

‘Music as a Discourse’ / ‘Music as a State of Sound’: An Interpretation of Gérard Grisey’s Conceptual Framework for Spectral Musical Composition

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This article is an exegesis of the creative work *The Ghost: Electroacoustic Tragic Opera*, an interdisciplinary research project in Greek tragedy and spectral music, written by me as the composer/recording artist ‘Omelas’. Essentially, I am presenting a contemporary and multicultural take on Greek tragedy; my aim is to keep the spirit of this ancient musical form alive but in a modern way, so that those yet to come can access it. In 2020, this project is being presented at Kraftwerk, the ex-power plant of former East Berlin that has been repurposed for the German experimental music festival Berlin Atonal. It also forms the basis of my DMA at the Sydney Conservatorium of Music, Sydney University, under the supervision of professors of both composition and ancient Greek philosophy.

Here I examine the spectral aspect of my work. The article begins with an overview of my method, before turning to a discussion of Gérard Grisey’s (1946–1998) definition of spectralism as an attitude, the consequences of composing with this attitude, and how they have shaped my compositional framework. I then discuss the two categories of music that Grisey distinguished in his late career—‘music as a discourse’ and ‘music as a state of sound’—and how they have

formed the foundation of my framework. Given my interdisciplinary and experimental agenda, my framework is holistic, not dichotomous, in order to facilitate an interplay between these two categories of music. This means that traditional types of melody and rhythm occur in some states of sound, and are absent in others.

In my framework, the physical properties of different states of matter (solid, liquid, gas, and plasma) and the transitions between them (condensation, evaporation, ionisation, deionisation, and reflux distillation)¹ are used as a metaphorical model to govern compositional decisions. I contextualise my framework with respect to the approaches taken by Grisey, Iannis Xenakis (1922–2001), and Edgard Varèse (1883–1965) towards musically representing states of matter. The concepts used in my framework are purely empirical—neither abstract nor theoretical. Notated and recorded examples are discussed to show this equation between concept and percept. I conclude by emphasising that the creative process should not be overly intellectual, but a celebration of what Grisey called the ‘synthesis of the cerebral and the emotional.’²

Method

Put plainly, in Aristotelian terminology,³ my work is best understood with respect to four simultaneously active factors:

- i) the *material cause*: the pitched, non-pitched, acoustic, and electronic sounds of which my electroacoustic pieces of music are composed (like the rubber and steel of a car, for example). Vocal materials consist of Doric and Attic Greek words, and words of my own invention related to the mythological universe of a story that I have been simultaneously writing.⁴
- ii) the *formal cause*: the formal cause of the work as a whole is Greek tragedy; the formal cause of the music is spectralism. The music, adhering to Grisey’s definition of spectralism, is therefore linear and incidental; each piece follows the narrative timeline of the scene it was composed for.
- iii) the *efficient cause*: the audience engaging with the audio-visual performance in Kraftwerk. Sound, like colour, smell, taste, or touch, has no *being* aside from a perceptual encounter between a subject and an object.
- iv) the *final cause* (*telos*): to take the audience through the emotional journey of Greek tragedy within the audio-visual performance context in Kraftwerk, through the combination of music and story.

The remainder of this article will examine only the formal cause of my music: spectralism. There is much to be said about each of the other causes of this interdisciplinary work, but that is beyond the task at hand.

¹ These are the examples discussed in this article. Other types of transitions are also being composed, but there is insufficient room here to adequately discuss them all.

² Liam Cagney, ‘A Guide to Gérard Grisey’s Music,’ *Gramophone*, 17 June 2016, <https://www.gramophone.co.uk/feature/a-guide-to-gerard-grisey-music>.

³ Jonathan Barnes, ed., *The Complete Works of Aristotle: The Revised Oxford Translation*, vol. 2 (Princeton: Princeton University Press, 1984), *Metaphysics V*: 1013a24–1014a25.

⁴ A synopsis of my opera plot is being included as an appendix in my DMA thesis.

The Spectral Attitude and its Consequences

G rard Grisey took care to distinguish spectralism from systematic methods of composition. He concluded his apologia, *Did You Say Spectral?* with this distinction: '[Spectralism] is not a closed technique, but an attitude.'⁵ He maintained this position until the end of his career. In his last interview, two years before his death, he stated,

Spectralism is not a system. It's not a system like serial music or even tonal music. It's an attitude. It considers sounds, not as dead objects that you can easily and arbitrarily permutate in all directions, but as being like living objects with a birth, lifetime and death.⁶

Music is not spectral because it modulates from key X to Y from point A to B; nor because it transitions from section G to H in a specific way like in fugue or sonata form. Music is not spectral because it uses microtones, certain instruments, chordal or modal progressions. Grisey's definition of spectralism is descriptive, not prescriptive. He does not enforce any of these rules. The only prescription he gives the spectral composer is that he or she treat sounds as 'living objects with a birth, lifetime and death.'

The issue with Grisey's definition of spectralism is that it tends towards generality, requiring specification of *the consequences of composing with this attitude* to correctly judge whether a composition is spectral. Attitudes are habitual and individual. Indeed, when listening to the music of Iancu Dumitrescu (b. 1944), Joshua Fineberg (b. 1969), Claude Vivier (1948–1983), and Giacinto Scelsi (1905–1988), one discovers a remarkable variety of music that has been labelled 'spectral'. Carl Jung, the eminent psychologist, distinguished four aspects of attitude: *thinking, feeling, sensation, and intuition*.⁷ We will see the sum of these applied in my framework.

Addressing the ostensible divide between 'fundamentalists' and 'those who have evolved towards very different horizons',⁸ Grisey identified nineteen consequences of composing with the spectral attitude. He divided these consequences into three categories: (i) *harmonic and timbral* (ii) *temporal* (iii) *formal*. I will highlight individual consequences as they arise. All nineteen are found in my work; however, this article examines the formal cause of my music, therefore, the formal consequences will be primarily discussed.

Music as a Discourse and Music as a State of Sound

In his last published interview, Grisey divided music into two categories: as a 'discourse' and as a 'state of sound.' Music as a discourse is characterised by the use of 'rhetoric, declamation, and language.' Grisey cited twelve-tone serialism and tonal music as examples (for example, Baroque, Romantic, and popular music).

Music classified within this category is like a language by virtue of being composed using sentences that function as idioms and turns of phrase, leading to cadences and modulations (i.e. the V – I cadence that functions like a full stop at the end of a phrase). This is predominant in the world of traditional opera and Greek tragedy; in the former, Wagner was instrumental in developing the leitmotif: a recurring melody / rhythm-based phrase closely associated with

⁵ G rard Grisey, 'Did You Say Spectral?,' *Contemporary Music Review* 19, no. 3 (2000): 3.

⁶ David B ndler, 'Interview with G rard Grisey,' *20th-Century Music* 3, no. 3 (1996).

⁷ Carl Jung, *Collected Works of C.G. Jung*, ed. Gerhard Adler and R.F.C. Hull, vol. 6, *Psychological Types* (Princeton: Princeton University Press, 2014), 417.

⁸ Grisey, 'Did You Say Spectral?' 2–3.

a character or theme in the story that has found widespread usage in film media.

In my framework, I refer to different types of *music as a discourse*: ancient Greek, Chinese, and Western Classical music (each formally defined around their conventional approaches to melody and rhythm). Assimilating traditional types of melody and rhythm with spectralism is validated by Grisey's fifth temporal consequence: the exploration of 'possible dialectics between musics evolving in radically different times.'⁹ As we have seen, spectralism is an evolving musical form; the same was also the case for ancient Greek, Chinese, and Western Classical music.

Music as a 'state of sound' observed Grisey, 'says, "this is the world." And in that category, you can put Xenakis, for instance.'¹⁰ After I weighed this sentiment with his definition of spectralism as an attitude, I associated *states of sound* with states of matter—solid, liquid, gas, and plasma—and states of consciousness.¹¹ The properties of a sound, like those of matter and consciousness, are always changing, and this analogous way of composing musical representations of states of matter is supported by all six formal consequences of spectralism suggested by Grisey in 'Did You Say Spectral?' (p. 3), that may be summarised as:

1. More 'organic' approach to form by self-generation of sounds.
2. Exploration of all forms of fusion and the thresholds between different parameters.
3. Potential for interplay between fusion and continuity, on one side, and diffraction and discontinuity, on the other.
4. Invention of processes, as opposed to traditional development.
5. Use of supple, neutral sonic archetypes which facilitate the perception and memorization of processes.
6. Superposing and placing in and out of phase contradictory, partial, or implied processes. Superposition and juxtaposition of forms flowing within radically different time-frames.

How the second, fifth, and sixth formal consequences manifest in my framework will be explained in the following sections. The first, third, and fourth consequences should, however, be already evident in the thought of using the physical properties of different states of matter and the transitions between them as a metaphorical model to govern compositional decisions.

Before I compare different ways of musically representing states of matter, I must reiterate that I constructed my framework holistically, not dichotomously, in order to facilitate an interplay between Grisey's two categories of music. There are four *states of sound*,¹² and *music as a discourse* is heard within two of them as shown in Table 1. Solid and liquid states involve melody and rhythm. Gas and plasma states are atonal and ametrical.

⁹ Grisey, 'Did You Say Spectral?,' 3.

¹⁰ Bündler, 'Interview with Gérard Grisey,'

¹¹ For the sake of brevity, I have not discussed musical representations of states of consciousness in this article. This is an area for further consideration.

¹² My philosophy supervisor, Dr Rick Benitez, pointed out a fifth state of matter: the 'Bose-Einstein condensate'. However, because this state is obscure and only exists under extreme conditions, I have chosen only to discuss the four fundamental states of matter.

Table 1. Appearance of *Music as a Discourse* in Each State of Sound

State of Sound	Music as a Discourse
Solid	Yes
Liquid	Yes
Gas	No
Plasma	No

Musical Representations of States of Matter

At the heart of my approach to composing musical representations of the four states of matter is Grisey's intention to seek 'a musical language based on scientific premises.'¹³ I think that Grisey's conception of *music as a state of sound* was shaped by two composers: Iannis Xenakis and Edgard Varèse. I will outline their different approaches and how they have shaped mine, after which I shall present my framework.

Grisey attended Xenakis's seminars in Darmstadt in 1972.¹⁴ Xenakis composed *Pithoprakta* (1956) based on the statistical mechanics of gases according to Gauss's law, where each instrument represents an independent gas molecule moving throughout space.¹⁵ Xenakis defines this as follows:

A total of 1148 speeds, distributed in 58 distinct values according to Gauss's law, have been calculated and traced for this passage ... To sum up we have a sonic compound in which:

1. The durations do not vary.
2. The mass of pitches is freely modulated.
3. The density of sounds at each moment is constant.
4. The dynamics is *ff* without variation.
5. The timbre is constant.

The speeds determine a "temperature" which is subject to local fluctuations. Their distribution is Gaussian.

On this note, I must stress that I do not pretend nor attempt to compose musical representations of states of matter to such a degree of mathematical exactness as Xenakis did. This is not my *telos*. Mine is to facilitate an interplay between *music as a discourse* and *music as a state of sound* as I have shown; and—in combination with the story—to take the audience through the emotional journey of Greek tragedy.

From Xenakis, I turn to Varèse. Grisey said 'Varèse was the grandfather of us all [spectral composers].'¹⁶ The full weight of Grisey's statement—made in hindsight towards the end of his career—and its implications on spectral composition cannot be overlooked because it

¹³ Justyna Humięcka-Jakubowska, 'The Spectralism of Gérard Grisey: From the Nature of the Sound to the Nature of Listening,' *Interdisciplinary Studies in Musicology* 8 (2009): 229.

¹⁴ Cagney, 'A Guide to Gérard Grisey's Music.'

¹⁵ Iannis Xenakis, *Formalized Music: Thought and Mathematics in Composition*, 2nd, rev. English ed., additional material trans. Sharon Kanach, Harmonologia Series No. 6 (Stuyvesant, NY: Pendragon Press, 1992), 14–15. Xenakis's musical notation for *Pithoprakta* can be viewed at *Experimental Music Notation Resources*, <https://llllllll.co/t/experimental-music-notation-resources/149/193>.

¹⁶ Bündler, 'Interview with Gérard Grisey.'

highlights Varèse's approach as the most definitive influence on Grisey's vision for spectralism and its artistic values.

Varèse used alchemical and scientific language to describe his music, from the writings of the Renaissance alchemist Paracelsus that inspired his work *Arcana* (1927),¹⁷ to scientific discoveries in the early twentieth century that inspired his works *Ionisation* (1931) and *Density 21.5* (1936).¹⁸ Moreover, Varèse liked to use the chemical process of crystallisation as an analogy to explain his music:

Conceiving musical form as a resultant, the result of a process, I saw a close analogy in the phenomenon of crystallization ... There is an idea, the basis of an internal structure, expanded or split into different shapes or groups of sounds, constantly changing in shape, direction, and speed, attracted and repulsed by various forces.¹⁹

Varèse's fascination with alchemy and science: 'a universe of objects colliding, crystallising, dissipating and obliterating'²⁰ has shaped my approach—unavoidably, given the debt afforded him by Grisey on behalf of spectralism. But before pinpointing Varèse and Xenakis's distinct marks on my framework, I must turn lastly to Grisey.

Périodes (1974), composed two years after Grisey attended Xenakis's seminars, is what I consider as Grisey's first musical representation of a state of matter: specifically, *gas-state*, the same state represented in Xenakis's *Pithoprakta*. In opposition to Xenakis's admiration for mathematics, Grisey believed that composing using mathematical formula 'only tenuously corresponded to the heard result.'²¹ Indeed, Grisey's exegesis of *Périodes* reveals a more metaphorical approach along the lines of Varèse:

There are three kinds of moments in *Périodes*, analogous to human breathing: states of inhaling, exhaling, and resting are translated aurally into moments of dynamic and growing tension, dynamic and progressive relaxation, and static periodicity. The periodicity of the piece creates a distinct weight, as it turns in on itself in repetitive circles, until a new germ surfaces and spurs on a new energy and the evolution of a new thread.²²

Musical representations of states of matter are therefore not an original contribution; rather, a continuation of Xenakis, Varèse, and Grisey's explorations. In more recent years, this train of thought can be found in the alchemical underpinnings of the German electronic sound-artist Jan Jelinek,²³ who contributed a remix of one of my pieces. All in all, we will see that my compositional framework draws influences from all three approaches, but responds less to Xenakis than to Grisey and Varèse.

¹⁷ Malcolm McDonald, *Varèse: Astronomer in Sound* (London: Kahn and Averill, 2003), 188–9.

¹⁸ McDonald, *Varèse: Astronomer in Sound*, 252.

¹⁹ Fernand Ouellette, *Edgard Varèse. A Musical Biography*, trans. D. Coltman (London: Marion Boyars Publishers, 1975), 60–1.

²⁰ Lottie Brazier, 'How Do I Listen to This? Tyondai Braxton's Favourite LPs,' *The Quietus*, 20 Mar. 2017.

²¹ Cagney, 'A Guide to Gérard Grisey's Music.'

²² Walter Boudreau, 'Périodes (1974): Gérard Grisey,' *Société de musique contemporaine du Québec*.

²³ Lijah Fosl, 'Jan Jelinek: Berlin's Experimental Mainstay Talks Deceleration, Chemical Reactions, and New Album *Zwischen*,' *Tiny Mix Tapes*, 4 May 2018, <https://www.tinymixtapes.com/features/jan-jelinek-zwischen>.

The Four States of Matter and Their Eight Transitions

I turn finally to my compositional framework, with attention to the different approaches of Grisey, Xenakis, and Varèse about musically representing states of matter. I adopt a metaphorical approach that is closer to that of Grisey and Varèse than to the mathematical strictness of Xenakis—to *transitions between states of sound*. A metaphor is a comparison between two indirectly linked things. Making this connection requires having one foot in reason and the other in imagination.

Keeping in mind what Grisey called the spectral composers' duty to find 'a better equation between concept and percept,'²⁴ I reiterate that the concepts in my framework are purely empirical, and neither theoretical nor abstract. I will discuss recorded and notated examples of my work-in-progress,²⁵ the combination of thinking, feeling, sensation, and intuition in my spectral attitude, and how the outstanding second, fifth, and sixth formal consequences of spectral composition are manifest in my framework.

To begin, my definitions in Table 2 take a cue from Xenakis's method by identifying patterns of musical activity within a *state of sound*. This is where Xenakis and I part ways: I do not compose using complex mathematical formula. Xenakis defined his *state of sound* in terms of duration, mass, density, dynamics, timbre, and speed. I used more or less the same, but in a less restrictive manner, and with notable additions of melody and rhythm—given my interdisciplinary agenda to facilitate the interplay of *music as a discourse* and *music as a state of sound*. Through these definitions, the fifth formal consequence of spectral composition becomes manifest: 'use of supple, neutral sonic archetypes which facilitate the perception and memorization of processes.'²⁶

Table 2. Musical Characteristics of Each *State of Sound*

State of Sound	Musical Activities
Solid	<ol style="list-style-type: none"> 1. Unchanging tonal and/or rhythmic activity 2. Unchanging dynamics 3. Unchanging timbre/texture, shape and speed; dense/full bodied
Liquid	<ol style="list-style-type: none"> 1. Changing melodic and/or rhythmic activity 2. Changing dynamics 3. Changing timbre/texture, shape, speed, and density (all of the changes in the liquid-state are gradual, not sudden)
Gas	<ol style="list-style-type: none"> 1. Atonal and/or ametrical 2. Softer dynamics 3. Changing timbre/texture, expanding/floating shape, and increasing speed
Plasma	<ol style="list-style-type: none"> 1. Atonal and/or ametrical 2. Volatile dynamics 3. Volatile timbre/texture, fluctuating/unconfined shape, density, and speed

²⁴ Bündler, 'Interview with Gérard Grisey,'

²⁵ In my mock-up recordings, vocal samples are used in place of Greek words for the time being.

²⁶ Grisey, 'Did You Say Spectral?,' 3.

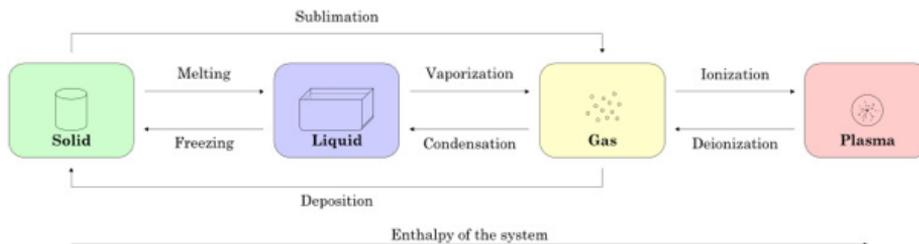
It is necessary to explain how I see these musical activities to be metaphorically *like* the states of matter they represent. The scholar Thomas Johansen explained the concept of likeness as follows when discussing Plato's *Timaeus*:

[Likeness] involves three-place predicates: X is a likeness of Y in respect of Z. For instance, the Mona Lisa is like its mysterious model in respect of her smile or the pallor of her skin.²⁷

These *states of sound* are like the *states of matter* they represent by virtue of sharing qualities that are empirically observable to both hearing and seeing. Generally speaking, a solid-state of sound is like a solid-state of matter in respect to their fixed quality of motion. A liquid-state of sound is like a liquid-state of matter in respect to their flowing quality of motion; the attractive forces that bind liquid molecules are musically represented by underlying harmonic or rhythmic structures. A gas-state of sound is like a gas-state of matter in respect to their floating and expanding qualities; both audibly and visibly. And a plasma-state of sound is like a plasma-state of matter in respect to their volatile qualities; where its energy or confinement dissipates seemingly instantaneously.

Two other points must be made before I move onto the transitions. First, I have kept these definitions as simple as possible in order to facilitate *creativity* and *variety* in their representations, whilst also maintaining *coherence*. Above all, they should be treated as fertile grounds for discovery. Initially, I imposed excessive limitations and the creative process became the opposite of what Grisey envisioned; as we saw, he believed that composing overly intellectually is detrimental to musical quality. Spectralism is neither systematic nor prescriptive: as an attitude, it must therefore make use of intuition, feeling, and sensation, unsoiled by thought. Contemplative meditation is an important way I do this.²⁸ Second, Xenakis, Varèse and Grisey were composing between thirty and one hundred years ago. Since then, new creative tools have arisen that are readily available, such as music technology software like Ableton, allowing precise live control over different automation parameters (EQ, delay, reverb, for example) to the nearest 0.1 Hz or %. To ignore these possibilities is to abandon the spirit of discovery that these composers championed.

Figure 1. The Eight Transitions between the Four States of Matter; Wikimedia Commons, *Creative Commons*, 4 Jan. 2012:
https://commons.wikimedia.org/wiki/File:Physics_matter_state_transition_1_en.svg.



²⁷ Thomas Johansen, *Plato's Natural Philosophy: A Study of the Timaeus-Critias* (Cambridge: Cambridge University Press, 2004), 5–7.

²⁸ Under the guidance of my manager Paulo Reachi, the co-founder of Berlin Atonal, this has become a daily practice over the past two years. Instead of making a sustained effort to visualise the transition (such as pushing, pulling and prodding the idea), my small-thinking mind is still and empty as I gaze receptively upon the idea marinating and unfolding.

There are four rules governing the transitions between states of matter, according to scientific theory, as shown in Figure 1. An example of one of these rules is that a plasma state cannot transition directly into liquid or solid: it must first deionise into gas, before condensing into liquid or depositing into solid. My supervisor Dr Ivan Zavada pointed out that the neural networks of brains and artificial devices are other well-known examples of state transitions, where the activities characteristic to one state *X*, cross over the threshold into another state *W*, *Y* or *Z*. We must also be aware of the external conditions of heat and energy, because they directly affect whether a substance exists as a solid, liquid, gas, or plasma. Increasing heat turns solids into liquids into gases into plasmas; reducing it causes the reverse. Four rules apply:

1. A plasma can only transition into a gas
2. A gas can transition into a liquid, plasma, or a solid
3. A liquid can transition into a gas or a solid
4. A solid can transition into a gas or a liquid

By representing these state transitions musically, the second formal consequence of spectralism becomes manifest in my compositional framework: '[exploration of] all forms of fusion and the thresholds between different parameters.'²⁹ A transition occurs when musical activities characteristic of one *state of sound X* cross over the threshold into the next *state of sound W*, *Y* or *Z*. Fusion entails a sense of continuity and entropy throughout the transition. Entropy is the decline of *X*'s previously fixed state of activities into disorder. On this note, it is crucial to explain that—from a listener's likely perspective—state of sound *X*'s activity must be *stabilised* into a predictable pattern before it can be necessarily and sufficiently said to be musically representative of *X*. The activity must be stabilised over a sufficient duration of time in order for the listener to be able to: (i) recognise the musical activity as being characteristic of *X*, then (ii) discern that *X* has crossed over the threshold of *X*'s activities into a different state of activity: *W*, *Y* or *Z*. Essentially, this means that remnants of *X* are carried over into *Y* in the passage of time: discernible characteristics of *Y* move from the near future to being present where it becomes interwoven with *X*, as *X*'s activities decay into the past and ever more distant-past, before becoming wholly subsumed into *Y*.

Example 1. Condensation and Evaporation

(https://www.dropbox.com/s/wqcoc96j8kc2qte/Melbourne%20Context%20Article_%20Recorded%20Example%20One%20by%20Austin%20Oting%20Har%201.mp3?dl=0)

In the recording presented as Example 1, individual sounds metaphorically represent gases and liquids. The denser, rhythmic liquid-sound evaporates into a thinner, floatier and expanding gas-sound via EQ and delay automation, then condenses back into the liquid-sound. There is a sense of continuity and entropy, and also that the qualitative changes in timbre occur as a reaction to changes in the external conditions of applied heat and energy, represented in the pressing sine tone chords, and crescendos and decrescendos of the drum and static. Through this superposition of different implied processes with the processes of condensation and evaporation in the liquid / gas-sound, the sixth and last formal consequence

²⁹ Grisey, 'Did You Say Spectral?', 3.

of spectralism becomes manifest: ‘superposing and placing in and out of phase contradictory, partial, or implied processes.’³⁰

Example 2 begins with another way of metaphorically representing a gas, which, like Example 1, is also floaty, expanding, ametrical, and atonal. The gas ionises into plasma, becoming unconfined (volatile in timbre and dynamics) whilst remaining ametrical and atonal, and deionises back into gas. It then condenses into a liquid-sound: the gas-state activities—the electronically processed downwards glissandi—entropy as attractive forces take shape through the presence of harmonic and rhythmic structures.

Example 2. Ionisation, Deionisation, and Condensation

(https://www.dropbox.com/s/eo1st7woduj2ok3/Melbourne%20Context%20Article_%20Recorded%20Example%20Two%20by%20Austin%20Oting%20Har.mp3?dl=0)

The start of this transition can be seen in Example 2a. The transition ends in Example 2b, where the downwards glissandi are subsumed into the liquid-state activities (melodic, rhythmic, and harmonic structures), whilst a sense of continuity is heard through a trace or shadow of it in the processed ametrical wind sample.

Example 2a. Condensation

GAS TO LIQUID TRANSITION
growing with fatigue and unease

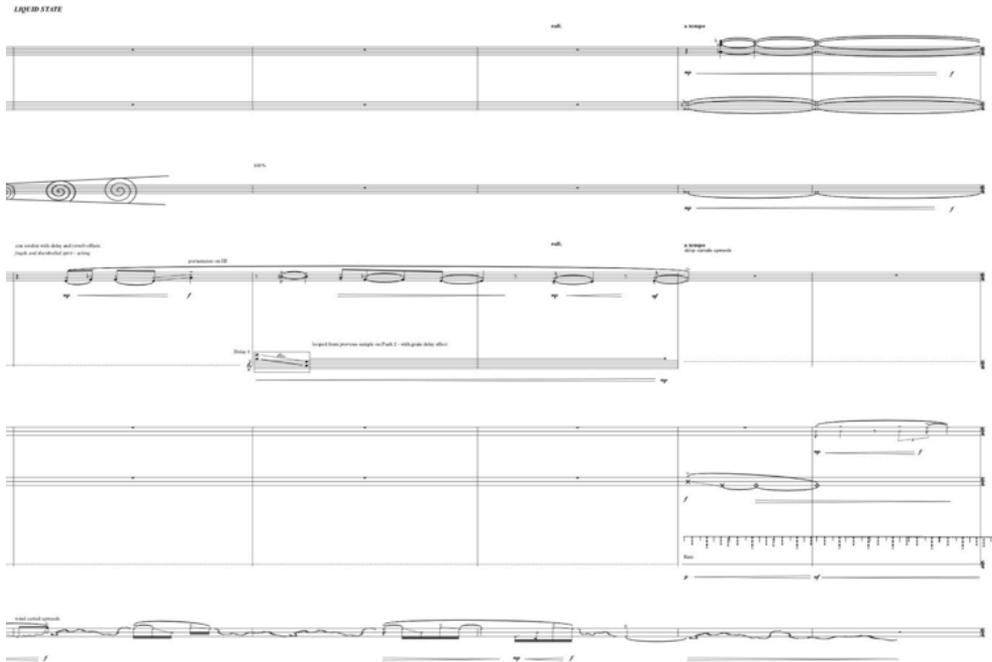
O. Hp. 50% exponential increase overdrive + delay + reverb

S. B. 67% overdrive 22% delay

Vln. 1a piercing harmonics glissando

Vln. 1b gliss

³⁰ Grisey, ‘Did You Say Spectral?’, 3.

Example 2b. The Gas-state Activities are Subsumed into the Liquid-state Activities

Example 3 is a metaphorical representation of the alchemical process of reflux distillation (drawing from Varèse's interests in alchemy). Reflux distillation is a circular operation, where a liquid X is heated into a gas, which rises, cools and condenses into a liquid Y, which is then fed back into the original liquid X. In this repetitive process of cooking, heat is represented by the rising and falling of the white noise and drum strikes. The quintessence or purified substance becomes refined with each iteration, represented by the gradual blending of pitched materials from the harmonic series and ancient Greek modes.

Example 3. Reflux Distillation

(https://www.dropbox.com/s/n416q1z97fpajlo/Melbourne%20Context%20Article_%20Recorded%20Example%20Three%20by%20Austin%20Oting%20Har.mp3?dl=0)

The start of this operation can be seen in Example 3a, progressing into the second and third iterations in Examples 3b, 3c, and 3d, where pitches drawn from the A^b harmonic series blend with pitches from E Phrygian Mode in the enharmonic genus.

Example 3a. Reflux Distillation – First Iteration

with saturation and drive effects
each pitch sustained and overlapping

mf

phase automation - wavy echo increasing in reverb

$\text{♩} = 70$ $\text{♩} = 50$

mp *f*

$\text{♩} = 70$ $\text{♩} = 50$

II no vib

p *f*

Example 3b. Reflux Distillation – Second Iteration

mf

$\text{♩} = 70$

mp *f*

no vib

mf *<f*

Eee... *mp* *f* *pp*

$\text{♩} = 70$
in 8

II no vib - change into harmonic and let ring

p *f*

Example 3c. Reflux Distillation – Third Iteration (beginning)

Musical score for Example 3c, beginning of Reflux Distillation – Third Iteration. The score is for five instruments: O. Hp., Rcp., Cl., Sp., and Vln./Vc. The O. Hp. part starts with a melodic line marked *mf*. The Rcp. part has a tremolo effect and a triplet marked *mp*. The Cl. part has a triplet marked *mp*. The Sp. part has a triplet marked *mp* and a vocal-like line marked *f*. The Vln. and Vc. parts have triplets marked *mp* and *f*. The score includes dynamic markings (*mf*, *mp*, *f*) and performance instructions like "Eee..." and "in 3".

Example 3d. Reflux Distillation – Third Iteration (ending)

Musical score for Example 3d, ending of Reflux Distillation – Third Iteration. The score is for four instruments: Rcp., Cl., Sp., and Vln./Vc. The Rcp. part has a tremolo effect and a dynamic marking of *f*. The Cl. part has a dynamic marking of *f* and a performance instruction "with unease". The Sp. part has a dynamic marking of *mf*. The Vln. part has two sections: I "from harmonic into non-harmonic, no vib" with dynamics *mf* and *f*, and II "with gentle vibrato at tail end" with dynamic *mp*. The Vc. part has a dynamic marking of *p* and a performance instruction "swell at end" with dynamic *mp*. The score includes dynamic markings (*f*, *mf*, *mp*, *p*) and performance instructions like "no vib" and "swell at end".

Conclusion: Thinking, Feeling, Sensation, and Intuition

I conclude with a quote from Ursula K. Le Guin (1929–2018), the author of the philosophical short story *The Ones Who Walk Away from Omelas* (1973)—from where my artist name ‘Omelas’ was taken—because it resonates with Grisey’s desire to synthesise the intellectual, the emotional, the metaphorical, and the mystical. Le Guin often wrote about seeking balance, and not only through the influence of Taoism on her work, she was conscious about her duty as a creative artist to combine ‘the analytical and the intuitive’:

Both directions strike me as becoming more and more sterile the farther you follow them ... It’s when they can combine that you get something fertile and living and leading forward.³¹

Thinking, feeling, sensation, and intuition are neither primary nor secondary to one another. By defining spectralism as an attitude, Grisey proffered their combination as the most fruitful way of composing living, breathing, and dying sounds. Through the ancient musical art form of Greek tragedy and the modern electroacoustic audio-visual performance context of Berlin Atonal, I am attempting to breathe new life into the spectral attitude. By no account am I claiming this is the only way of exploring the intersection of Greek tragedy and spectral music. There are many ways, each valid with due explanation. This is my way.

About the Author

Austin Oting Har is a DMA candidate at the Sydney Conservatorium of Music, Sydney University, undertaking an interdisciplinary project in spectral music and Greek tragedy.

³¹ Julie Phillips, ‘The Fantastic Ursula K. Le Guin,’ *New Yorker*, 10 Oct. 2016, <https://www.newyorker.com/magazine/2016/10/17/the-fantastic-ursula-k-le-guin>.