait chez les mort. La voix s’épand dans l’ombre.”¹⁵

The poetic subject matter corresponds to Grisey’s fundamental concept: the music is the “becoming of the sound” (*le devenir du son*). By referring to the poetic image of echo instead of a sonic object in this song, Grisey’s characteristic temporal-textural writing, originally associated with the “spectral techniques” receives a full sense of space. As shown in Example 3, there are at least four different forms of echo in the polyphonic-textural writing: in addition to the three echoic forms in the horizontal evolution of each voice that continue to split into smaller “echoic cells” (see Example 3, the first to third echoic forms), the vertical, interlinear texture also creates an echoic space by its imitative character (see Example 3, the fourth echoic form). Moreover, the sense of space of this textural writing is reinforced by the instrumentation. The echoic texture is created by the soprano, who is accompanied by violin, cello, and vibraphone. The first two are placed at the front of the stage while the last two are in the back right. Thus, by using these four instruments, Grisey creates a “physically spatialized” effect of sound reflection.

The image shows a musical score for 'III - D'après Erinna' by Gérard Grisey. The score is for Soprano (Sopr.), Violin (Vcl.), Cello (Vcl. 2), and Vibraphone (VIBRAPHONE). The tempo is marked as ♩ = 80. The score is annotated with four echoic forms:

- original Gestalt of melodic phrase:** Indicated by a blue box at the top of the Soprano staff.
- 2nd echoic form: shortening of the melodic phrase:** Indicated by a purple box at the top of the Soprano staff.
- 1st echoic form: repetition of the last interval of the melodic phrases:** Indicated by a red box at the bottom of the Soprano staff.
- 3rd echoic form: fragmentation of the melodic phrase:** Indicated by a purple box at the bottom of the Soprano staff.

On the left side, a vertical label reads: "4th echoic form: imitative polyphony composed by violin, voice, cello, and vibraphone".

Example 3: Grisey, *Quatre chants pour franchir le seuil*, III. D’après Erinna, mm. 1–4, polyphonic part

15 »In the world below, the echo drifts in vain, and fallen silent among the dead. The voice spread in the Shadow.« The English translation is taken from the booklet accompanying the CD: Gérard Grisey, *Quatre chants pour franchir le seuil*, with Catherine Dubosc (soprano) and Klangforum Wien, conducted by Sylvain Camberling, Kairos 0012252KAI, 2010, compact disc.

4. Conclusion

The creation of sonic space in works by Scelsi and Grisey is inspired by their interest in the “inner energy of sound,” and the musical realization of this ideal is accomplished in two opposite ways: by Scelsi through reduction and by Grisey through extension. However, in the work of both composers, the sonic depth, or sense of space, is created through the movement of sound and with interlinear textural interaction, implying a temporal factor. We can say that the sense of sonic depth and space in both cases is created by “exteriorization” of the microscopic structure and inner space within a sound that is full of interactions, events, and movements.

References

- Berry, Wallace (1976), *Structural Functions in Music*, New York: Dover Publication Inc.
- Charles, Daniel (2011), *Le Temps de la voix*, Paris: Hermann.
- Féron, François-Xavier (2008), “L’Esthétique des battements dans la musique de Giacinto Scelsi”, in: *Giacinto Scelsi Aujourd’hui: actes des journées européennes d’études musicales consacrées à Giacinto Scelsi*, edited by Pierre-Albert Castanet, Paris: CDMC, 221–242.
- Grisey, Gérard (2008), *Écrits ou l’invention de la musique spectrale*. Paris: Editions MF.
- Jaecker, Friedrich (2013), “Funziona? O non funziona? An Excursion Through the Scelsi Archives”, in: *Music as Dream: Essays on Giacinto Scelsi*, edited by Franco Sciannameo and Alessandra Carlotta Pellegrini, Lanham, Maryland: Scarecrow Press, 143–155.
- Marrocu, Sandro (2013), “The Art of Composing Sound”, in: *Music as Dream: Essays on Giacinto Scelsi*, edited by Franco Sciannameo and Alessandra Carlotta Pellegrini, Lanham, Maryland: Scarecrow Press, 157–183.
- Murail, Tristan (2005), “Scelsi, De-Composer”, Translated by Robert Hasegawa, *Contemporary Music Review* 24/2–3): 173–180.
- Scelsi, Giacinto (2006), *Les Anges sont ailleurs*, Arles: Actes Sud.
- Solomos, Makis (2013), *De la musique au son*, Rennes: Presses Universitaires de Rennes.

Chao-Chiun CHOU

© 2020 Chao-Chiun Chou (chaochiun.chou@gmail.com)

Soochow University, Taiwan

Chou, Chao-Chiun (2020), »The Depth of Sound«. The Creation of Sonic Space in Works by Giacinto Scelsi and Gérard Grisey«, in: »Klang«: *Wundertüte oder Stiefkind der Musiktheorie. 16. Jahreskongress der Gesellschaft für Musiktheorie Hannover 2016* (= GMTH Proceedings 2016), hg. von Britta Giesecke von Bergh, Volker Helbing, Sebastian Knappe und Sören Sönksen, 151–162.
<https://doi.org/10.31751/p.11>.

veröffentlicht / first published: 01/10/2020