PORTFOLIO OF COMPOSITIONS

VOLUME 1 OF 2

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Portfolio of Compositions: Commentary

Introduction

What began as an exploration of my system ‘polar harmony’ developed into an investigation of effects of intuition and conscious control on my music. During my composing, I became aware of growing tension – manifested in a variety of overt and subtle musical differences – between two modes of doing: the intuitive, wherein choices are impulsive and unmediated by thought, and the conscious, wherein they are made with some degree of consideration. Below I summarise the fundamentals of polar harmony and address and define intuition and conscious control. Then I discuss my compositions, describing their features and the influence of intuition and conscious control on these. Finally, I conclude that intuition and conscious control yielded both distinct and shared results; that intuition contributed mostly to melody, harmony and rhythm; that conscious control contributed mostly to form and development; and that there were melodic, harmonic, rhythmic and metrical differences between intuitive and consciously controlled pieces of the same kind.

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Fundamentals of Polar Harmony

‘Polar harmony’ denotes the use of poles through and between which all harmony exists. Harmony is two or more simultaneous pitch classes. The pc of the lowest pitch is the ‘object tone’ (OT). The ‘Dark Pole’ (DP) comprises these harmonies: minor-2nd (2d), minor-3rd (3d), perfect-4th (4d), tritone (5d), minor-6th (6d) and minor-7th (7d). The

‘Bright Pole’ (BP) comprises these: major-2nd (2b), major-3rd (3b), perfect-5th (5b), major-6th (6b) and major-7th (7b). Harmonies are named according to this formula: OT + DP constituents + d + BP constituents + b + (number of DP constituents : number of BP constituents). For example, C4 E4 G4 B♭4 C5 is C7d35b (1:2). The brightest harmony is BP, or 23567b (0:5). The darkest harmony is DP, or 234567d (6:0). Any other harmony is a combination of the features of DP and BP. A composer is free to construct his/her poles and their connotations. For example, one pole could comprise these harmonies: major-2nd, minor-3rd, major-3rd, perfect-4th and minor-7th. The other could comprise these: minor-2nd, tritone, perfect-5th, minor-6th, major-6th and major-7th. These could be the ‘Rough Pole’ and the ‘Smooth Pole’. By their nature, poles are mutually exclusive; no constituent may belong to both.

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Intuition and Conscious Control

Composer Bruce Adolphe relates intuition to ‘awake dreaming’ and conscious control to thinking. To summarise (Adolphe 2019): When you dream awake, fragments appear in your mind. These can be melodic, harmonic, timbral or rhythmic. They are neither planned nor forced. They are not products of the conscious mind. Dreaming awake happens without thought or control. When you notice ideas and play with them, you move on from ‘dreaming’ and into thinking. Thinking is conscious. When you think, you modify and organise ideas; you give them purpose; you fit them into a design. When you compose consciously, you select and reject ideas. You organise selected ideas into ‘phrases and[…] structures’ (p. 377). You can dream awake or think at any time; they can even happen together. Composing begins with dreaming awake and progresses into thinking.

My conceptions of intuition and conscious control are similar. Intuition is when you do by instinct, by gut, by feeling. It is ‘the ability to spontaneously “receive” unconscious material’ (Bailes & Bishop 2012, p. 59). If you are thinking, you do not notice it. You

behave in a way that feels as though you are pulling choices from the air. Conscious control is when you think and know it. You are aware of materials and methods and what you do with them. You behave in a way that feels as though you are identifying and controlling variables.

Academics have proffered definitions that, in essence, match these lay, pragmatic opinions: Samier 2018 calls intuition ‘a spontaneous gush coming from within[…] that does not derive from a rational process or logical thinking[…] [that] emanates from within, from [one’s] mind and[…] unconscious[…] an immediate type of knowledge that does not belong to either a cognitive process or an intellectual reflection’ (pp. 1–2). Hodgkinson et al. 2008 defines the act of intuition as ‘a complex set of inter-related cognitive, affective and somatic processes, in which there is no apparent intrusion of deliberate, rational thought’ (p. 4). C. G. Jung 1987 calls intuition ‘God[…] that voice inside us which tells us what to do and what not to do’ (p. 249). Swanwick 2003 highlights that intuition is, to some degree, a constant presence: ‘Nor does intuitive knowledge serve only as preparation for logical thought, to be discarded when higher levels are reached[…] We cannot afford to dispense with breathing or eating just because we may want to get on with writing a book’ (p. 29). According to him, intuition and conscious control are not mutually exclusive; to construe them as opposing forces is ‘ultimately destructive’ (p. 32). Nevertheless, Adolphe, I and others have construed them as *distinct* states. For instance, Pirsig 2011 says: ‘The romantic mode is primarily inspirational, imaginative, creative, intuitive. Feelings[…] predominate[…] The classic mode, by contrast, proceeds by reason and by laws’ (p. 63). This distinction, though made differently, is akin to the pragmatic one that Adolphe and I have drawn: there is that which results from the air, from the gut, from the unconscious – and there is that which results from thinking, ordering, planning and deliberating.

A deeper examination of intuition, addressing what it is socially and biologically – a cultural rather than solely individual system (Weissenberger et al. 2018), a vibration originating in the heart (Samier 2018) – is not relevant here. This commentary focuses on the products of intuition and conscious control defined, in light of the above ideas,

simply and practically. The state of *I feel that* x *is right* (Swanwick 2003, p. 31) constitutes intuition, and the state of *I change* x *in* y *manner* constitutes conscious control.

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Context

Laurence Crane, Howard Skempton, Peter Michael Hamel and Eric Whitacre have used many of the materials of this portfolio: restrained timbral palettes; tertian, quartal and added-note harmonies; simple rhythms; pedals; stable densities; obscured metres; the 'Life Chord' (see *Sonata* No. 3) and parallelism.

Whitacre in particular has used (in choral contexts) added-note harmonies, which he reserves for moments of significance. Take three passages in *Sleep*: 'The evening hangs beneath the moon' progresses through diatonic triads to reach an add11; 'I know that sleep is coming soon' stresses an add11 not of the key; and 'Upon my pillow, safe in bed' progresses through diatonic triads, then modulates via an add9-add11. In other words, Whitacre has used functional harmony leading to in-or-out-of-key added-note chords. Instead, my portfolio uses added-note harmonies in idiosyncratic, polar continuities (e.g., *Toil & Tribulation*, *Sandleford*).

In their piano music, Crane and Skempton have used simple rhythms and stable densities alongside indistinct, repeating melodic themes. Take Skempton's *Acacia*: its 'A' is ostinato-like, looping until the arrival of 'B', chordal – yet contrast between A and B is minimised by their brevity and by ubiquitous slow, pulse-like rhythm. Likewise, the A and B of Crane's *Kierkegaard* No. 2 repeat over a perpetual, pulse-like harmonic pattern, which – alongside the eventual combination of features of A and B to create an offshoot theme – minimises their differences. Such lack of thematic contrast has resulted in murky forms. Instead, my portfolio uses themes distinct in melody, harmony and rhythm to create clear forms (e.g., *Sonata* No. 3, *the Burn of the Stars*, *Behind the Stars*, etc.).

Peter Michael Hamel's *Allegretto* in *The Cycle of Time* – using simple rhythms, stable densities, pedals, parallelism and pandiatonic and quartal harmonies – comes closest to my portfolio. It comprises one melodic theme (and a transitional gesture), which develops primarily through evolution of the harmonic, rhythmic and timbral accompaniment while (barring transposition and improvisatory variation) remaining near-identical. Instead, and unlike the repetitiveness of Crane and Skempton, my portfolio varies melody via permutation, equation and reflection to create clear thematic development (e.g., *Fugue*, *3 Solos*, *20 December 2022*).

Finally, my portfolio uses co-ordinated melodies whose rhythms differ (i.e., clear counterpoint) (e.g., *Everyday Tasks*, *Polar Counterpoint*, *20 December 2022*). Generally, none of the above composers use clear counterpoint (let alone the polar-harmonic variants featured herein).

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Note on In-Text Representation of Rhythm

If 1 equals crotchet, then the rhythm *crotchet followed by crotchet followed by minim* can be expressed: 1 + 1 + 2. Tuplets are expressed via a sum in square brackets followed by a number in italics: [1 + 2]*2* indicates that 1 + 2 occurs in the time of 2. Ties are expressed via adjacent numbers (excluding numbers in italics) in bold: [1 + **2**]*2* + **4** indicates that the 2 of the triplet and the 4 are tied. Rests are expressed by parentheses: 1 + 1 + (2). Barlines are expressed by slashes: 1 + 1 + 2 / + 2 + 1 + 1. A '+' after a barline refers simply to the next duration; the first '+' is omitted customarily. I.e., 1 + 1 / + 1 + 1 is the same as + 1 + 1 / + 1 + 1, which, when 1 = quaver, is the same as two bars of the rhythm *quaver followed by quaver*. Equating 1 to a standard value follows rhythms via a backward slash: 1 + 1 + 2 \ 1 = quaver.

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Compositions

Below I address each piece, describing its features (i.e., the results of intuition and conscious control), the degree to which it was intuitive and consciously controlled, and the conscious controls themselves. ‘I > CC’ means intuition was significantly more responsible. ‘CC > I’ means conscious control was significantly more responsible. ‘I = CC’ means that intuition and conscious control were roughly as responsible as each other. ‘I ≥ CC’ means intuition was more responsible, yet conscious control was significantly responsible too. ‘CC ≥ I’ means conscious control was more responsible, yet intuition was significantly responsible too.

Toil and Tribulation (6 mins 30 secs) is a CC ≥ I piece for SATB chorus. It is a homage to Sir Douglas Mawson and uses his words from Chapter XIII, *Toil and Tribulation*, in *The Home of the Blizzard*. It is polar-harmonic.

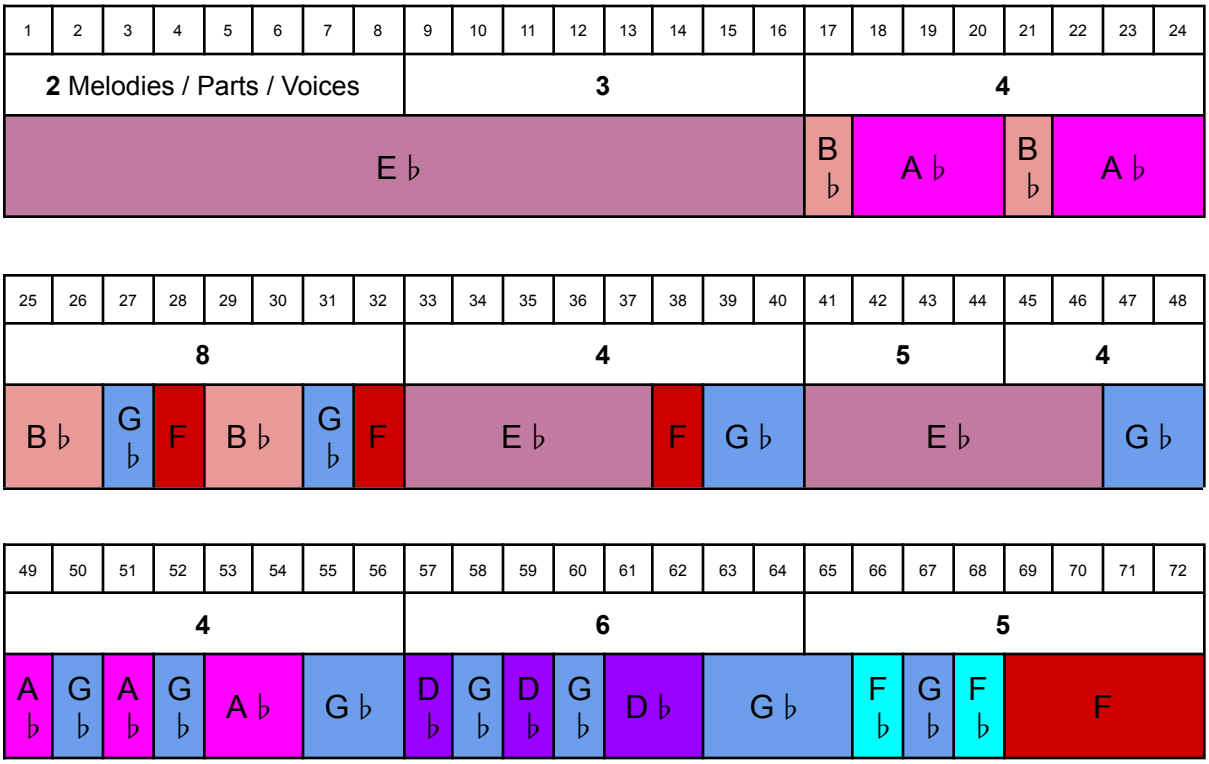
I noticed that each interval-class (except ic6) has a DP and a BP manifestation. Ic1 has 2d and 7b; ic2 has 7d and 2b; ic3 has 3d and 6b; ic4 has 6d and 3b; and ic5 has 4d and 5b. (Ic6 has only 5d.) I realised this means that each polar harmony has a corresponding opposite. For example, 5b’s (bar 1) corresponding opposite is 4d (bar 2); 25b’s (bar 9) corresponding opposite is 47d (bar 10).

First, I composed intuitively a progression of object tones (i.e., a melody of lowest pitches, a bass-line). Then I chose classes of polar harmony, alternated between them and their corresponding opposites and synchronised them with the bass-line. For example, I used 5b/4d for bars 1–8; I evolved this into 25b/47d for bars 9–16; and I evolved this into 256b/347d for bars 17–24, etc. I organised polar constituents (the pitches above each object tone) to make melodies that I liked. I kept harmonies and

progressions of harmony that moved me and felt appropriate (giant, powerful, eternal, poignant); I discarded ideas that felt irreverent.

Except for a few tied notes, rhythm is uniform; and all parts share the same rhythm, which consists of semibreves[1]. Its structure is a repetition of Theme A Variants 1–4 (bars 1–32) + Theme B Variants 1–2 (bars 33–48) + Theme C Variants 1–2 (bars 49–64) + Theme D Variant 1 (bars 65–72). Development of themes is melodic-harmonic, achieved by the addition of melodies (or parts, or voices). Some melodies are chromatic; the bass-line itself (disregarding harmonic spelling and context) is diatonic. The harmony is pandiatonic (i.e., characteristic of free, non-functional use of the diatonic scale) and consists of tertian, quartal and added-note structures; their density and variety grows in accordance with the number of simultaneous melodies. As this number increases, modulation becomes frequent, even perpetual:

(Table 1)



Results:
(of conscious control)
fixed densities, modulations, polar harmonies, polar progressions of harmony
(of both intuition and conscious control)
added-note harmonies, chromatic melodies, pandiatonic melodies/harmonies, quartal harmonies, short form/structure, tertian harmonies

Everyday Tasks (5 mins 30 secs) is a cycle of seven I > CC pieces for solo piano. Each piece is a brief intuitive expression of my feelings (at the time of composing) about a specific routine activity, like eating or putting on clothes.

Nos. 1–7 are products of *co-ordination of melodies*. Contrapuntal features are present in each piece. The first is that the melodies are audible and singable. The second is that the density, or no. of parts, is mostly fixed in each piece; for example, No. 1 has four melodies (or parts, or voices). The third is that the textures are characteristic; for example, combining the rhythms of No. 1 yields a resultant rhythm of 1 + 1 + 1 + 1 + … \ 1 = crotchet. The fourth is that the harmony is pandiatonic. Although traditional, Fuxian counterpoint prescribes tertian structures like 5-3-1 and 6-3-1, co-ordination of melodies in itself does not; and the diatonic scale is favoured for singing. Accordingly, pandiatonic harmony is a predictable result of intuitively co-ordinated easy-to-sing melodies.

Additionally, my approach led to the following features. Each piece is either mono-thematic (Theme A) or bi-thematic (Themes A & B). Development of these themes is limited largely to repetition and transposition. For example, Nos. 5–6 repeat Theme A directly; No. 4 repeats Themes A & B with slight rhythmic variation; No. 1 repeats Themes A & B four semitones higher; and No. 7 repeats Theme A in various keys. Each piece possesses one or more brief rhythms that repeat:

(Table 2, p. 9)

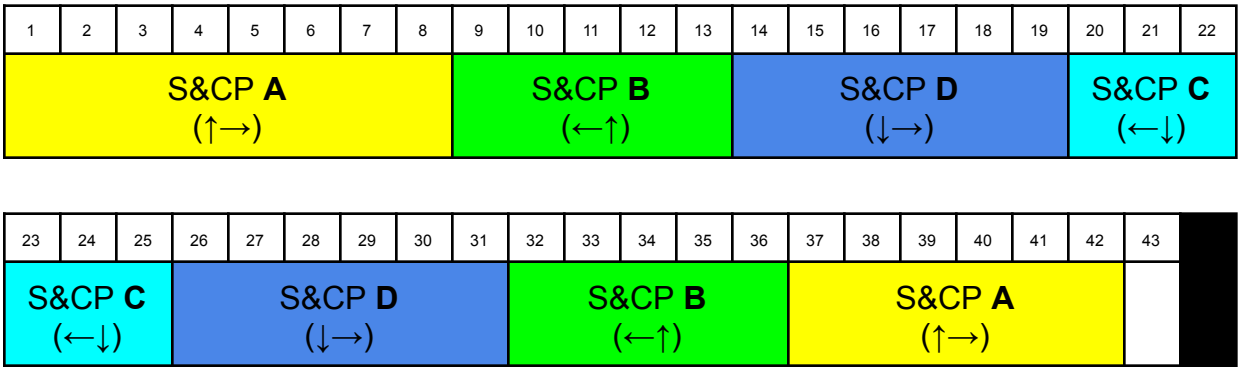
Piece	Rhythm(s)
Brushing Teeth (No. 1)	2 + 1 \ 1 = minim (bass-line)
Dressing (No. 2)	1 + 3 + (4) \ 1 = quaver (bass-line)
Looking in the Mirror (No. 3)	2 + 3 \ 1 = crotchet
Defecating (No. 4)	2 + 2 + 1 + 1 + 2 \ 1 = crotchet (Theme B)
Showering (No. 5)	3 + 1 + 2 + 2 \ 1 = crotchet (bass-line)
Dining (No. 6)	1 + 1 + 1 and 1 + 2 \ 1 = crotchet (resultant rhythms)
Sleeping (No. 7)	1 + 1 + 1 + 1 + long \ 1 = crotchet (upper melody) 1 + 1 \ 1 = minim (lower melody)

Except No. 5, each piece modulates; Nos. 1, 3, 4, 6 & 7 modulate frequently (1 & 3 widely); No. 2 modulates once.

Results:
(of intuition)
contrapuntal textures, co-ordinated melodies, fixed densities, modulations, pandiatonic melodies/harmonies, repetitions, short forms/structures, transpositions

Fugue (1 min 35 secs) is a CC ≥ I piece for two soprano recorders; it has one subject, one counterpoint and no episodes. I composed the subject intuitively and the counterpoint (the melody co-ordinated with the subject) freely, without prescribed intervals. I was aware of *Schillinger System*'s primary axis: this is the pitch whose composite duration exceeds those of the others and whose presence, according to Schillinger, makes a progression of pitches musical (pp. 246–247). In the subject's first entry, the primary axis is E5 (eight quavers); in the counterpoint's, it is also E5 (eight quavers). Subject & Counterpoint A (↑→) is bars 1–8 & 37–42. I created the rest of the fugue by varying S&CP like this:

(Table 3)



B is a reflection, or 180° rotation, of A. C is a reflection, or 180° rotation, of B. D is a reflection, or 180° rotation, of C. The subject and the counterpoint have distinct rhythms, and their resultant rhythm is characteristic of fugues: 1 + 1 + 2 + 2 + 1 + 1 / + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 / + 1 + 1 + 2 + 1 + 1 + 1 + 1 \ 1 = quaver (bars 3–5). The subject implies a metre of five, and in one of the voices syncopation occurs on most downbeats; these obscure the metre. The harmony is pandiatonic. Voices cross frequently, which obscures their respective melodies and creates resultant melody (perceivable melody that is not written down): for example, in bar 17, E6 + D6 + D6 + D6 + B5 + A5 with the rhythm 1 + 1 + 2 + 2 + 1 + 1 \ 1 = quaver.

Results:
(of conscious control)
fixed densities, primary axes, reflections/rotations, short form/structure
(of both)
contrapuntal textures, co-ordinated melodies, crossings of voices, pandiatonic melodies/harmonies
(of intuition)
obscurations of metre

3 Solos (1 min 40 secs) is a cycle of three I = CC pieces for soprano recorder. I composed them intuitively according to my principle *a melody is something you can sing and want to sing*.

Additionally, I composed them in accordance with the following ideas of *Schillinger System*: pitch-scales, pitch-scale expansion (pp. 133–135), permutation, primary and secondary axes (pp. 246–247 & 252–253) and oscillation (pp. 284–297). A pitch-scale is in its zero expansion when in its original form; for example, No. 1's pitch-scale in its zero expansion is D E F G♯ A B. Its first expansion is reached by circling through the scale and skipping one unit (omitting recurring units); No. 1's pitch-scale in its first expansion is D F A E G♯ B. Secondary axes are formed by pitches in relation to the primary axis. There are five secondary axes: 1) pitches moving higher and away from the primary axis, 2) pitches moving higher and toward the primary axis, 3) pitches moving lower and away from the primary axis, 4) pitches moving lower and toward the primary axis and 5) stationary pitches. Oscillation refers to various kinds of pitch motion that can affect these axes. For example, what I call the 'wave' occurs in No. 1 bar 9 beats 3–4: the pitches mimic the movement of a sine wave, up and down, before the secondary axis moving higher and away from the primary axis (which is E5) reaches its peak (which is B5 in bar 10).

The structure of No. 1 is Phrase A Variants 1–2 (bars 1–4 & 5–8) + Phrase B Variants 1–2 (bars 9–12 & 13–16). The primary axis of Phrase A's variants is D5 (24 quavers). The primary axis of Phrase B's variants is E5 (23 quavers). An example of permutation is bar 5 beats 3–4: F5 + D5 (bar 1) yielded D5 + F5. An example of pitch-scale expansion is bar 6 beats 1–2: the first expansion of the pitch-scale yields E5 + G♯5 in place of E5 + F5 (bar 2). Another example of oscillation is what I call the 'line', in bar 3 beats 3–4, where D5 for 4 is instead D5 for 2 + 2.

The pitch-scale of No. 2 is D♯ F♯ G♯ A B C♯. Its structure is Phrase A Variants 1–2 (bars 1–4 & 5–8) + Phrase B Variants 1–4 (bars 9–12, 13–16, 17–20 & 21–24). The primary axis of Phrase A's variants is F♯5 (20 quavers). The primary axis of Phrase B's variants

is F♯5 (31 quavers). An example of what I call ‘equation’ is bar 5: 2 + 1 + 1 + 2 (bar 1) = 3 + 1 + 2 \ 1 = quaver. An example of permutation is bars 18–19: 2 + 3 + 1 (bar 10) / + 2 + 2 + 2 (bar 11) yielded 2 + 2 + 2 / + 2 + 3 + 1 \ 1 = quaver. An example of the ‘line’ is bar 3 beats 1–3, where F♯5 for 5 is instead F♯5 for 1 + 1 + 1 + 2 \ 1 = quaver. Note that the ‘line’ is simply equation in the context of oscillation (i.e., 5 = 1 + 1 + 1 + 2). An example of the ‘wave’ is bar 4 beats 1–2. An example of what I call the ‘L’ is bar 2 beat 3 & bar 3 beat 1, where a pitch steps to another in one direction and then leaps in the other direction.

The pitch-scale of No. 3 is C E F G B ♭ . Its structure is Theme A, through-composed, with motifs. The primary axis of Theme A is F5 (37 quavers). An example of equation is bar 3: 4 + 2 + 2 (bar 1) = 1 + 1 + 2 + 3 + 1 \ 1 = quaver. An example of the ‘line’ is bar 9. An example of the ‘L’ is bar 7 beat 4 & bar 8 beat 1, where a pitch leaps to another in one direction and then steps in the other direction.

Results:
(of conscious control)
equations, permutations, pitch-scale expansions
(of both)
oscillations, primary and secondary axes, short forms/structures

Sonata **No. 3** (8 mins 40 secs) is an I ≥ CC piece for solo piano. A story-skeleton guided my composition of its substance and structure:

(Table 4, p. 13)

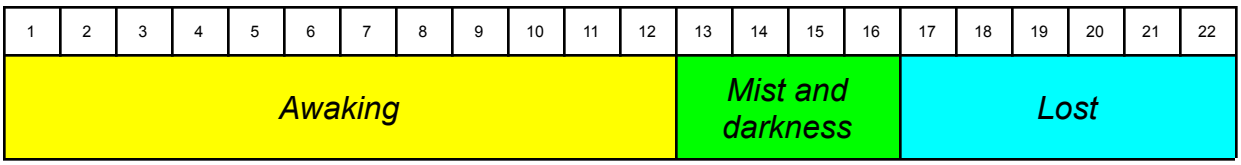
Exposition		Development		Recapitulation
Exposition	Conflict	Rising Action	Climax	Denouement
A boy **wakes up** in a **dark**, **misty** wood. He finds that he is **lost**.	He tries to **escape**. He grows **despondent**.	He finds a beautiful lake. The water is icy and pure.	He enters the lake and drinks. He grows powerful and free.	He soars above the trees, dominating the sky.

I designated rhythm as *structure* and composed all of it first, before any melody or harmony, using repetition, combination and diminution. Then I placed *substance* (melody/harmony) onto the structure. The piece has a general sonata form: exposition (bars 1–53), development (bars 54–105) and recapitulation (bars 106–end). It consists almost entirely of variants of the following rhythmic themes:

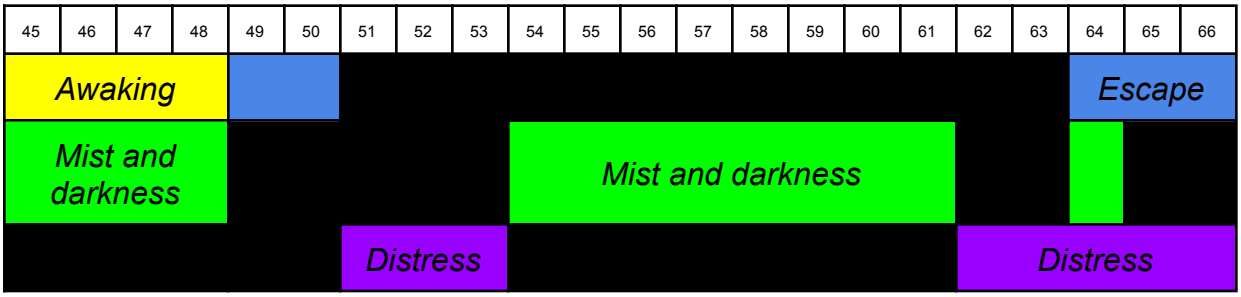
(Table 5)

Theme	Rhythm(s)
Awaking	4 + [1 + **2**]*2* + **6** + 1 + 1 + long
Mist and darkness	2 + 2 + 3 + 1 + 1 + 2 + 5
Lost	1 + 1 + 2
Escape	1 + 1 + 1 + 1 + 2 + 1 + 1 + 2 + 2 + 4 and 3 + 3 + 2 + 4
Distress	3 + 3 + 1 + 1 + 2 + 6

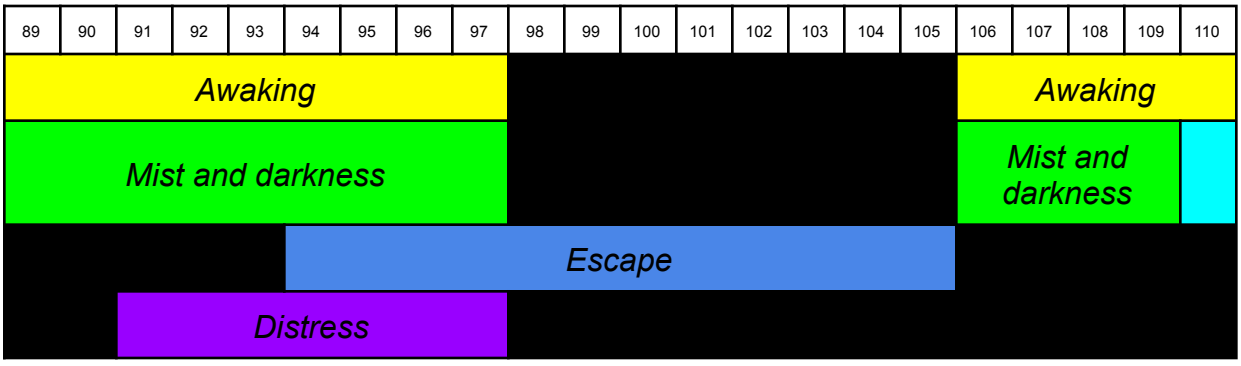
(Table 6, pp. 13–14)

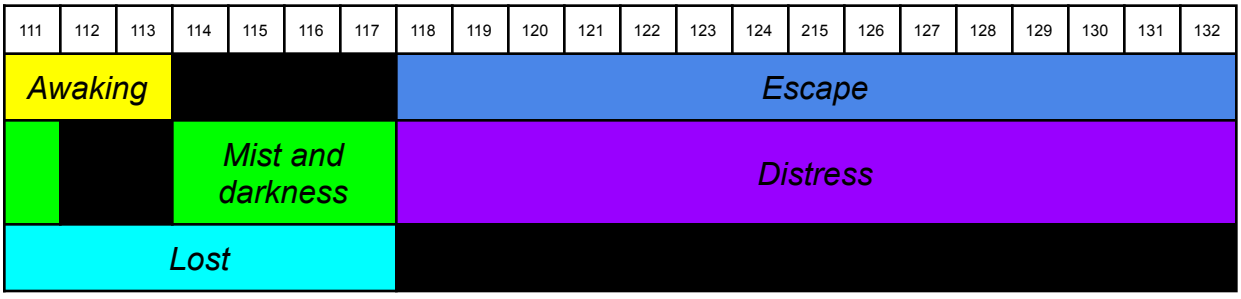



23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
Awaking
Escape
Mist and darkness
Mist and darkness
Distress
Lost
Lost


45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66
Awaking
Escape
Mist and darkness
Mist and darkness
Distress
Distress


67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Awaking
Lost
Awaking
Mist and darkness
Mist and darkness


89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110
Awaking
Awaking
Mist and darkness
Mist and darkness
Escape
Distress


111 112 113 114 115 116 117 118 119 120 121 122 123 124 215 126 127 128 129 130 131 132
Awaking
Escape
Mist and darkness
Distress
Lost

The melody and harmony is an eclectic mix of pandiatonicism and chromaticism. Tertian, added-note and, to a lesser degree, quartal structures of varying density are present throughout. What I call the ‘Life Chord’, 47d25b (2:2), and variants thereof feature in bars 68–78, 98–105 & 118–end. Transposition of harmony occurs in bars 17–24, 41–44, 78–85, 98–105 & 118–end. Harmony results especially from the co-ordination of melodies in bars 1–16, 25–36, 54–61 & 106–117. The piece has a variety of rhythms and entries of rhythms; these obscure the stated metre in places (e.g., bars 1–12, 29–36 & 78–85).

Results:
(of conscious control)
long form/structure, obscurations of metre
(of intuition)
added-note harmonies, chromatic melodies/harmonies, pandiatonic melodies/harmonies, quartal structures, tertian harmonies, varying densities

Epilogue (4 mins 50 secs) is an I > CC piece for solo voice and chorus. It is a setting of words from Richard Adams’ *Epilogue* in *Watership Down*.

The piece is Theme A Variants 1–5, development of which is from text, rhythm and soloist, who has considerable freedom regarding entry and rubato. The choral pedal is a quartal voicing of 347d256b (3:3), or complete Dorian mode, in the key of E (F♯ Dorian). The melody is also in E.

According to *Schillinger System*, in general, greater oscillation is linked to energy, force, effort and tension; lesser oscillation is linked to stasis, stability, relaxation and peace (pp. 279–283, 1418–1420, 1433–1434, 1437 & 1445). A long passage of oscillatory motion (the ‘wave’) constitutes the climax at the end of each variant of Theme A. The energy dissipates in each case via a long G♯ and a subsequent pause. Each Theme A evokes the increase of energy, the growth of tension and then, at its end, release. For

example, Theme A Variant 1's first (musical, not linguistic) phrase, 'they went out past the young sentry', is a secondary axis moving higher and toward the primary axis (D♯), another moving higher and away and, finally, a brief one moving lower and toward. Except for in the latter axis, oscillation occurs: the 'wave' in each case. The second phrase, 'who paid the visitor no attention', follows the same axial pattern and has variants of the same kind of oscillation; its first two notes are a permutation of those of the first phrase. The next phrase, 'the sun was shining', is a secondary axis moving lower and toward (a tiny 'wave' occurs in this axis), another moving higher and away, another moving lower and toward and a brief one moving lower and away. The axes of 'was shining' occur so quickly that the effect is one of motion, so they can be interpreted as a wave-like oscillation around the primary axis (rather than as independent secondary axes). The next phrase, 'and in spite of the cold', is a bridge between a transfer of primary axis from D♯5 to G♯4; its primary axis is E5. The rest of the theme is the final phrase – the climax – where the long 'wave' of 'L' shapes increases the melody's energy before reaching stasis. Each variant of Theme A follows this pattern, with small differences; the climax oscillates most in Variants 4 & 5.

Results:
(of both intuition and conscious control)
oscillations, primary and secondary axes
(of intuition)
pandiatonic melody/harmony, pedal

The Burn of the Stars (9 mins 5 secs) is an I = CC piece for solo piano. I sketched the structure as I composed and varied themes via permutation and equation:

(Table 7, p. 17)

1–6	7–14	15–20	21–28	29–34	35–46	47–49	50–59	60–69	70–79	80–85	86–93	94–99	100 –107	108 –113
A	B	A	B	A	B	A	C	C	D	A	B	A	B	A

114 –125	126 –128	129 –138	139 –148	149 –158	159 –164	165 –172	173 –178	179 –194	195 –204	205 –210	211 –226	227 –236	237 –246	247 –256
B	A	C	C	D	A	B	A	E	D	A	E	D	C	C

Theme A's development is: A2 is an octave transposition of A1. A3 is varied rhythmically in bars 32–34 via the equation 1 + 1 = 2; i.e., the three-semibreve duration splits into halves. A4 is a segment whose final duration is extended. A5 is A1 with a different harmony and a different secondary axis in bars 83–85. A6 is varied rhythmically in bars 97–99 via the equation 2 + 1 + 3 = 3 + 3 (as well as melodic-harmonically). A7 is varied rhythmically via the equation 2 + 3 + 3 = 2 + 4 + 2. A8 is a segment varied rhythmically via the equation 1 + 1 + 2 = 1 + 2 + 1 (permutation). A9–10 are melodisations of harmony, where its notes are given rhythm and contour. A11 is a rhythmicisation of harmony using reciprocating binomials (*Schillinger System*, pp. 1296–1298), i.e., binomials whose sums are equal (e.g., 3 + 1 and 2 + 2). The first number determines the duration of certain notes of the initial harmony, whereas the second determines the duration of certain notes of the next harmony. For example, in bar 205, the upper voices use the binomial 3 + 1: after a dotted minim (equal to three crotchets) comes a crotchet with the notes of the next harmony. In bar 206, what was the next harmony becomes the initial harmony, and the binomial is 1 + 3; after a crotchet comes a dotted minim with the notes of the next harmony. This occurs in three tiers of voices, through which cycle the binomials 3 + 1, 1 + 3 and 2 + 2. Bar 205 is 3 + 1 in the upper voices, 1 + 3 in the middle voices and 2 + 2 in the lower voices. In bar 206, uppers take 1 + 3; middles take 2 + 2; and lowers take 3 + 1. In bar 207, uppers take 2 + 2; middles take 3 + 1; and lowers take 1 + 3.

Theme B's development is: B2 is near-identical, with a tiny rhythmic variation. B3 is the first 'full' variant, with new melodic-harmonic and rhythmic features. B4–5 use an additional voice. B6 uses additional voices, and B7 introduces a countermelody.

Themes C & D's development is transposition, rhythmic equation and melodisation of harmony. Theme E's is transposition. The harmony is pandiatonic, with tertian and quartal structures. The texture is essentially homophonic, with varying density, yet contains moments of counterpoint (co-ordinated melodies).

Results:
(of conscious control)
equations, long form/structure, permutations, reciprocating binomials, transpositions
(of both)
melodisations of harmony
(of intuition)
co-ordinated melodies, pandiatonic melodies/harmonies, quartal harmonies, tertian harmonies, varying densities

Polar Counterpoint (3 mins 40 secs) is a CC > I pure composition (for no prescribed instruments). I composed it in accordance with my technique 'polar counterpoint'. I maintained a primary axis in each melody. I controlled resultant rhythms to achieve, though subtle, a variety of textures. I used equation to multiply the attacks of bars 1–32 to yield bars 43–74. The piece comprises contrapuntally harmonised repetitions of two Cantus Firmi (intuitive): Themes A & B. These are harmonised in three ways: via 47d25b (2:2), the 'Life Chord', in bars 1–16, 31–32 & 57–74; via 4d2567b (1:4), in bars 17–30 & 43–56; and via pandiatonic use of the key of F, in bars 33–42. Except in bars 33–42, each time the bass-line progresses, modulation occurs via the transposition of the 'key harmony class' (see score); except for passing notes, appoggiaturas, suspensions and delayed resolutions thereof, all pitches are of their key harmony classes.

(Results, p. 19)

Results:
(of conscious control)
contrapuntal textures, co-ordinated melodies, equations, fixed densities, modulations, polar counterpoints, polar harmonies, polar progressions of harmony, primary and secondary axes, short form/structure, transpositions
(of both)
pandiatonic melodies/harmonies

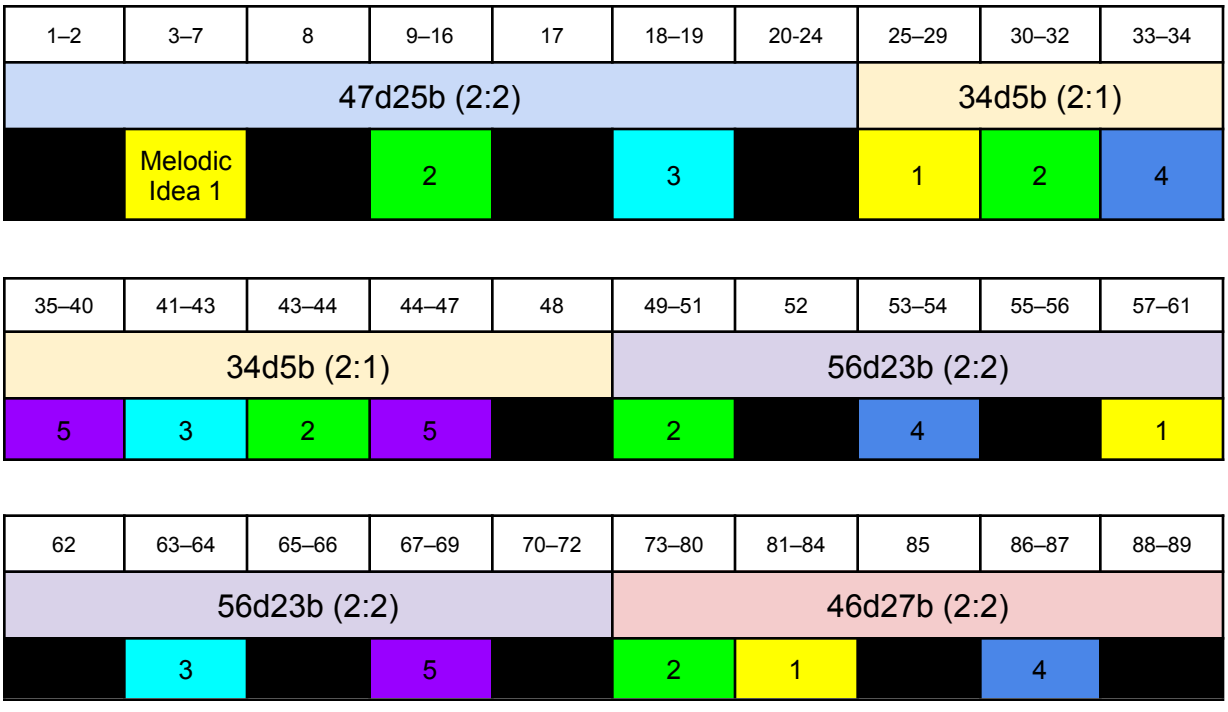
Behind the Stars (5 mins 10 secs) is an I = CC piece for solo piano. I chose a quartal harmony, composed a melody intuitively and combined the two; this became Theme A (bars 1–8, 16–23, 26–33, 41–48, 53–60 & 68–75). Then I improvised a tertian reply to it, which became Theme B (bars 9–14, 34–39 & 61–66). The structure and development I achieved consciously: I added a small, Theme-A-like fragment – Theme C (bars 24–25, 50–51 & 77–78) – to act as a recurring bridge; it is quartal harmonies rhythmicised via permutation of the application to voices of the following rhythms: 3 + 1, 1 + 3, 2 + 2 and 4. (To illustrate: In bar 77 beat 1, the upper stave's upper voice uses 4 and its lower uses (1) + 3; the lower stave's upper voice uses 2 + 2 and its lower uses 3 + 1. In beat 2, the voices use 1 + 3, 2 + 2, 3 + 1 and 4 respectively.) Then I repeated twice the pattern of Themes A + B + A (bridged by C) and varied them via permutation, equation and further rhythmicisation of harmony. Themes A & C are parallelism: a melody transposed and synchronised to yield harmonic planing. Theme B is counterpoint: four co-ordinated melodies (the middle voices share the same rhythm). In Themes A & C, transposition occurs as a result of parallelism, which in turn produces frequent modulation.

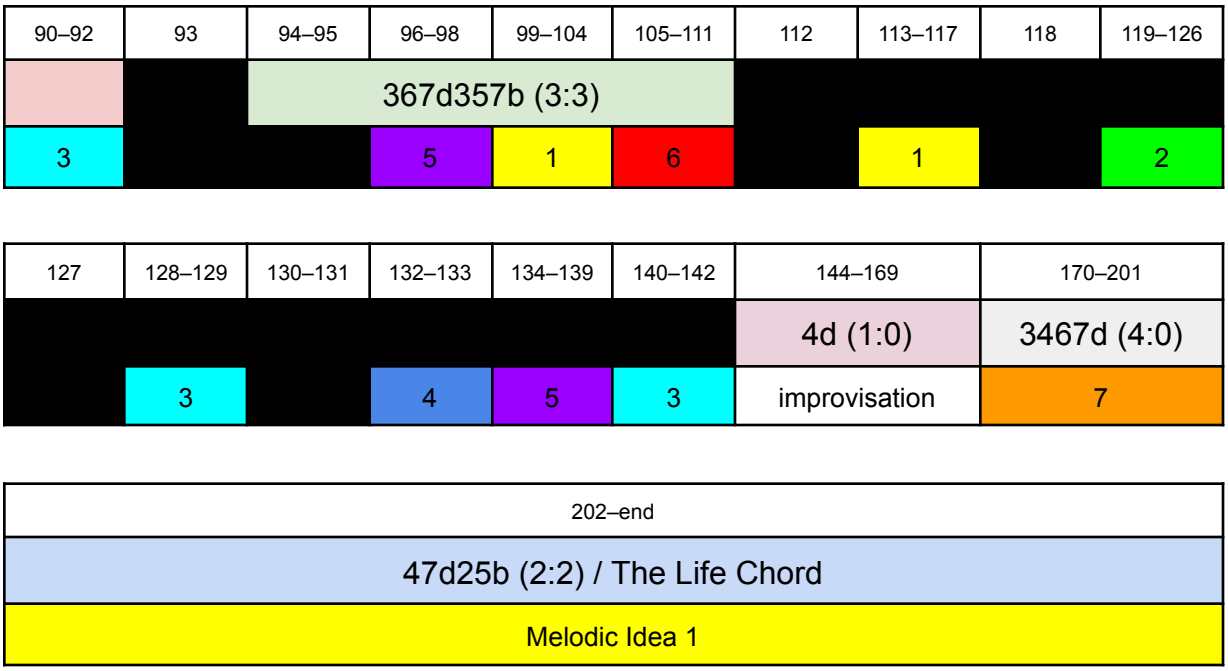
Results:
(of conscious control)
equations, permutations, rhythmicisations of harmony, short form/structure
(of intuition)

co-ordinated melodies, modulations, parallelisms, quartal harmonies, tertian harmonies, transpositions

Sandleford (12 mins) is an I ≥ CC piece for two solo sopranos and SATB chorus. It is a setting of words from Richard Adams' *Watership Down*. I composed the soloists' parts freely and intuitively, and I used polar counterpoint to create the choral accompaniment. For this, I chose segments of text and wrote down for each the mood I wished to create and the musical methods by which I would do so: a specific class of polar harmony, the degree of pitch-class unity between harmonies of this class, the harmonic rhythm and the contrapuntal texture – e.g., 'pad', meaning rhythmically uniform, 'two-rhythm CP', meaning counterpoint with two distinct rhythms, 'three-rhythm CP', etc. Its structure is through-composed, comprising seven recurring melodic ideas (and one passage of improvisation) atop an evolving harmonic backdrop.

(Table 8, pp. 20–21)





Each melody is intuitive. I modified rhythms, contours and pitches of each to correspond to the words and desired emotions. 1 is characterised by the ‘line’ oscillation, two down-away axes and an up-toward axis. 2 contains lots of space via rests. 3 is entirely composed of the ‘line’ oscillation. 4 is characterised by a rhythmically clear descending sequence (2 + 1 + 1) followed by a rising axis. 5 is characterised by ‘wave’ oscillations. 6 occurs only during the destruction-of-the-warren section and consists mostly of the ‘wave’ between two high pitches. 7 differs most from its predecessors and stands alone in the penultimate section. These in conjunction with sustained accompaniment obscure a sense of metre. Once the harmonic rhythm accelerates in the choral accompaniment, a metre – four-four – becomes perceivable.

Results:
(of conscious control)
long form/structure, polar counterpoints
(of both)
added-note harmonies, modulations, quartal harmonies, tertian harmonies, transpositions
(of intuition)

chromatic melodies, improvisation, obscurations of metre, oscillations, pandiatonic melodies, primary and secondary axes

20 December 2022 (5 mins 40 secs) is an I ≥ C piece for TTBB chorus. It is a setting of Erik Satie's words: 'The practice of an art bids us live in a state of[…] complete renunciation.' It is bi-thematic; its structure is A1 + B1 + A2 + B2 + A3 (extended) + B3. Each theme varies by 1) permutation and equation of rhythm and 2) transposition. Theme B is polar, created via loosely followed 'colour counterpoint', whose strict rules are:

Progress no two voices simultaneously by the same interval. Alternate dark and bright harmonies. Adjacent dark harmonies are a dark consolidation. Adjacent bright harmonies are a bright consolidation. Three or more consecutive dark harmonies are a dark passage. Three or more consecutive bright harmonies are a bright passage.

Otherwise, the music is entirely intuitive – instinctive co-ordination of melodies, resulting in pandiatonic Mixolydian melody/harmony.

Results:
(of conscious control)
equations, colour counterpoints, permutations, polar harmonies, polar progressions of harmony, short form/structure
(of both)
transpositions
(of intuition)
contrapuntal textures, co-ordinated melodies, pandiatonic melodies/harmonies, pedals

(Discussion of Results, p. 23)

❇

Discussion of Results

Most broadly, I found that composing intuitively yielded the pitch material and that conscious control contributed most when providing a clear framework onto which to intuit. In light of this, a specific exploration of my future pieces would include further compositional separation of rhythm (form/structure, conscious) and melody/harmony (pitch material, intuitive) – with focus on how to unify effectively melodic rhythm (intuitive) and structural rhythm. In simpler terms, I would like to find effective ways to compose melodies and harmonies on their own (freely and with minimal interference of time or form) and to apply them to a pre- or post-composed structure – like filling in a colouring book.

Below I discuss the above results, addressing the contributions of intuition and conscious control and their differences and similarities.

(Table 9, p. 24)

Results		
Intuition	Both	Conscious Control
Chromatic harmonies Improvisation Parallelisms Pedals Varying densities	Added-note harmonies Chromatic melodies Contrapuntal textures Co-ordinated melodies Crossings of voices Fixed densities Melodisations of harmony Modulations Obscurations of metre Oscillations Pandiatonic melodies/harmonies Primary and secondary axes Quartal harmonies Repetitions Short forms/structures Tertian harmonies Transpositions	Colour counterpoints Equations Long forms/structures Permutations Pitch-scale expansions Polar counterpoints Polar harmonies Polar progressions of harmony Reciprocating binomials Reflections/rotations

Attention must be drawn to intuition's greater contribution to the results both share:

1) All initial harmonic structures originated intuitively. For example, the pandiatonic, added-note, tertian and quartal structures of *Toil & Tribulation* are conscious, polar manipulations of intuitively constructed and selected classes of harmony – like 47d, which was 'pulled from the air'. In other words, each harmony that conscious control yielded involved intuition to some degree, whereas many harmonies that intuition yielded (such as those of *Everyday Tasks* and *Sonata* No. 3) did not involve conscious control.

2) Counterpoint (and its textures) is mostly linear, deriving from the intuitive co-ordination of intuitively composed melodies. Consciously controlled counterpoint (polar counterpoint and colour counterpoint) occurs only in *Polar Counterpoint*, *Sandleford* and *20 December 2022* (and, due to reflection/rotation, in *Fugue*).

3) Primary and secondary axes and, to a lesser degree, oscillation are inevitable components of melody, intuitive or consciously controlled, and can be said to appear in each of the above pieces. All melodies were composed intuitively to some degree, whereas few melodies were consciously controlled – some to as little degree as the acknowledgement of a primary axis.

4) Modulations and transpositions are linked deeply to harmony, which is mostly intuitive here. Note, however, the significance of polar counterpoint to modulation and transposition. In *Sandleford* and *Polar Counterpoint*, it is responsible for all changes of key in the accompaniment and in the piece respectively. Also, in *Toil & Tribulation*, all modulation results from the synchronising of polar harmonies to a progression of object tones and the alternation between polar-harmonic corresponding opposites.

Likewise, attention must be drawn to conscious control's importance regarding form and development. With the exception of *Everyday Tasks*, each piece's form was consciously controlled to a degree. The primary tools of development were permutation (the use of a re-ordering of a set of variables) and equation (the use of an equation of one set of variables to another).

In summary, intuition generated most ideas of melody, harmony and rhythm; and conscious control generated most of the structuring and development thereof. Also of note are the differences in results between most consciously controlled and most intuitive pieces of the same kind:

The counterpoint of *Everyday Tasks* resulted in a progression of varying pandiatonic harmonies and structures of harmony, while the counterpoint of *Polar Counterpoint* resulted in a continuity of transpositions of two specific classes of harmony (the 'Life Chord' and 4d2567b (1:4)).

Note the differences between the most intuitive melodies – those of *Sandleford* and *Epilogue* – and the more consciously controlled, of *3 Solos*, *Polar Counterpoint* and *Toil*

& Tribulation. The intuitive contain many various rests and pauses. Their entries are various, on all manner of beats. They are less metrical in character, at times implying no consistent pulse. They vary subtly over longer periods of time. Their phrases are longer and more ambiguous regarding beginning and end; thus they blend together, creating subtler, smoother, better-flowing continuities. The conscious, by comparison, are more rigid. They have fewer if any rests and pauses. They are metrical in character, implying a consistent pulse. Their phrases are terse, clear and separate. Their variation is overt and consistent and occurs within shorter periods of time. Additionally, obscuration of metre occurs only as a result of intuitive melodies (with the exception of the pre-composed rhythms of *Sonata* No. 3). Consciously controlled rhythms highlight consistent pulses.

Differences in harmony between the most intuitive and the most consciously controlled are clear. The first is in density. The most intuitive harmonies – those of *Sonata* No. 3 – are eclectic in density, containing any number of notes at almost any time. The most consciously controlled – those of *Polar Counterpoint* and *Toil & Tribulation* – are rigid, admitting a fixed number of notes at fixed times. The second is in quality. The most conscious follow strict guidelines and are thus rigidly polar (see score *Polar Counterpoint* and paragraph *Toil & Tribulation* respectively). The intuitive are eclectic in set and structure: chromatic, pandiatonic, tertian, quartal, added-note, parallel, pedal, contrapuntal.

Finally, there are the results of a balanced mix of intuition and conscious control, which display ‘the best of both worlds’: the subtle, varied, eclectic melodies/harmonies of intuition and the clear, methodical forms and developments of conscious control (e.g., *the Burn of the Stars*, *Behind the Stars*). Favouring either emphasised their respective qualities; in other words, more intuition meant a composition with a greater variety of melody/harmony (e.g., *Sandleford*, *Sonata* No. 3), whereas more conscious control meant a composition whose focus is form and development, using stricter, more limited melody/harmony (e.g., *Polar Counterpoint*, *Fugue*).

FOOTNOTE

1) These need not be performed with rigidity, i.e., as equal semibreves. Generally, I believe performers, in service of interpretation, are correct to vary any variable – except pitch. I prefer pitch to rhythm; thus, the above music focuses mostly on melody/harmony.

Link to folder of excess compositions:
https://drive.google.com/drive/folders/1wS5HUAsfXbC0pkGRqcOBNA_O9wqgyMhL?usp=sharing

(References, pp. 28–29)

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[WORD COUNT (approx.): 6,143]