

Spectralisms: An International Conference, Oxford University

Tristan Murail's keynote 15 March, 2017

Cross introduction from early to later music

WHO INVENTED SPECTRAL MUSIC?

Tristan is not sure he can answer this question. It represents inverted thinking, the name, the concept (which doesn't correspond to anything real); this colloquium is about the music.

The word itself was controversial, re: his conversation in 1978 with Grisey, where Grisey said that people will probably call this spectral music, but I prefer liminal. Music about changes, thresholds (transformation more important than object). Changes of relationships. Murail felt kinship with Reich and the idea of process, although minimalism involved different materials. Transformations of structures and textures with a slow pace. People thought that it had to be slow = boring. But Grisey finally accepted the spectral moniker. What about that Dufourt article from 1979? That was after the discussion with Grisey discussed above.

Antecedents/precedents include Messiaen's chords of resonance, Ligeti, Scelsi, but in fact in the case of Grisey, mainly Stockhausen. His first pieces included 7<sup>th</sup> and 9<sup>th</sup> chords (showing the influence of *Stimmung*). So did Stockhausen invent spectralism? (*How time passes ..* and its connection between harmonic series and duration.). Two points:

1. The Stockhausen article is wrong about the psychology of perception
2. And his mathematical formulations were problematic

The idea of connecting tempi to harmonic series goes back to Heinrich Auer (?) In the case of Stockhausen the syntax remains serial.

The second *Studie* is based on a fragment of the harmonic series. (Shows a Max patch that encompasses Stockhausen's entire work). But it used serial combinations (hence numerology!).

For Murail, the first piece that is truly spectral is *Periode of Les espace acoustiques*. "In those days we really couldn't use computers and got our information from books, but they weren't adapted to the needs of composers (they included spectograms). To say this piece is based on the harmonic spectrum of a trombone is simple, but what makes it spectral is that *Periodes* is about how to deal with this material, rather than about the source material itself. Carillo and other microtonal composers are antecedents, but they still used traditional processes (Wyschnegradsky wrote nice music, but aesthetically it is after the model of Scriabin). Harry Partch, Charles Ives: it is all tied to a particular type of thinking that

we have tried to interrupt. Other precedents: Per Norgård, some spectral, orchestral ring modulation, Radulescu, (unheard), we all communicated and worked together. In the case of Norgård we have spectral objects, but the syntax remains the same (e.g. the infinite series), and Radulescu is very static music.

I think our formal approach is distinctive: the idea to start again from sound in reaction to the serial approach. But to try to discover new territories on the one hand, and to have a sound basis for building a new drama and syntax on the other. If we did spectral analysis, it was in order to discover new combinations and things that made sense in a compositional/perceptual way. We discovered that instruments of the Western orchestra didn't have the most interesting spectra. I mentioned the trombone sound and Grisey. For me also the early music of Ligeti and Xenakis were important, because they were dealing with sound synthesis through masses of sound. Also the way Ligeti reintroduced harmony (octaves and tritones in *Lontano*). It was fresh at the time. And it showed that something as complex as serial music could exist. I started experimenting in the studio with a feedback loop, and wrote a piece that imitated the feedback loop. The repetition itself was not interesting, but the changes in the material were (we were using tapes), the entropic process. (Plays example of ring modulation in a Max patch.)

What was interesting with ring modulation was untempered harmonies that could be quickly generated, and used to create new timbres. If the two sounds are in a simple relation you get a triad, but one in just intonation. Take *Mantra* for two pianos and ring modulations (plays the initial series). There is ring modulation by one pitch in the series [audio] Is this spectral music? You can guess my answer!

You could look at ? by Boulez, where the sounds exist apart from the serial structure. So how to create the appropriate syntax for these new harmonies? *Mantra* for piano and electronics: I calculated all the ring modulations for these combinations (beginning with G3/C#4/D5). [Audio examples: ring modulation on the sums, which requires you to take into account the harmonies associated with each sound.]

We start with the simple combination of the three fundamentals and create a progression. (Beginning of *Mantra*.)

[Chord: C2-E2-A#2-E3-G3 ...]

So, does Spectral music exist?

I think it doesn't in the sense that most of the time when we spoke of spectralism we spoke of the materials, not the form. I must tell students who ask me how to compose it that there is no recipe. There are categories of how one deals with, for example, distortions of rhythms, but they are simply techniques; the rest is composition, like any composition, requiring creativity and imagination.

How do you create something that can be communicated to listeners? It was not fashionable some time ago to talk about sentiment (Murail got flack for writing a program note with that word). Individual sounds may have meaning. One example is Scriabin's *Prometheus* chord. There is in this chord an expectancy, suspense, mystery, which greatly influenced me. I wanted to have that type of feeling with my pieces. [Audio Ex: *Terre d'ombre* opening.]

I was looking for the exact sonority that I wanted. Is it spectral? I started with analysis, but I changed that idea until I found the sense [affect?] that I wanted. I rediscovered recently a book I wrote in 1989 that tried to define spectral thinking as continuous thinking vs. discrete: microtones not as a division—a step— but as part of a continuum (frequency vs pitch), and psychological vs. chronometric time and duration. The interrelation between all the parameters of music." Murail dislikes the idea of separating music by parameters. He favors a global approach rather than a cellular or sequential approach. And a dialectic between material and form.

He favors organizational processes that are logarithmic or exponential rather than linear, as this is how sound works. Finally, he really thinks about the connection between the creation and perception of music. Thinking of psychoacoustics and perception is part of spectral thinking, a work as a chain of little distortions, or "treasons"; as the composer, a work is never exactly what you imagined at the beginning. Until we reach an "assured condition," we have to be practical. You can think about these things [ideals?], but you have to be attentive to how they will be perceived.

So who invented spectral music (laughter as he examines his notes). One or two examples: *Ethers* from 1978: (explains genesis of *Ethers*). Flute sings C#4 plays G#5. Sum and difference products (audio, using different modulators). But what happens if the two sounds are in a harmonic relationship? E3/B3 say, or E3/C#4—is this spectral? (laughter). [Plays solo trombone at low end of range, followed by multiphonics]. You see somebody in the 19<sup>th</sup> c. already did that! (Weber) [Audio of Mongolian overtone singing with sonogram] The fundamental doesn't change but the spectrum does, so this is spectral music. It may have been influenced by the Mongolian Jew's harp tradition.

[Audio of digiredoo]. This sounds a little like Scelsi, don't you think? But its probably a thousand years old. So spectral music has always been there.

Julian Anderson (Guildhall School of Music and Drama) keynote 16 March, 2017

## THE MAP VERSUS THE TERRITORY: TOWARDS A REDEFINITION OF SPECTRALISM

We should be careful about what and why we call what we do. If Gérard Grisey had had his way we'd be at a conference on "liminalism" (which sounds like a revision of minimalism). Translations between categories and boundaries. Dufourt's 1979 article was curiously absent with regard to technical information; it was more

philosophical, but contained rather dramatic language. But Dufourt never fit comfortably into this category. Anderson got involved with this music as a listener in 1980–81. No one labeled it then. He misses the endemic “vagueness” of the topic. “Will I redefine the term? Let’s see ....

Joseph Delteil was a surrealist writer (later expelled by Breton), who wrote “Genius is the explosion of nature in culture.” There was a striking relation between artifice and nature—as there isn’t in, say, Schoenberg’s twelve-tone music. The quotation is also a warning—not the first that’s referenced nature. Grisey spoke of an ecology of sounds. This goes back to Hindemith. We should not redefine spectralism so broadly as to include Bach, but I will make a case for Hindemith’s influence on Grisey. His *Unterweisung* attempts a wholesale redefinition of music—pitch vs. roughness or intervals, consonance/dissonance, etc. Grisey read it in the 1960s and it was foundational for his theory. Hindemith analyzes a lot of music, including Schoenberg, which he dismisses. His system was founded on acoustics—perforce to make better music. But that is a problem. So the Delteil quote. I should agree with it if you meant “something outside of culture comes inside,” but that isn’t all.

Murail spoke of the instrument as a source for structure [audio: Quartet of fujara from Slovakia]; here you get a flat 7 etc. The harmonics of that instrument are part of it, and thus the syntax of the music has turned toward the instrument. You know that there is some dispute as to whether *Periode* has *anything* to do with a trombone (ergo Fineberg’s article which found a conflict with the trombone spectrum). Was this instrumental synthesis? I quite like Clarence Barlow’s term “synthrummentation”: using the partial structure of an external sound. He applied it in a piece played by L’intinéraire. Vocal formants were essentially “synthrummatized.” The color that results is quite specific to the piece—this is a spectral trait. But Stockhausen never applied his electronic synthesis to instruments. [Audio from Barlow; *Im Januar am Nil?*] All harmonic spectra became vowels. The instruments tend to fuse, which is an attractive feature—one reason the term spectral has stuck, and implied the creation of imaginary instruments and timbres.

More examples of precedents which behave synthrummatically different than normal: Enescu’s *Suite* Op. 18, No. 3, “Carillon Nocturne” (1916) [audio]\* Three years earlier Leo Ornstein’s *Impressions of the Thames*, Op. 13, No. 1 (1913) [audio]. The sounds of bells along the river, and the sound of the river, is like that of *Oiseaux*. It compares with Murails *Cloches d’adieu, et un sourire* [for Messiaen]. More recently in 1957 the Japanese temple bell piece by Hiroyuki Inoshi—synthrummated for orchestra. Once can see the composer trying to turn his syntax toward instruments. There are Webern-like aspects to be sure, but this maybe the first attempt to synthesize sound with an orchestra: The *Nirvana* Symphony (1957, Toshiro Mayazumi)—there’s a lot of variability of sound at each attack.

A hybrid, imaginary affect which shows a different approach to total synthesized sound came in 1930 from Ruth Crawford: the *Three Chants for Female Chorus: To a Kind God*, No. 3. The sound of a crowd praying in Turkey is simulated—we hear the

destruction of the individual and micropolyphony. Such hybrids are often dense, not from Paris, characteristic of Radulescu—incandescent. This aspect is reflected in British music— [James] Dillon’s *Windows and Canopes*—harmonic spectra on E are shadowed by a “canopy” of strings. The notation is even similar to that of Radulescu, which goes back to Ligeti and Xenakis.

But thinking this way doesn’t mean writing spectrally. Hence my version of the Time Scale of Grisey (from 1974 onward)

Original Time Scale:

SOUND			NOISE
periodic	dynamic consonance	dynamic dissonance	aperiodic
sine tone	harmonic spectra	inharmonic spectra	white noise

(Some articles put harmonic spectra first, if discussing instrumental cycles like *Les espace acoustiques*). Saariaho, myself, and [Denys] Bouliane were all influenced by this. But Grisey wrote his last treatise in 1980; like Boulez in the ‘60s, we don’t know how his later music fits. Here’s my expanded time scale:

SOUND			NOISE
periodic	dynamic consonance	dynamic dissonance	aperiodic
periodic	periodic	aperiodic	aperiodic
neutral (ametric)	metric (ostinato)	metric (‘additive’)	
sine tone	harmonic spectra	inharmonic spectra	white noise

This would fit *Vortex Temporum*, Romitelli, Steve Lehman, etc. It’s really about “pre-hearing”—composing the listener’s hearing of a piece (its predicatibility), to reintroduce the idea that the listener could predict what’s happening. I refer you in closing to this Lutoslawski quote:

I would distinguish two types of perception in music: active perception and passive perception. I would define as passive the sort of perception in which the listener is totally focused upon what they are hearing at a given moment, not upon what has already happened or what will happen in the future.

I would define as active perception when the listener is occupied in assimilating what they have already heard earlier, or in anticipating what they will hear next. (I am preoccupied with) both the listener’s memory and their powers of anticipation.

\*[Liviu Marinescu played me this years ago, claiming that it influenced the Romanian spectralists.]

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