Pantonality / Transtonality

"Ich fühle luft von anderem planeten" "I Feel a Breath of Air from other planets"

"Ich löse mich in tönen, kreisend, webend..." "I lose myself in tones, circling, weaving; With unfathomable thanks and unnamed love..."

Lyrics from movement IV of Schoenberg's String Quartet No.2 (op.10), 1908

Chromaticism

I consider *pantonality* a category of *chromaticism*. It relies upon tonal implications, which are foiled, opposed, moved across or between. In-so-doing, chromaticism is an essential ingredient of *tension and release*, being the fundamental principle upon which musical direction, flow, and form is created.

Listen to the chromatic approach found in the following examples. Can you identify the period? Composer? Are you surprised to discover the chromaticism dates from 200 years prior?

- J.S. Bach The Goldberg Variations No.25 (1742)
- F. Chopin Prelude Op.28 No.4 (1834)

Chromaticism in the music of our time tends to fall into three categories.¹ These categories are not always discrete, but rather a blended approach may rather be taken by composers and improvisers. The "correct" approach is not something that is definable, but is rather informed by musical language and context. A composer aims to find a fitting balance between all their musical ingredients to create intelligibility of meaning, clarity of expression, and a meaningful relationship between all the musical elements.

1) Momentary chromaticism.

A chromatic note is considered a "non-harmonic" tension and is quickly resolved (usually by step) to a consonance (usually a note in the chord).

The simplest approach to applying chromaticism is as an element of "spice" or surprise in an otherwise tonally-predictable passage of music. Such a "wrong note" in a chord may act as harmonic "grit in the wheel" (saying attributed to Stravinsky), undermining the tonal strength of one pitch by placing a "vagrant" note a step away from it. In a melodic line, the chromatic note can be justified as a non-harmonic tension or passing note, which points towards – and places importance upon – the note to which it resolves. In-so-doing, momentum or forward motion is created. The "inside-outside-inside" paradigm, where composers and improvisers weave in and out of a tonal progression, is a common example in jazz. Such musicians know the rules (i.e. conventional chord-scales, cadences, etc) and how to break them.



¹ Liebman 2005 suggests similar categories.



This transcription from the opening of Wagner's *Tristan und Isolde* famously blurs the I–V half cadence with what can be justified as appoggiaturas, as reinterpreted in the example below.



2) Delayed resolution.

A chromatic note is "elongated" or prolonged in time before eventual resolution. This increases the importance of the "wrong" note.

Opposition of chromaticism against tonality takes the role of dissonance to the next level, with increased range of possible emotive outcomes for the listener. Though chromaticism is enjoyed somewhat for its own sound, it still relies on the relativity of consonance. Non-functional harmony is still anchored in tonality. Such chromatic passages are elongated beyond normal expectation so that the resolution of tensions is delayed.

In this musical language *of extended tonality*, oppositions of dynamics, registration, and tone colour are often also found as key elements in composition and orchestration. These oppositions rely too upon their nemesis to function in their musical context, composers work to build up techniques and syntactical rules in order to achieve expressive power in their particular language.

Pedal-points with chromatically moving chords and/or lines show simply this kind of chromaticism that is firmly rooted to the idea of key.

3) Pantonal / Transtonal chromaticism.

A chromatic note may not resolve at all. Tonal ambiguities in the harmony arise from polyphonic melody. *Tension* is a relative term and the number of pitches that are tonicized is large and variable. Tone colour, rhythm and orchestration come to the fore as important elements of "harmony" and organization of musical space.

What is important to remember is that pantonality cannot satisfactorily arise from random and unrelated "roving" harmonies, but rather some conceptual thread needs to unite the material to give rise to a sense of congruence, journey and direction. A harmonic and



melodic centre needs to be felt – albeit slightly – before it is transitioned away from. As a rule of thumb, three related chords are sufficient to establish tonality.

When two or more disparate keys force themselves upon each other and coexist without seeking resolution, *polytonality* can result. Related to pantonality, polytonality (of which *bitonality* is a category) maintains opposing key areas in different layers or voices, rather than moves across or through varying key areas.²

Chromatic melodic lines of this kind are very often angular and can pass through different instruments before a single statement or motive is complete. Expectations of resolution are continuously denied, and phrases vary enormously in length and their placement in the bar.

At its pinnacle, this kind of freely expressionist chromaticism morphed into the systematic process of "twelve-tone serialism", whereby notes became "pitch classes" and were ordered in a manner that aimed to destroy (or at least limit) the hierarchy of importance that was established in tonal harmony over prior millennia. The pioneer of this process was Arnold Schoenberg, who in his own words described it as a "*Method of Composing with Twelve Tones Which are Related Only with One Another*" (Schoenberg 1975, p.218).

Short Definition

Pantonality surpasses delayed resolution of chromatic tension by juxtaposing opposing tonalities and key centres in an ongoing fashion. Tonal ambiguities arise from vertical stratification and/or temporal density (involving frequent changes of key, or pitch of centricity). Functional relationships and cadences (such as V-I) are fleeting, deceptive, or suppressed.

Pantonal Techniques

There are many approaches to pantonality. Here are some:

Unprepared Modulation.

Avoiding functional (V-I) relationships normally used to establish a key creates a more "freewheeling" potential for key change, with direct and unprepared modulations. The danger can be loss of intelligibility and direction, and requires the composer to find other means for establishing structural coherence, line direction, and intended tension/release. Mitigate the risks of aimlessness by considering good voice-leading, and considering how the details of your composition serve strong over-arching principles and ideas.

a) Arbitrary

Key centres and/or chord qualities may be chosen through arbitrary means, such as dice games and association with extra-musical patterns such as the signs of the zodiac or modelled on the Brownian motion of a dust molecule in a gas chamber.

b) Intervallic Patterns

More determinate results can be obtained by establishing musical patterns, such as the following example, which shows Maj.7#5 chords moving by minor thirds. Each chord



² Stravinsky's *Petrouchka* is one of many works where the composer explores bitonality.

provides a weak but transient feeling of "home" (the quality of the chord is quasi-I function), but after 3 transpositions, it is the colour of the chord itself which becomes of central importance.



Pantonal intervallic patterns are those that avoid periods of obvious diatonic or functional relationships within or between voices for any extent of time. An example would be the modulation of chord tonics via a pattern that sums to make a chromatic line, such as the +3 -4 semitone pile-up of gestures at the start of "Nacht" from Schoenberg's *Pierrot Lunaire* Movement VIII. The motivic cell is isolated below:



This kernel of three notes saturates the texture in the first page of the score. The introduction is transposed to concert pitch and octave shifted for clarity in the first excerpt:











Schoenberg used a +1 -2 semitone pattern on the famous source chord for "Farben" - movement III from his *Five Pieces for Orchestra*. Here, a five-voice canonic "organism" is created from overlapping firings of the voices of the canon, all organized around the following chord:



The following analysis tracks the first 26 bars of the score and shows how this source chord appears in different transpositions resulting from the canonic application of the +1 -2 semitone pattern.³



c) Common pitches & Voice-leading

Pantonal journeys can be interconnected through the use of common pitches. These can either appear as "forced" underpinning pedal-points, as in the first example, or as voiced common pitches that also incorporate smooth voice-leading, as in the second example.



Pedal-points like this are often used at the end of a series of modulations to prepare for the re-introduction of the main tonic. Pedal-points also may produce an effect of retardation – they restrict the progress of harmonic movement, possibly balancing dense or harmonically remote motivic variation.⁴

Listen to the finale of Stravinsky's *Firebird* (1910) for an example of a common pitch (B) being held during pantonal harmonic motion during its climactic ending.



³ Burkhart, *Perspectives of New Music* 1973/74 Vol.XII page 141-172.

⁴ Schoenberg 1970, p.31.



In this example the pitch C5 is common, whilst voice-leading connects the upper voices.

Symmetrical scales.

Symmetrical scales are useful for creating harmonic ambiguity. Many can be considered multi-tonic systems, and so have inbuilt potential for creating polytonal harmony and melody.

Take the augmented scale, which has an interval generator of minor third/minor second (3+1). Mapped in circular pitch-class space it appears as follows:



This diagram reveals the tri-tonic system (C-E-G#) and the three axes of symmetry (dotted pink lines) as well as the symmetry of the scale (yellow polygon). Harmony and melody could be derived from this one scale in a myriad of ways. For example, triadic harmony across multiple opposing key centres could be united by melody derived from this one scale. Some of the potential triads arising from the above diagram that could be used in juxtaposition include:

C aug., Ab aug., E aug., B aug., G aug., Eb aug., C maj., Ab maj., E maj., C min., Ab min., E min.

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Inversional symmetry.

The example below indicates the potential of inversion in the creation of harmonically contrasting yet intervallic-related material. The C ionian mode ascending from C4 is symmetrical with the C phrygian mode from C3. Middle C is the axis of symmetry and there is no interval of reflection. Different results would be obtained through transposition via an interval of reflection of 1 or more semitones (creating B phrygian in the lower mode, for example).



In the second example every pitch above C4 is reflected by an equal distance below. Depending on the intervallic content of the motive invented, and again the interval of reflection, different but related tonal areas can be juxtaposed.





Repertoire Examples

Messiaen Quartet for the End of Time, Movt. VI, rehearsal letter 'F' and 'G'. Refer to Cello part:



- 16-note phrase which phases over the bar line.⁵
- All 12 chromatic notes sounded per 16-note phrase.
- Sounds pantonal, with references to changing key centres (D Maj7, G# Maj, B Maj, etc).
- 7 statements of the 16-note phrase, symbolising the movement's title perhaps ("Seven Trumpets").



⁵ Refer to the 14th century technique of *isorhythm*, where pitch and rhythmic patterns of different sizes phase.



Schoenberg String Quartet No.2 (op.10), 1908

1908 was a tumultuous year for Schoenberg, and is considered the start of his expressionistic period (lasting through to 1914).

"I have cried, behaved like someone in despair ... had thoughts of suicide and almost carried them out, have plunged from one madness to another – in a word, I am totally broken." (Shawm, p.46)

In the pantonal chromatic world which was being introduced in parts of the Second String Quartet, polyphony comes to the fore as the principal texture. Furthermore, with the absence of conventional cadences as harmonic punctuation marks and providers of structural landmarks, Schoenberg places formal importance on the motive as the chief force in creating unity. The motives in this work are aurally recognizable very clearly even on first listen, even though their transformations may surprise us.

Movt. II. "Sehr rasch" (Very brisk), D minor

This movement contains a psycho mood! Panic! Hyperventilation! A large number of theme groups collide and develop from the first theme of the first movement, but also move well beyond this.

In the trio section, the Viennese folk song "Oh, dear Augustin, it's all over" ("O du lieber Augustin, alles ist hin") makes a surprise appearance (in violin 2 bar 165, 3:39 on the Arditti recording), before an anxiety-ridden conclusion. Its pantonal treatment and ironic placement point toward the personal crisis in Schoenberg's life at the time, and that of the crisis of conventional harmony, which was "all over" in the following years.





Movt. IV. "Entrückung", sehr langsam (Rapture, very slow), No key signature The third and fourth movements contain a surprising addition: the strings are joined by soprano voice, singing lyrics by the German poet Stefan George. George's work is called "The Seventh Ring", and "Entrückung" is translated below:

I feel a breath of air from other planets. I faintly through the darkness see faces Friendly even now, turning toward me. And trees and paths that I loved fade So I can scarcely know them and you bright Beloved shadow--summon my anguish--Are only extinguish completely in a deep glowing In the frenzy of the fight With a pious show of reason. I lose myself in tones, circling, weaving, With unfathomable thanks and unnamed love I happily surrender to the great breath. A violent wind passes over me In the sway of commitment where ardent cries In dust flung by women on the ground: Then I see a filmy mist rising In a sun-filled, open expanse That includes only the farthest mountain hatches. The land looks white and smooth like whey, I climb over enormous canyons. I feel as if above the last cloud Swimming in a sea of crystal radiance--I am only a spark of the holy fire I am only a whisper of the holy voice

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The "other worldliness" of the new musical language captures the meaning of the lyric "I feel a breath of air from other planets". The collision of tonal and non-tonal languages in the Second String Quartet apparently troubled Schoenberg himself. He wasn't happy with the inconsistent use of tonality, nor the sounding of chromatic passages with functional cadences tacked on the end. In his own words:

"It seemed inadequate to force a movement into the Procrustean⁶ bed of tonality without supporting it by harmonic progressions that pertain to it." (Shawm, p.50)

Examine the music from the fourth movement which accompanies the lyrics: *"Ich löse mich in tönen, kreisend, webend..."* ("I lose myself in tones, circling, weaving, With unfathomable thanks and unnamed love.")

The initial 4-bar vocal phrase (plus anacrusis) is followed by a 3-bar phrase which includes over-the-bar suspensions, echoed and dispersed by the strings. The voice then takes the violin triplet motive and makes a 2-bar phrase, followed by another sequence that is elongated by 3 extra notes within 2 bars, including an anacrusis. The final phrase of this line is 4 bars long, starting out much like the prior one but with augmented durations and finishes with a sub-phrase likened to that which the second finished with.

All the while, we have a chromatically-moving bass line and a texture that starts homophonically and becomes increasingly syncopated and with suspensions throughout the strings. The polyphony reduces again for the last phrase, closing the fourth stanza with a natural arch shape.





⁶ *Procrustean* refers to a legendary Greek robber who tortured and maimed his victims by stretching or amputating them to make them fit on his bed.





Summary of Pantonal Techniques & Considerations

For music to successfully traverse through disparate keys, the following considerations are relevant:

Harmonic Regions.

Pantonality cannot satisfactorily arise from random and unrelated "roving" harmonies, but rather some conceptual thread needs to unite the material to give rise to a sense of congruence, journey and direction. As a rule of thumb, three related chords are sufficient to establish tonality.

Tonicization.

To establish pitch centricity in a rapidly transforming harmonic landscape, focus upon such features as:

- Pitch reoccurrence (more occurrences, even in different octaves means increased relative importance)
- Note length/duration
- Note placement (in terms of metre and beat strength)
- Note preparation (neighbouring pitches that approach by step, use of P5 or P4 intervals above/below)
- Note dynamic
- Motivic design to support pitch centricity (this brings together rhythm and duration with approach tones into an overall "gesture" or characteristic shape).

Intervallic Patterns.

Use of intervallic patterns builds congruence into your harmony and melodic lines. Pantonal intervallic patterns are those that avoid periods of obvious diatonic or functional relationships within or between voices for any extent of time. Use intervallic patterns as motivic cells for melodic construction or as a pathway to modulate tonal areas.

Common pitches.

Pantonal journeys can be interconnected through the use of common pitches. These can either appear as "forced" pedal-points underpinning changing harmony, or as upper or inner-voice common pitches that connect changing, distant key areas.

Voice-leading.

Conjunct melodic motion in a voice/s can justify and integrate disparate key areas. Consider harmonic voicing to allow for smooth connections.

Symmetry.

Symmetrical scales facilitate the appearance of multiple tonics within an otherwise static and ordered pitch collection.

Inversional symmetry can be used as an integrative approach to uniting harmonic material through related but harmonically contrasting scales.



Further Reading

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