Defying Objecthood: Tracing the beginnings of a political aesthetic in my recent work.

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Scores

Condensation (Strike Work) (2015) for Solo Flute.

Πολυτροπος [Polytropos] (2016) for Solo Bass Clarinet in Bb.

'…und nicht vielmehr Nichts?' (2016) for Solo Piano.

826 Harry Cowley (2016) for Electric Cello and Electronics.

Recordings

Included in the portfolio is an Audio CD containing the following tracks:

1. Condensation (Strike Work) – A live performance by Richard Craig, at St. Paul's Hall in Huddersfield, on the 26th of February 2016.

2. Πολυτροπος [Polytropos] – A studio recording by James Wood, made at the University of Huddersfield in May 2016.

3. The improvisation upon which Polytropos is based, made at my home in December 2015.

4. 826 Harry Cowley – A studio recording by Christine Avis, made at my home in June 2016.*

* Please note that the end of this track is considerably louder than the beginning, and for this reason, I recommend listening at a lower volume.

Copyright Statement

Acknowledgements

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Three of the four pieces contained in this portfolio were written for specific performers. Richard Craig's performance of *Condensation (Strike Work),* and his feedback, were an essential influence on later pieces. James Wood lent his artistic vision, insights and a considerable amount of free time to the development and final recording of *Polytropos.* I am in awe of his openness to new ideas, and of his extraordinary dedication to open-ended experimentation in music. Christine Avis, for whom *826 Harry Cowley* was written, demonstrated an infectious level of enthusiasm, a great deal of patience in the face uncooperative technology, and an extraordinary level of technical prowess in meeting the demands of an unfamiliar notation. I must also thank Einar Einarsson, Christopher Fox, Scott McLaughlin, and Matthew Sergeant for kindly granting me permission to include excerpts of their work in this paper.

Finally, I would like to thank my family - Jim, Lynn and Alice - and my Mancunian friends, for their encouragement, tolerance and understanding of my long absences during this busy time.

Abstract

Through a theoretical framework informed by Deleuze and Guattari, DeLanda, Ingold, Massumi, Sennett, and Warren, this thesis traces the development of a political aesthetic in four pieces of my own work as it emerged through practice. In what ways is it possible to expose, push at, and perhaps even momentarily break the striations of an inherited politico-cultural milieu, particularly as they mediate encounters between composers, performers and listeners? What are the experiential consequences for performers and listeners? This body of research challenges the perspectival notion of the impenetrable work-as-object in Western art music, proposing the notion of a permeable site of exchange in its stead. Drawing on the work of a stylistically divergent range of other composers, the thesis reflects on compositional and notational strategies as they developed through each piece to this end. The research as a whole constitutes the beginning of a compositional and conceptual toolkit ripe for further development.

1 Introduction

My interest in the politics of music stems from my formative years as an activist for radical socialism, an ideological position with which I remain broadly aligned. That said, art is not activism. I am not proposing the employ of music in the service of agitprop, as though it were a neutral conduit for the communication of political messages (Warren, 2014, p. 29; Massumi, 2011, p. 54). Not only would such an attempt mask the reality of the social forces it brings into being with those it purports to endorse,[1] but also because I am less interested in the business of preaching than I am in that of at least attempting to practice. For those who would see this commentary as an extended exercise in virtue signalling, my primary reassurance is that the narrative I am about to commence is one replete with implicit failures and provisional successes: only insofar as my present faculties reveal are they in line with the philosophical and theoretical framework I am to lay out. Further, it is right to hold in deep suspicion any attempt to reconcile compositional practice with a dusty form of utopianism that would seek to universalize: it is not my purpose to pull moral axioms out of ethical questions, nor to insist that I have even come upon the right questions to begin with. Nor, for that matter, do I suffer delusions as to what is at stake: very little of anything.

In a world dominated by exploitation on every level, where the very piece of technology with which I have undertaken and articulated this research is soaked with the blood of sweatshop workers, I accept that the matters I am to attend to are a little parochial if not outright

[1] 'Whether it is *The Sex Pistols*, *MC5*, *Rage Against the Machine*, *Marilyn Manson*, or "gangster" rap, the impulse to revolt against "the machine" (i.e. multi‐national capitalism, middle class morality) is quickly bottled by corporations and sold back to the putative dissenters…' (Carson, 2003). According to Ben Watson (1999, pp. 79‐97), some research in the politics of music has a tendency to celebrate the power of commodity music (or, perhaps more strictly, its consumers) to (symbolically) resist a (usually vaguely defined) hegemony, starting with stable forms as a *commodified product* rather than the (often materially resistive and highly contested) sites of its production.

insulting[2]. Nonetheless, in the words of Noam Chomsky (2015, p. 64), 'the useful and significant political actions are those that have consequences for human beings. And those are overwhelmingly the actions which you have some way of influencing and controlling…' It follows, then, that the minute contributions to culture I would make in any case, ought, however temporarily and insignificantly, to resist the motion of the capitalist machine as far as I can see it operating on this space; to embark on a line of flight through the 'leakage in the system' (Manning & Massumi, 2014, p. 123). Such 'soft subversions' (Elliott, 2012, pp. 105‑109) work within the register of Deleuze & Guattari's (2003, pp. 26‑34) *molecular*: the micro‑level flux that can undermine or even break out of the bigger, much more stable *molar* organizing forces they inhabit, form, or correspond with and to (Elliott, 2012, pp. 25‑27). 'Where else but in wide expanses… could a tiny rivulet of intensity start to flow?' (Deleuze & Guattari, 2003, p. 34).

Against the 'bland nihilism' (Elliott, 2012, p. 22) regularly met with in the postmodern art proper and the preachy self‑righteousness of propagandistic symbolism, this project has arisen from a curiosity about what could emerge from a 'creative encounter' (Elliot, 2012, p. 22) between material political resistance and the structures of Western art music. Although I have thus far described my central aim in terms of its political imperative, I am at pains to emphasize that I am less interested in appropriating art to "further the cause" than in appropriating the cause in an attempt to further the art: to see if this encounter, by seeking to escape the strictures of what is, can hint at what could be possibly be. What possibilities are raised by taking responsibility for, elucidating, and reflecting on the immediate political spaces my music enacts in so *becoming*? It has long been my contention that any product of culture, and therefore any piece of music, makes manifest, reinforces, and/or problematizes an assemblage of relationships defined by the material conditions of its enactment at the

[2] Richard Barrett's (2002) polemic, 'The possibility of music', argues similarly in relation to historical musical censorship *vis‑à‑vis* any current predicaments Western art music faces in its contemporary guise.

site(s) of its (re-)production (Hasty, 2016, p. 13; *see also* Davis, 2011, pp. 123-124)[3]. Any aesthetic experience is indelibly bound to its manifestation of the political.

Becoming is not a word I use flippantly, or in place of creation, composition or performance but in recognition of the fluidity and dynamism of a piece of music as and after it is composed, performed and/or recorded (Hasty, 2016, pp. 1-9). (Re-)production is a continual process. Taking composition to be the formulation of self-contained objects implies a kind of hermetic closure, forming a commodity that vales the human encounters I seek to expose (Warren, 2014, pp. 1-3, 184-186; *see also* Hasty, 2016, p. 13). In the case of Western art music, these encounters are (in the proximally immediate sense) between composers, performers, and audiences, and as such these form the focal points of my own research.

An object-orientated approach lends itself to a taxonomy of teleological roles, holding us to those essences[4] of subjectivity[5] operating within the sphere of Western art music, or perhaps more fairly, its projected priorities in the form of the 'Classical Music industry' of our time (Cox, 2002, p. 89). I am referring here to the composer who is to construct a coherent work with an inherent truth, the performer who is to attempt as best as possible to produce a realization of that truth in those criteria sufficiently stable to be objectively measured (Cox, 2002, p. 90), and the audience member for whom that truth is an 'ideal perception' to be aspired to (Cox, 2002, p. 72; *see also* Duncan, 2010). In my view, a tacit inheritance of the

[3] I made a very similar argument from a more distinctly Marxist perspective in a recently published paper, formed as part of my undergraduate studies (see Aulich, 2016).

[4] An 'essence' is a stable representation of the general in relation to which the specific is perceived as a derivative variation (DeLanda, 2013, pp. 26-29; *see also* Campbell, 2013, pp. 3-6; Hasty, 2016, pp. 1-22).

[5] Following Guattari (1995, pp. 1-32; *see also* Elliott, 2012, pp. 25-37), I consider subjectivity to be heterogeneous, as well as temporally and materially contingent. Subjects are produced by 'mental and social ecologies' (O'Sullivan, 2006, p. 89) rather than simply existing a *priori*. A subject is semi-autonomous and agential in nature, defined against alterities that may in themselves 'interact back' (O'Sullivan, 2006, p. 89).

ideologically-charged *refrain*[6] binding these subjectivities closes the potential for radical shifts in perspective[7] away from the 'universalised subjective experience' (Hasty, 2016, p. 5) an object-oriented perspective presents as a given (Hasty, 2016, pp. 3-5). I would tentatively contend that opening the potential for such shifts *from first principles* forms the necessary preconditions that allow for 'a token of the possibility of human dignity' (Richard Barrett cited in Whittall, 2005).

A central theme of all the works discussed herein can therefore be found in their resistance to an object-oriented reading in performance and listening. In turn, they attempt to refrain from outward projections of ideal performances or ways of listening. With a very great deal of retrospect, this project can be said to have engendered a re-conceptualization of the compositional process as the configuring of membranes or sites of exchange for flows of agency in performance and perception. The score is intended to serve as one such meeting point between subjectivities: that of the performer whose physiology and habitus[8] collide with that of the composition itself, not as an inert form, but as a patchwork of 'active material[s]' (DeLanda, 2004, p. 19) delineating finite bounds across time. The result of this

[6] A refrain is a territorializing assemblage demarking a continually returning conceptual or physical space (Deleuze & Guattari, 2003, pp. 310-350; *see also* Elliott, 2012, pp. 89-92).

[7] In this context, Foucault's notion of knowledge as power is also applicable: the traditions of Western art music serve as a historically contingent 'system of knowledge' that contributes to the constitution of partaking subjects (Gutting, 2014, section 4.5). In the philosophy of science, 'epistemic cultures' (Cetina, 2006) are a further point of comparison, where the pursuit of knowledge is built around a framework of relations sustained by objects under scrutiny. Such communities are characterized 'by specialists separated off from other specialists by long training periods, stringent division of labour, distinctive technological tools, particular financing sources, and so on' (Cetina, 2006).

[8] Bourdieu's concept of habitus is particularly useful for me because it is at once an embodied history ("Habitus," 2015) and an adequate description of the means through which it is produced. Where I depart from Bourdieu is that I do not believe it serves as an autonomous master process determining our actions. Rather, such embodied histories contribute to the reproduction of (and an individual's place in) codified fields in specific material circumstances or, as DeLanda (2013, p. 65) would have it, relative to the 'specific enforcement mechanisms' of the field in question.

meeting point projects a sounding result, itself a site of exchange, the perceptual qualities of which are intended to invite a multiplicity of potential interpretations.

I am not especially concerned here with the classical notion of freedom or agency as the ability to make choices according to one's own disposition (except, of course, in withdrawing labour or refusing to participate in the first instance). I am not proposing a series of possibles with paths of least resistance: it would be a dystopian freedom indeed if its exemplar were to be found haplessly wondering the bowels of IKEA. There are few choices to be made *through disposition* with regard to what needs to be done in the act of faithful performance. Performers instead *express their disposition* in their performance of a work, enabling *critical* freedom: the rather riskier actualization of *'critical points'* that open the potential for change (Patton, 2002, pp. 83‐87). In other words, the focal point of political energy can be found in the space to evaluate, to be evaluated, to renew, and to be open to renewal through engagement with a piece. As O'Sullivan (2006, p. 92) suggests, the self‐interrogation of habit that the pieces necessitate is a precondition for this kind of encounter.

The conceptual and technical points of orientation from which I developed my own approach owe a significant debt to a number of other composers. Firstly, finding ways to interface music with the political is far from a new idea, and although they did not directly inform any particular approach I have taken in this body of work, I was first made aware of this line of enquiry as a result of inspiring and fruitful engagements with the work of Cornelius Cardew, Louis Andreissen, and Christian Wolff. Although it is methodologically distant, Richard Barrett's music and discourse heavily informs the backdrop I have thus far outlined.[9] Matthew Sergeant's *hybridity*, 'where material behaviours are unsympathetically collided to create

[9] Although he does not explicitly discuss his work through the same lens, the multifaceted listening experiences in Richard Barrett's music (Barrett & DeForce, 2000, p. 1; p. 7), problematized relationships between performer, instrument and score (Barrett & DeForce, 2000, pp. 2‐7), and his desire to musically resist market tendencies (Barrett, 2005) resonates strongly with this body of work. However, our particular strategies for dealing with these common aims diverge significantly enough for a discussion of his work to be beyond the scope of this paper.

ambiguously defined material identities' (Sergeant, 2013, p. 46), and my own extension, *meta‑hybridity* (the collision of materials and performers) looms large in this body of work. Brian Ferneyhough's dialectical, multi‑layered approach to material, which tends to produce multifaceted experiences in listening and performance (Fitch, 2014, pp. 63‑100), heavily informed *Condensation (Strike Work)* and, to a lesser extent, *Polytropos.*

The notational experiments of Christopher Fox were a primary starting point for the development of my own notational strategies. Aaron Cassidy's (2015) lecture, 'Imagining a non‑geometrical rhythm', inspired my approach to temporality in *Condensation (Strike Work)* and *Polytropos,* but more significantly, began a partial shift in my philosophical outlook from classical Marxism towards the various forms of poststructuralist materialism that serve much of the theoretical reservoir from which this paper draws. A number of pieces by Peter Ablinger together with liner notes by Evan Johnson (2009), and the concluding chapter of Matthew Sergeant's (2013) PhD thesis informed the notion of *lateral hybridity* important to *'...und nicht vielmehr Nichts'* and *826 Harry Cowley.* Finally, pieces by Luciano Berio, Helmut Lachenmann, Scott McLaughlin, Tim McCormack and Einar Einarsson form interesting retrospective parallels with parts of my own work. I will expand on the relationships with all these composers as and when they become relevant in the course of this commentary.

2 Condensation (Strike Work)

2.1 Creating an emergent process

Condensation (Strike Work) for solo flute was my first attempt to form the sites of exchange I outlined in the introduction. The piece was written in anticipation of a performance by Richard Craig, which took place in February 2016. While the notation succeeded in serving as a meeting point for performative and compositional subjectivities, it proved ultimately too resistant to interpretation, too confusing, and too exploitative of physiological and psychological *constraints* as opposed to *qualities*. My compositional approach was informed by two ways of thinking I have since abandoned: an essentialist view of, and a multi-linear parametric (enumerable) approach to the question of material. Although the central purpose of the compositional process, confounding object-oriented structural perception, was (largely) achieved, it suffered something of an ontological short-circuit: a source-filter model in which the initial starting-points were defined as inert objects, and the subsequent process devoted to undermining just such a conception.

The process was designed to generate an emergent surface with ambiguous structural relationships whose formal boundaries are blurred, and gestalt 'forces of closure' weakened (Bregman, 1994, p. 26; *see also* McLaughlin, 2009, pp. 13-14; Sergeant, 2013, pp. 49-50). In other words, identifiability or objecthood was to be rendered questionable. The conceptual model was partly inspired by the 'zone of indiscernibility that is common to several forms, irreducible to any of them' that Deleuze (2005, p. 50) identifies in the paintings of Francis Bacon, where the borders between figure and background are blurred. The results were generated by a series of directional sets of parametric data, selected using numerical loops, and hybridized with each other together with an independently conceived rhythmic layer. The pools of data that can be selected from at a given point are organised into interconnected "scenes", often straddled with linking arches common to neither, and trajectories common to both, blurring the lines between one and the next (see figure 1).

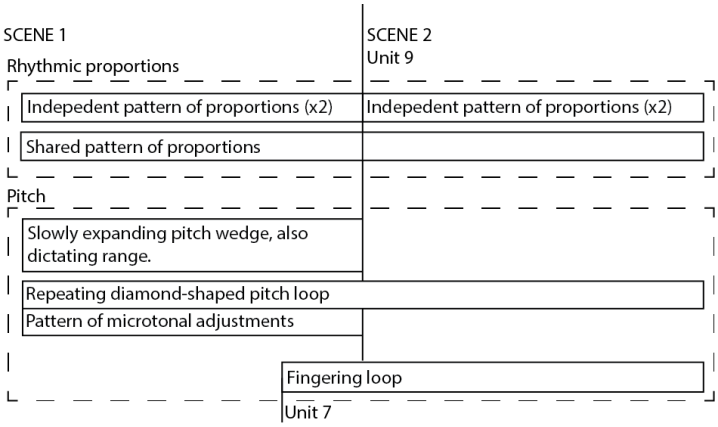


Figure 1 – Figure showing some of the strata in Scenes 1 and 2. Note the shared pitch and rhythm materials.

The source material for the work was conceived to be perceivably directional, or else a short loop that could be heard to be looping if it were presented as-is. It was important that these source archetypes be stable (self-similar) enough to hold perceptually identifiable attributes[10] in order that they may exert their influence on the resulting musical surface; that they had a subcutaneous bearing on the structural relationships therein. An example of a typical pitch object, the expanding half of which corresponds to the 'gradually expanding pitch wedge' and the whole of which corresponds to the 'repeating diamond-shaped pitch loop' in figure 1, is shown below (figure 2).

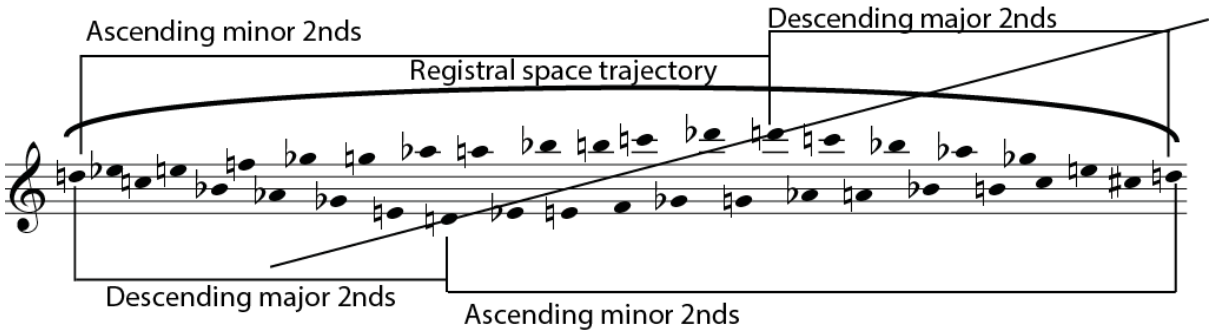


Figure 2 – The 'gradually expanding pitch wedge' and 'looping pitch diamond' from figure 1.

[10] While degrees of perceptual identifiability remained a central concern throughout the project, the essentialism here is the measure of identity being undertaken: a number of properties as opposed to the behavioural tendencies that would replace them in later pieces.

The pitch wedge is self-consistent in a number of dimensions. It consists of super-imposed scales of ascending minor seconds, and descending major seconds, moving to and from a common tone. In this way, it could be said to follow two juxtaposed melodic arc *schema* (Snyder, 2000, pp. 154-155; *see also* Sergeant, 2013, p. 41; Purwins, Herrera, Grachten, Hazan, Marxer, & Serra, 2008, pp. 173-174). As this object, in its guise as the "wedge", unfolds relatively slowly, it makes sense to consider each arc as a separate gestalt group given that most of the time they are registerally separated (Bregman, 1994, p. 20). When taken separately, the interval relationship pattern also conforms to the general expectancy that smaller intervals follow intervals of a similar size (Purwins, et al., 2008, pp. 174-175).

The mechanics of the process were inspired in part by Brian Ferneyhough's notions of 'fictional polyphony' (multiple and sometimes conflicting parametric strands) and the interference form of which it is a subset (the simultaneous juxtaposition of types of textural material), particularly as they are presented in *Unity Capsule* (1975-1976), *Time and Motion Study II* (1973-76) and *Sisyphus Redux* (2011) (Fitch, 2014, pp. 67-77). Equally, Matthew Sergeant's (2013, p. 46) notion of hybridisation via *re-coupling*, first exemplified in *bet merkorios*[11] (2012), involving the collision and distillation of unsympathetic materials operating in parallel, served as a point of orientation in developing the compositional process (see figure 3). Unlike in the works of Ferneyhough, but in common with Sergeant (2013, pp. 75-84), the resulting third states are rendered down in the compositional domain, and conflicting data smoothed out, rather than tackled in the performative domain. In contrast with Sergeant's re-coupled hybrids, the subject materials are not behavioural patterns confined to exclusive sites of physical action (Sergeant, 2013, pp. 73-84), but regularly overlapping sets of parametric data largely (although not always) concerned with sounding results.

[11] The composer consistently spells the names of his pieces in lower case.

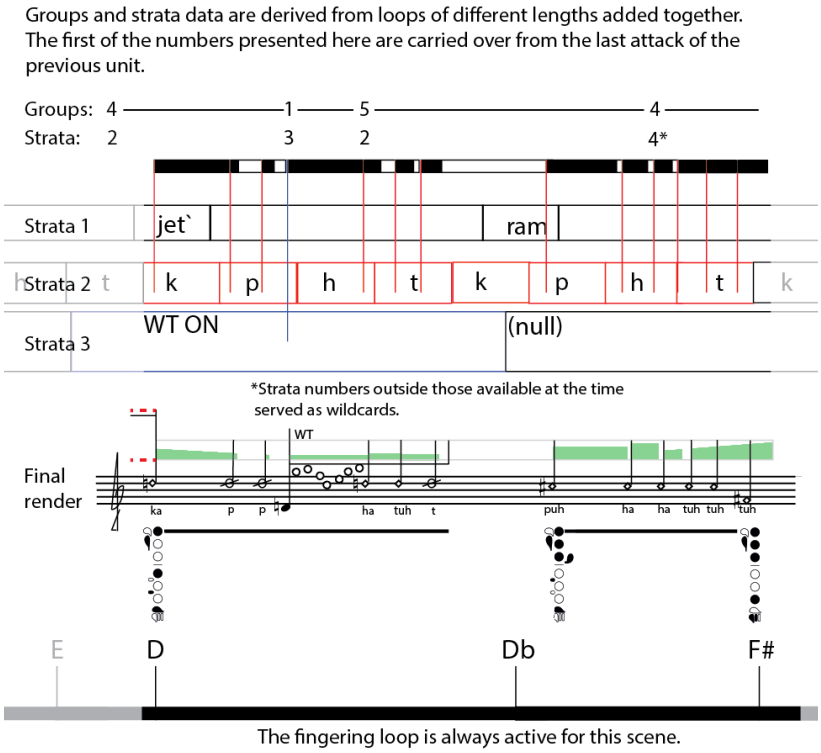


Figure 3 – A visual example (corresponding to unit[12] 30 in the final score) of how strata are merged. The dynamics and proportions are derived similarly.

[12] Throughout this paper, I use the word 'unit' as opposed to 'bar' for all enumerated spaces that do not have specific metric implications.

2.2 Considering the score as an 'opening offer'

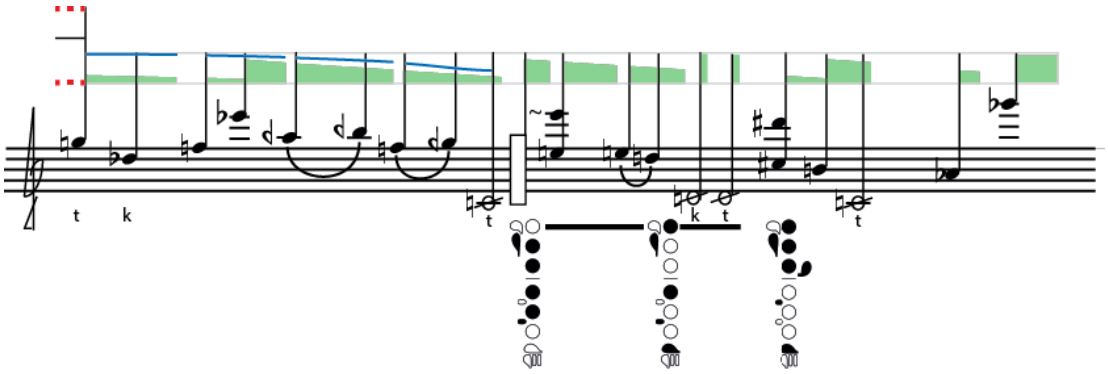


Figure 4 - Unit 51 from Condensation (Strike Work). The red dotted lines on the left hand side indicate the fastest and slowest possible speeds, and the line between them represents the desired speed for this unit relative to those extremes.

The piece's rhythmic notation specifies no absolute durations. These must instead be deduced by individual players dealing with the material presented to them according to their own physiology, psychology and instrument. Material is organized into variously subdivided units of fixed visual widths (figure 4), with the overall tempo for each unit given in relation to the fastest and slowest possible speeds it could be played. There is no hypothetical perfect performer who might perform an ideal version. Instead, the piece presents an 'opening offer' not dissimilar to that presented by Chris Fox in *Reeling* (1987) (Fox, 2014, p. 9). In *Reeling*, the notation lacks information in some domains, most notably appropriate places to breath in the clarinet part, whilst maintaining a high degree of specificity in others (such as rhythm) (see figure 5). The result, as Fox (2014, p. 9) describes it, is a notation that forms 'the beginning of a creative process' as opposed to 'an object to be more or less achieved'. Prior to entanglement with a particular performer, or *meta-hybridity,* the temporal domain of *Condensation (Strike Work)* is entirely impoverished, existing only as a series of subdivisions of unknown quantities pregnant with potentials that may or may not become actual in performance. Only in correspondence with a performer does the information in the temporal plane take shape beyond abstraction and guess-work.

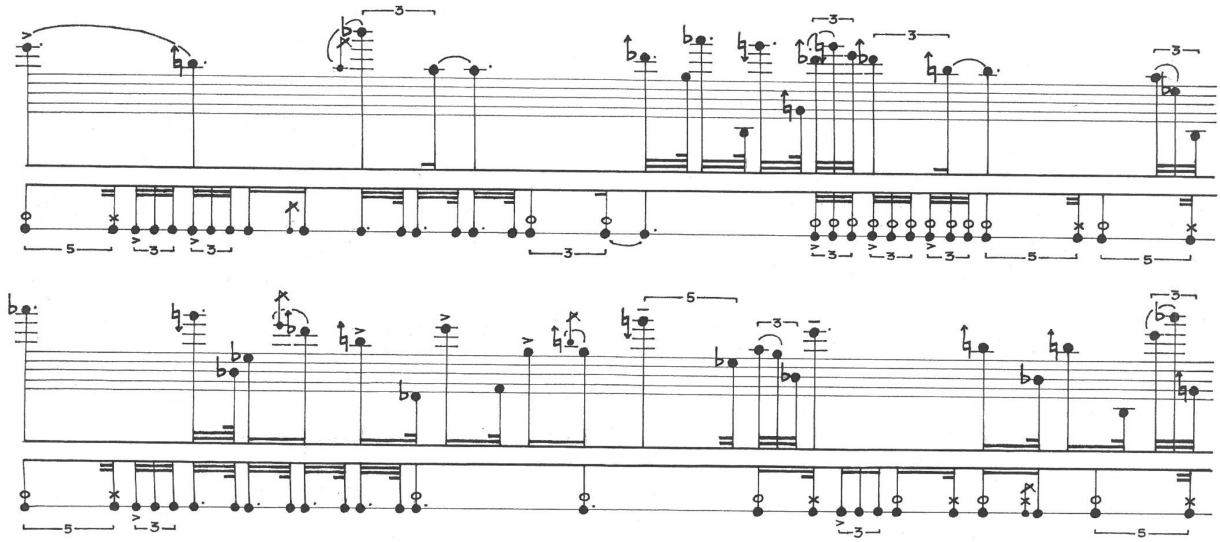


Figure 5 - An extract from Chris Fox's Reeling (1983), systems 2 and 3 on p. 4.

In the opening pages of his chapter on Ferneyhough's *Time and Motion Study Cycle (1971‑1974),* Fitch (2014, pp. 201‑203) explores the notion of efficiency evoked by the title: studies that subject workers to measures of the amount of time a given action takes them as a means to find ways of making production processes more efficient and so increase profit margins. He suggests that all Ferneyhough's pieces have such a notion built‑in (albeit in a dialectical fashion). Insofar as performance is concerned, 'to the extent that each piece demands of its performer(s) that they confront and render the attendant notational surfeit [within specified time‑frames]' (Fitch, 2014, p. 202). In the case of *Condensation (Strike Work)* the notion of efficiency operates in a rather different manner, but nonetheless requires an almost literal time and motion study before it can be played: one in which the quickest and slowest possible speeds for a given set of motions must be determined.

As a result, Massumi's (2011, pp. 42‑53) criticisms of certain kinds of interactive art that entrap participants in a '*soft tyranny'* could be said to apply here, not least because players are asked to essentially quantify their own limitations in relation the material at hand. In this sense, the piece engenders a continual process of capturing. As performers assign tempos to each unit, pure movement is 'back‑formed' into numerable demarcations (Massumi, 2002, pp. 5 ‑8), which then feed back into the piece. The performance would likely have been one

of mutual arrest, piece and performer captured and stratified (thus giving each objecthood), had the notation worked precisely as designed. If there is a saving grace in this regard, it is to be found in the fact that the act of partaking goes some way to foregrounding a performer's perception of what it is to perceive: an action-reaction chain of sensation as opposed to one of functionality 'concretized in the form of the actual object' found in video-game-like interactive arts (Massumi, 2011, p. 46). That said, the exploratory aspect of the piece outlined below is still focused on the instrumentality of the performing body (finding physiological and psychological constraints) if not that of the piece itself.

As the actions laid out by the score must be actively explored in good faith to be made sense of at all, the act of preparing the work on the part of a performer foregrounds perception-through-exploration. Lacking in sufficient information, 'the perceptual system hunts' (Gibson, 1966, p. 303) through exploratory action (Windsor and de Bézenac, 2012, p. 116); precisely what performers are encouraged to do in this case. As suggested by Waters (2013, pp. 122-123), the performative ecosystem is dependent on a number of environmental, sociological, physiological, and instrumental feedback loops coupled with embodied knowledge relating to performance practice tied explicitly to physical domain.

In *Condensation (Strike Work),* the two extremes of speed that must be determined for a given sequence of actions in order to ascertain a relative tempo are not only heard in terms of the resulting relationship with a prescribed sounding result (where this is applicable), but also felt in the tactile domain against the resistance of the performing body and instrument, themselves in a 'doubly reflexive' relationship (McCormack, 2010, p. 9). Much as I pointed out in relation to *Unity Capsule* (Aulich, 2016, p. 6) the final result is heavily dependent on the performer in question. Every contingent change of speed has the potential to renew the nature of the forces between performer, content and instrument. Even if (as written) it is a capturing machine, it also gives rise to *critical points*: potential thresholds for perspectival shifts are built in even as those lines of flight ossify.

2.3 Reflecting on failure

Ultimately, the notation induced a large degree of confusion: there was some miscommunication about how the 'slowest speed' should be interpreted. Richard (personal communication, February 29th, 2016) took the 'breaths length' instruction to be in relation to the whole unit, rather than slurred phrases or single events within it. More interestingly, he remarked of a performative tension: he would often forget to shift his tempo from one unit to the next until he was midway through it (doubtless due to the fixity of space each unit occupied). In rehearsal, Richard described the means by which he sought to overcome that tension by memorising the material kinetically: as a series of embodied gestures, generating a 'fuzzy' temporal schema tied to the performing body that a more literal approach would have sought to bring about in any case. Interestingly, the previously outlined (Ch. 2.1, p. 20) potential for *soft tyranny* inherent to the notation was mitigated by this approach. Although in the most literal sense, the notation failed, I am pleased with the final outcome in sounding affect and in keeping with the wider goal of political enactment: the degree of resistance to rationalization the score offers provides fertile ground for the kind of political space I have thus far described.

Condensation (Strike Work) pushes to breaking point similarly flexible approaches to temporal representation in proportionally notated pieces. Barrie Webb's (2007) reflections on performing Berio's *Sequenza V (1966)* note the difficulty in immediately comprehending the 'gear shifts', in Section A, and the 'breath units' making up Section B: the relationships between duration and space regularly change, albeit with less frequency than is the case here (Webb, 2007, p. 210). Richard Sennett's (2008, pp. 214–238) elaboration of resistance in art, architecture and urban planning forms a useful aside. The surface of the score is somewhat analogous to Sennett's notion of the border: a site of live exchange replete with a combination of 'porosity and resistance' as opposed to the boundary or dead impasse; a 'membrane' as opposed to a 'wall' (Sennett, 2015, 0:14:07-0:16:20).

Its porosity is a measure of the inward flow of the information it invites, its resistance in the same dimension a measure of its lack of immediacy, the counter-flow of obstacles to comprehension pushing back with relatively equal force. The question of equal force is one to which I will later return. In this light, Richard Craig's use of his motor memory to aid in performance is of no great surprise (personal communication, February 29, 2016): Sennett's examples of obstructions, obfuscations and ambiguity in architecture lead to heightened bodily awareness in agents seeking to navigate their environment. Taking into account recent research collapsing the gap between cognition, memory and embodiment (Geeves and Sutton, 2014; Jung and Sparenberg, 2012, pp. 141-154), I see little reason to presume more conceptual resistance would be any different, particularly when its implications ultimately play out in the physical realm.

The aims I put forward in relation to the intended listening experience at the outset of the project seem to me to be answerable only in conjunction with the qualifiers "sometimes", "mostly", and "from certain angles". Firstly, there seem to be two ultimate modes of hybridity at play: one of interruption, and another of coalescence. It is mostly the case that combinations of patterns that operate 'on' each other coalesce (pitch and pitch/air ratio or pitched consonants, for example), where more discrete patterns (unpitched consonants, tongue rams, etc) often form parallel interruptive gestures of their own. Across these domains, coalescence only seems to happen when the possibility of interruption is denied (for example, when a more discrete element presents itself at the end of a less discrete phrase). The question of structural ambiguity remains somewhat open for me: at the most superficial level, some phrases are clearly more closely related than others. One could pit pitched against unpitched, interrupted against coalescent, melodic against percussive, and so on. Regardless, there are few moments in the piece where obvious structural relationships are foregrounded from a perceptual standpoint. A great many micro-narrative strands emerge and quickly dissolve.

The failure of the notation in the most literal sense does not seem to me to have weakened my central aims: I would go far as far as to say the piece's success (or at least that of Richard

Craig's performance) was because of that failure rather than in spite of it. The piece's instrumentalizing relationship with the performing body was thankfully undermined. Ultimately, I consider myself to be an experimental composer, and the nature of an experiment is its openness to unexpected results. To paraphrase Richard Barrett (2014, p. 106), the uncertainties that leave a piece radically exposed to the possibility of failure are also those that propel a wider project in new directions. My attention is now turned to Richard Sennett's (2015) qualification of the border state as opposed to the boundary: resistance and porosity must have a measure of balance from one to the other.

If it were enough that some things pass and others do not, one could hold any threshold as exemplary of a border, no matter how absurd: The English Channel, The Great Wall of China, the main gates at HMP Lincoln, The Queen's private quarters at Balmoral. While Richard Craig was able to engage with the notational resistances the piece offered, I doubt this could be said of every performer otherwise familiar with the wider idiom. Smoothing the edges of this resistance without diminishing it entirely required that I make a number of systemic changes to my approach for future pieces. In light of Richard Craig's performance, I had to make more explicit the gestural physicality of the musical grammar in the first instance. The second point of development was to exchange the instrumentalizing, constraint-based mechanism, that captured crises as it gave way to them, with a more qualitative site of performer-material exchange that still fulfilled O'Sullivan's (2006, p. 92) pre-condition that critical freedom requires that one's predispositions are exposed to oneself.

3 Πολυτροπος [Polytropos][13]

3.1 Interrogating improvisation

Polytropos stems from a recording of a "free" improvisation James Wood and I undertook in the days following my completion of *Condensation (Strike Work).* This kind of improvisation was an ideal starting point for an alternative approach to piece-performer *meta-hybridity* because, contrary to much of the discourse surrounding it, freely improvised musics are generally if not always created from formulas, techniques, and manners of responding all too familiar to those doing the improvising (Warren, 2014, p. 102; Atton, 2012, p. 431; Peters, 2009, pp. 117-118; Prevost, 2004, pp. 13-14; Toynbee, 2000, p. 107-110). It would be hopelessly naive, however, to assume that free improvisation did not also constitute something of a coded context, to which we invited ourselves to defer by so invoking, as a historical movement and a genre (Atton, 2012, pp. 427-441; *see also* Toynbee, 2000, p. 107-110). There is an array of generic tropes in free improvisation that our particular effort could be said fairly to adhere to: a largely pulseless metric structure, abundant unpitched and/or unstable extended techniques (Atton, 2012, p. 451), and an anti-teleological form (Toth, 2009 cited in Atton, 2012, p. 431).

Nonetheless, Atton (2012, p. 431) remarks that differences in approach to free improvisation on the 'individual level' can be vast as a result of the hallmark of instability that defines the genre. If free improvisation is the continuous re-contextualization of preconceived givens, they are infinitely variable within the finite borders that such givens bring into being. The music that emerges is partly a result of the 'consolidation of a personal idiom' (Prevost, 2004, p. 15), itself an assemblage of individual desires and learned behaviours emanating from the personal histories of those players as performing musicians, artists and people: in short, *habitus.*

[13] The name of the piece is Πολυτροπος, a Homeric Ancient Greek epithet. The title is written in this form purposefully, to act as a cipher with multiple levels of meaning (partially explained on the score's cover page). However, for the sake of readability, the transliterated version, Polytropos, will be used in-text.

Such an argument might sound dangerously close to yet another appeal to the 'universally celebrated' (Peters, 2009, p. 3) presence of the empathetic, intersubjective interaction between free improvisers that Peters stresses rather misses the point. However, to tie the coalescence of personal idioms exclusively to the presence of empathy and self-negation in free improvisation is to emphasize only part of a more complex picture. I am not suggesting here that the narrative of the improviser as both boundary-breaker and community member (Peters, 2009, pp. 113-114) is necessarily invalid, but that free improvisation is not an automatically liberating experience simply because participants make choices, and other musicians may give them the space in which to express them. So what is the nature of this coalescence if it cannot be found exclusively in attempts to exercise the utopian ideals above outlined? It is at least as much in those moments demonstrative of a *lack* of audible consensus (of which in our case, there were many): response through critique as much as through mimicry, space-making as opposed to space-giving, or our mutual negotiation of the *question* of improvisation as a contingent situation (Peters, 2009, p. 3, p. 71-73; *see also* Wilson & McDonald, 2015 pp. 11-12). Free improvisation is often best sustained by a continual dynamism or 'tilting' of the balance (Peters, 2009, p. 59).

It is not in spite of this fact but precisely because of it that its potential as a collaborative vehicle par excellence is revealed. Artistic collaboration, for me, can only be greater than the sum of its parts if those parts antagonize, derail and re-frame. It is an assemblage defined not only by its territorializing machines: consensus, agreement and common purpose, but also by lines of flight brought about by misunderstanding, mismatches of tacit suppositions, violent self-assertion and intense resistance. For Manning & Massumi (2014, p. 104), 'a purely consensual process deadens potential.' In the words of Paul Carter (2004, p. 11), 'collaboration is always, first of all, an act of dismemberment.' Perhaps we begin to liberate each other not through affirmation, but as Warren (2014, p. 101-102) might suggest, through the mutual interrogation of our own historicities. The notion of the previously discussed *critical point* (Ch. 1, p. 13) rears its head once more: this freedom is not to be found in one's ability to exercise an individual agenda, but in confrontation with it.

3.2 The politics of collaboration

The maintenance of this dynamism was important enough to me that I saw fit to carry some semblance of it forward to the composition proper. My first compositional decision was to exclude anything I played from consideration. The only surviving traces of my voice would be his critiques, responses and resistances to it. I was to respond in kind compositionally. Initially, I was tempted to simply transcribe selected passages as they were in the recording and use them as inert forms to which some process or other might be applied in order to serve the multitude of other general compositional aims the wider project entails. I suppose embedding a performer's input in such a way automatically ticks a collaboration box in the sense that we improvised together and some of the recordable remnants of that which emerged from such an interaction formed the basis for a new piece.

However, one must not let the inherently creative forces invoked in the act of music-making pull the wool over one's eyes in relation to the more distinctly material. In what sense would such a collaboration be much different to that of a supply chain in which James wrought the raw materials (themselves products) for me to fashion into a further product, each guarded from the production process of the other? Further, for the wider structure of a collaborative process to tacitly imply that there is some kind of accrual of value from one person's output to the next is, in my opinion, distasteful in the extreme. It is too reminiscent of the linear 'arrow of value-adding' (Manning & Massumi, 2014, p. 131) prevalent in capitalistic modes of exchange (Manning & Massumi, 2014, pp. 120-132).

So as not to do such a disservice to James, I set about rethinking the ontology of musical material. Those notes, rhythms, timbres, techniques, and so on discernible in the recording are ultimately tracings, remnants, and sounding results. They are the products of a complex assemblage of social and material processes. The recording is not a document of the improvisation *per se* but the sounds that it happened to result in (Prevost, 1995, pp. 59-60). In this sense, the recording is akin to Tim Ingold's distinction between architectural sketches

and the technical drawings into which they are eventually rendered (Ingold, 2013, p. 125–127): the former '*on their way* to proposition', the latter one in which 'all movement is stilled' (Ingold, 2013, p. 126). Moving from a live to a recorded state, particularly in regard to improvisation, replaces the active process, pregnant with its own potentials, with the specific actualization offered in the moment of performance (Campbell, 2013, p. 3; p. 48): an object that cannot transform from within, only be subjected to transformation from without.[14] The improvisation (as process) and its actualization (as object) cannot be considered one and the same, but nor can the process be called upon once more in composition. So what to do with these tracings that seem to form objective statements of what *is* as opposed to what *might be*? How might they once again become sketches?

Ingold (2013, p. 19) proposes that, at least in the physical realm, all that is required is a shift in perspective: 'a coin, that's copper… explore its properties by hammering it… heating it up.' Different materials respond in different ways to external forces. What is being described is the rethinking of an object as active matter, in a process of becoming, with which human agents might 'correspond' in the act of making (Ingold, 2013, p. 31). Similarly, I can describe the recording in terms of 'the objective form in which it is currently cast' by transcribing it, or I can turn it back into a process 'always and already on [its way] to becoming something else' (Ingold, 2013, p. 31) by deducing some manners of operation or behavioural tropes. In doing so, it is possible to collapse the recorded forms into new processes in lieu of those that created them, but whose internal logics bare the potential to recreate them as one possibility among many, with identifiable characteristics in common. To use Deleuzean terminology, to

[14] To clarify, recorded material is not truly static. It is a matter of degree as opposed to kind. One need only consider the changeable circumstances in which it can be reproduced (Warren, 2014, p. 56), or the multitude of socio-culturally contingent and unstable meanings listeners might project onto it (Vadén & Torvinen, 2014, pp. 209–224). Further, recordings are open to whole new assemblages beyond the scope of this text (see Campbell, 2013, pp. 46–48 and Nesbitt & Hulse, 2013, pp. 65–71). The perspective, approach and technological materials required for the treatment of recordings as dynamic assemblages is out of my reach for this piece, concerning itself as it does with a performer whose instrument cannot materially reproduce them.

think in terms of the *diagram.* Much like the process of improvisation itself, the new processes had to concern themselves with “making the old new” (Peters, 2009, p. 119).

3.3 Re-activating the material

The following 800 or so words outline the compositional process. Readers might therefore be forgiven for feeling it convoluted or unduly complex, but each aspect is a necessary means to a singular end result. The final form is analogous to a topology of overlapping biospheres in which materials display infinite variation in accordance to particular patterns of behaviour. In place of the competing micronarratives present in *Condensation (Strike Work)* is a series of gradually shifting sound-worlds with unclear thresholds and an ambiguous sense of self-identity. The sounding materials give the impression of self-organization, flickering between qualitative sameness and difference, responding to each other and their environment as a gradually unfolding system of interacting parts from the micro-level to the macro.

3.3.1 Local tendencies

Polytropos consists of seven classes of material based on manners of operation deduced from the recording of the improvisation (see table 1). Small, self-contained algorithmic modules produce instances of each class: sets of instructions that determine finite spaces, possible manners of movement within those spaces, and resulting tendencies toward particular states that each instance of a class exhibits. A given space might, for example, define pitch, proportions in time, density, or dynamic profile. As a result, each instance tends to express distinct, audible features that are in common with other instances of the same class but are never exactly the same.

Table 1 - Material classes in Polytropos, with example timecodes from the original improvisation. Much of the behaviour explained in 'tendencies' was inferred from a holistic listening across the whole recording rather than a deep analysis of individual occurrences.

Material Class	Tendencies	Selected examples
1	High pitches, blocked or partially blocked with the tongue. In state 2, there is a strong possibility of harmonics.	08:50-09:20; 01:10-02:00
2	Leaps up and steps down in pitch, resulting in a general tendency upwards. Lower notes tend to be longer. State 1 tends to produce short bursts of 2-3 slurred notes, while instances of state 2 may contain many more.	04:30-04:45
3	Bursts of percussion on the bell, increasing in density according to energy throughput. State 2 has an additional crescendo air profile, but no specified pitches.	02:25-02:30
4	Bursts of percussion/potential pitch modifying activity on levers 1-4. State 2 has an additional crescendo air profile, but no specified pitches.	02:30-02:39
5	Long trills, tending to be in the lower register, with dense bursts of notes between them. In state 2, the trilled notes may change a number of times (slurred across) prior to the bursts.	05:06-05:10
6	A series of attractors, instances of which produce variations of the melodic figures James plays between the two time codes. In state 2, the attractors become repellors, usually resulting in notes so high they were rendered into teeth-on-reed events.	13:10-13:50

7	Instance 7 is a variation on material 5 with register key trills as opposed to trilled notes. In state 1, the instance does not produce pitch data. In state 2, the instance behaves exactly like state 1 of material 5.	*

* This instance was derived from discussions on potentially destabilizing techniques, and it is difficult to pinpoint precisely when James used it in the recording itself.

This aspect of the process is comparable to Scott McLaughlin's exploration of material science as an analogy for his work. In his PhD thesis, McLaughlin (2009, pp. 16 – 17) introduces the *strange attractor*, a concept borrowed from chaos theory describing a process with 'an infinite amount of possible stable states which all occupy a finite space'. McLaughlin (2009, pp. 86–88) sees this as an extended metaphor for performative indeterminacy (or 'bounded improvisation'), and algorithmically controlled live electronics, as in *Whitewater* (2006) and *Primes* (2006). My own indeterminacy arises partly from the algorithms in the composition domain, as well as that present in the notation, which is comparable to McLaughlin's *Whitewater II* (2008), a piece to which I will later return.

Each module has two input parameters defining a range of movement in energy across a short amount of time for a given instance. Different classes react to this parameter in different ways, but there are some commonalities. Firstly, each class has a threshold point at which instances tend toward a different qualitative state, as a result of changing manners of movement through spaces, changes in the finite boundaries of those spaces, and/or the opening out of new spaces. Movements in the 'energy' parameter across the threshold will therefore always result in some kind of qualitative change (see figure 6). Further, the higher the 'energy' inputs, the more unstable the resulting material.

The higher the energy, the less likely an instance will conform to the tendancies of its state/class. In the general sense, density increases with energy, but specific conformity from one event to the next is at the same time less likely, leading to more instability. In this class, pitch tends to rise in higher intervals than it falls, leading to a general upward trend. In state 2, there is significantly more likelyhood of outliers to this pattern (see the circled note).

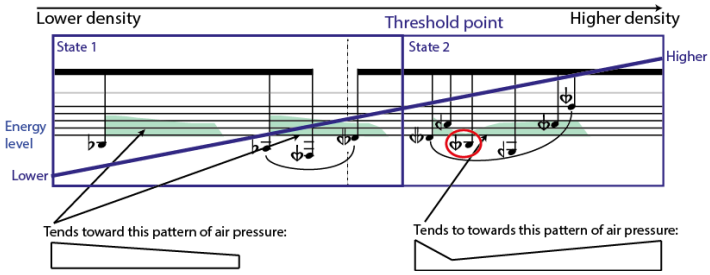
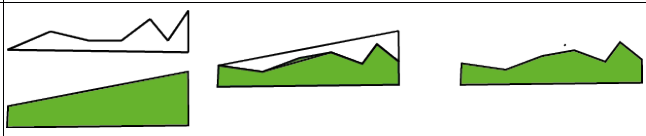
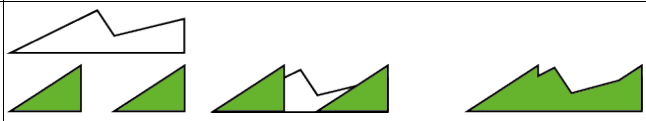
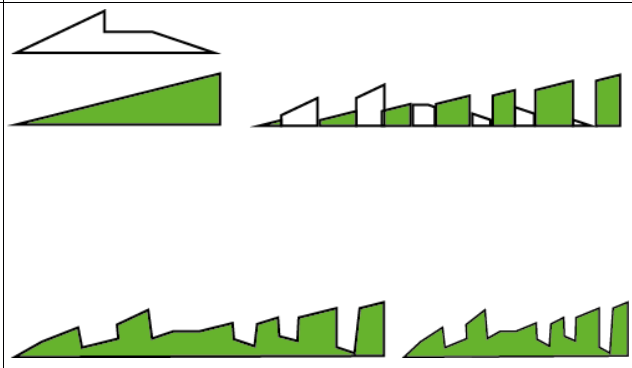


Figure 6 – A reverse engineered example of an instance of material 2 (units 25–26) going over the energy threshold, and changing state. This is one of few non-hybrid instances present in the score, making it possible to ascertain exactly what has happened.

Instability, here, refers to a statistical measure of an instance's deviation from its general trajectory or average manner of movement across the spaces in which it is expressed. A weighted average of this data is attached to each instance for the purposes of hybridization (labelled in my sketches as a 'score'). An instance is only ever compared to itself, not to other instances of the same class or to the general tendencies that that class might be expected to exhibit, for two reasons. The first is that in my attempts to avoid any semblance of essentialism in the process, I was reluctant to define a 'perfect zebra' (DeLanda, 2009, 00:30:10): an ideal instance of a particular class with which such a comparison might be drawn. Secondly, it is by no means impossible for a given instance to exhibit a stable configuration in one or more spaces (such as a repeating pattern or clear trajectory) that was at the same time improbable given the general tendencies of its class. An albino cat is not half cat, half albino; nor is it sometimes albino or sometimes cat. It is a stable instance of the class 'cat' expressing the unusual but nonetheless stable characteristics that make it 'albino'. The score data, in combination with a mapping of vertical density across time, informs a hybridization process that creates a single emergent configuration from two or more instances. These instances may be of the same class or of different classes. Where there are two instances, the hybridizer compares the scores to determine the ways in which they combine (see table 2).

Table 2 – A table listing the ways the hybridizer behaves toward specific instances of material.

Hybridization Type (Applied to every mutually occupied parametric space)	Score Differential	Illustration
Erode – The higher scoring data is multiplied by 0.1‑1 according to the score differential, and subtracted from the lower.	0‑10	
Seep – Zeros in the lowest scoring data are replaced with any coincident activity in the higher scoring data. The score differential has no effect on impact in this state.	10‑30	
Dissolve – The two sets of data are interpolated with one another, and then scaled to the size of the lower‑scoring object.	30+	

Where there are more than two instances, the two highest scoring objects combine, and that combination combines with the third, and so on, until all concurrent materials become a single configuration. Regardless of the type of combination, the hybridization algorithm follows the same general rules:

1. The more stable instance serves as the subject of a process informed by the less stable instance.
2. The greater the difference between the stability scores, the more destructive the process is.
3. Aspects of the more stable instance are always those most likely to be recognizable in the final configuration.

4. Hybridization can only occur on those parameters both instances define. If one instance defines particular parameters that the other does not, that data is passed to the final configuration intact.

3.3.2 Global tendencies

There are number of global tendencies that build a context with which classes of material interact to create instances. These include sets of probabilities (see table 3) that a particular class will express itself within a given field of time, and the pattern of vertical densities and manners of energy movement within that same field. Energy and vertical densities are mapped across time to a Lorenz chaos function per field. The Lorenz function is particularly interesting to me, because any given instance of it follows a particular pattern (akin to a butterfly – see figure 7), the specific details of which change according to the input parameters.

Table 3 – Table of fields with the order of probability that certain materials will occur per field. The unit numbers provided are the start and end points of a given field "proper", extrapolated for the sake convenience after the fact, but in reality, there are significant 'outliers' as a result of the Lorenz function.

Field	Location of field 'proper'	Material Probabilities (Highest to lowest)
1	Starts from 186-199, and continues from 1-37	3, 2, 6
2	37-118	1, 5, 6, 3, 2
3	118-186	7, 6, 4, 1

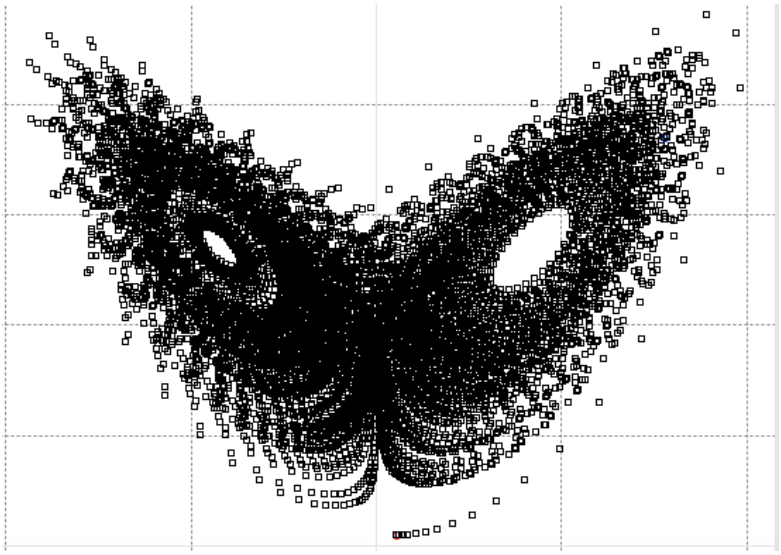


Figure 7 – A typical Lorenz 'butterfly', plotted in two dimensional space along the X and Z coordinates. Generated using IRCAM OpenMusic and the OM-Chaos library.

Because the Lorenz function is deterministic and its results have an 'implicit order' (Lochhead, 2001, p. 220), it provides a firmer 'ground' or 'landscape' for the stochastic classes of material to react to. Mid-level and high-level trajectories of qualitative and quantitative change emerge from this point of interaction with some sense of directionality. Each field has deliberately vague boundaries, obscured by overlaps and shared materials, such that it is unclear when and where transitions from one to the next actually are, but nonetheless are intended to give a retrospective sense in the listener that something unquantifiable has changed. These higher-level tendencies should not be seen as governing principles of organisation or approximated to linear causations, because they are generally resistant to a top-down analysis that might trace them in the final result (Davis, 2012, p. 1). Rather, they are contributing factors to wider patterns of behaviour determined by the multiple causes the entire process engenders.

A significant minority of hybridized results were nonsensical, and thus required some creative license to render them into meaningful music. For example, occasionally pitch activity would occur with no breath, or concurrent percussive and pitch activity was impossible to execute. I employed ad-hoc, improvised solutions to these problems as they occurred, and the resultant renders are circumstantial and inconsistent. As such, it would not be sufficient to

suggest that this final stage constituted a further layer of behavioural tropes, but rather provided opportunities for invention through confrontation with a nonsensical or impossible matter-of-fact. In this sense, the algorithms themselves could be said to constitute active materials, defying their functionality and forcing me to work with their disruptive behaviours in a conceptual '*correspondence*' (Ingold, 2013, pp. 105-108) quite apart from the kind I sought to elicit through notation in performance, but nonetheless as real.

3.4 Notation: still no stillness

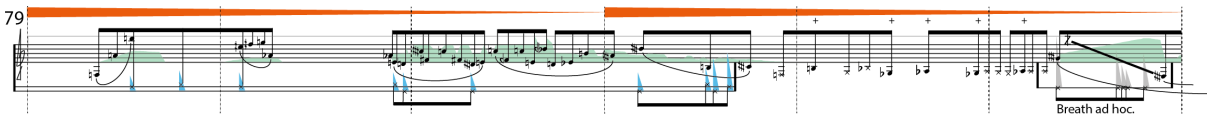


Figure 8 - Units 79-84 from Polytropos. The flow rate line runs across the top.

The notation is a progression of that developed for *Condensation (Strike Work),* but where indications of speed between those fastest and slowest possible for a given unit are replaced with a continuous indicator of *flow rate* (see figure 8), defining local-level intensities of interaction with the material and higher-level trajectories of that intensity. Together, the flow rate line and the staves form a linear flow map, a cartography of movement across a plane of resistances. Where the flow rate line is at its thinnest, the performer is asked to play more slowly, pay more attention to the intricacies of the material at hand, and try and execute them as faithfully as possible; to dwell within the given passage. As the line becomes thicker, performers are asked to move faster, pay less attention to detail, 'hack through' difficult passages, and focus their attention on the broader shapes at hand; essentially, to push through to the other side as though forcing themselves through a thicket.

The score therefore projects an imaginary physical space through which the performer must move. As they go, they are subject to the force of flow rate, as though in a crowd of pedestrians in an underground station, and to the various physiological and psychological counter-flows of material: ticket barriers, pedestrians going the other way, great heights and tight spaces. The flow rate line is not necessarily sympathetic to the material with which it corresponds at a given moment. For example, where the line is very thick, the material may

be notated with a seemingly superfluous level of detail and vice versa. This is not an oversight, as the resulting sounds emerge from a performer's specific rendering of the material relative to the line: it is not a way of describing the resistances the material presents, but the kind of forces with which they ought to be met.

The flow-rate line thus implies a level of specificity relative to any particular event. This aspect of my notational strategy is comparable to aspects of Scott McLaughlin's microtonal notation in *Whitewater II* (2008), where a given pitch is sometimes defined as a 'field rather than a point' (McLaughlin, 2009, p. 37) (see figure 9). In McLaughlin's case, the field of possibility is quite different. It is defined by local sounding goals relative to other players: the pitches in question must achieve beating effects with their nearest concurrent neighbours (McLaughlin, 2009, p. 38). Nonetheless, McLaughlin's application of the chaos attractor metaphor applies to my work as it does to his: every event can be seen as a network of strange attractors with different degrees of relative strength.

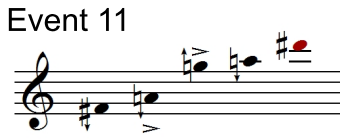


Figure 9 – Event 11 from the Tenor Sax part for Scott McLaughlin's Whitewater II (2008), reproduced with permission. The non-standard accidentals mark out non-specific pitch spaces.

In my case, horizontal space does not serve as a metaphor for demarcated time (although it does frame a chronology), but rather describes proximities and distances forming the field from which time emerges as one of many properties through manners of movement. As in the case of *Condensation (Strike Work),* Richard Sennett's (2015) discussion of the border/boundary proves a useful elucidation. As previously discussed (Ch. 2.3, pp. 22-24), an aspect of *Condensation (Strike Work)'s* failure was in that it provided too much resistance to rationalisation, resulting in a lack of immediacy.

Polytropos addresses these problems in two ways. Firstly, as flow rate is only ever relative to the local, it is not necessary to enumerate speeds and other contingent aspects of the piece

prior to engagement. Secondly, as the performer moves *through* the material in order to make sense of it, it much more strongly encourages and enables the more embodied perspective Richard Craig took to navigate *Condensation (Strike Work)'s* deficiencies. Further, as speed is not defined relative to extremes but to implicitly idiosyncratic embodied approaches at a given moment, the instrumentalizing forces in *Condensation (Strike Work)* that result in Massumi's '*soft tyranny'* are replaced with a continuous evaluation that could only be quantified retrospectively: it is a series of transitory and temporary solutions that resist arrest, or a continually shifting *critical point* relative to the present moment.

4 '…und nicht vielmehr Nichts?'

4.1 Forcing new angles of approach

Following *Polytropos*, I sought to find new approaches that might lend themselves to an examination of the effects of specific compositional decisions as they manifest themselves in the musical and political. The first of these is a small piano piece. My choice of instrumentation was in part to force me to find new angles of approach. The fact that notes cannot generally be controlled or altered after they have been initiated, the relatively equal level of resistance the piano presents across its range, and the discrete, roughly equal-tempered pitches in fixed 12-note divisions that the piano keyboard presents are particularly incompatible with both the compositional and performative directions thus far outlined. As I chose the piano for this reason, I did not seek to find workarounds such as retuning, preparing, or dealing with extended techniques inside the piano, but instead to embrace the affordances the piano keyboard offers directly, as an instrumental space materially connected to a long-established performance tradition that could be opened to problematization.

In his discussion of Helmut Lachenmann's *Serynade* (1998, rev. 2000), Samuel Wilson (2013, pp. 425-435) describes the way in which the 'audience's experience of the instrument as an invisible medium of expression, and the body-schema of the instrumentalist are brought into focus… when the instrument, as a set of relationships between technology and pedagogy is rebuilt' (Wilson, 2013, p. 430). For *Serynade,* this is both in the most literal sense (in terms of re-conceived functionality), for example by re-purposing the pedal as a device for sound in its own right (Wilson, 2013, p. 430-431), and in a more metaphorical sense, in its subjection of materials derived from the 'pedagogical resources of history' to exploratory transformations (Wilson, 2013, p. 432).

Just as is intended for *Polytropos and Condensation (Strike Work)*, a performer is not invited to draw on their historicity through a series of open choices, but is instead confronted with it. In my case, such historicity is sited most obviously in the question of touch, and the musical

content itself (a discussion of which is forthcoming) is less explicitly indebted to the Western Classical canon. In *'...und nicht vielmehr Nichts?'* the concept of touch as an emergent and unquantifiable expression of the physiological parameters, phenomenological experiences and learned behaviours (MacRitchie, 2015, pp. 171-190) idiosyncratic to performers serves as a conduit for piece‑performer *meta‑hybridity*.

Performers are asked to play each gesture with the *intention* that no strings are actuated during the course of performance, but always with varying degrees of *risk* that they will. This is not an invocation of the ideal performer, because such an interplay between risk and intention need not manifest in sounding results. However, the validity of the performance would be wholly undermined if there was no palpable risk: if the performer was to tap on the keys without depressing them, for example. The sounding of any number of notes in their given gestural context is less an indication of failure *per se* than an expression of a performer's touch that actualizes the potentials of otherwise latent harmonic languages. Touch acts like a filter with unknowable thresholds, rather than one with a predilection to fail. In fact, the successful expression of even a glimmer of those harmonic languages hinges on the prospect that a performer's intentions are defied: an example of 'failure's entanglement with success' (Priest, 2013, p. 10).

4.2 Lateral hybridity

Supposing for the sake of argument that some pitches emerge, the meeting‑point of intentionality and risk through a performer's touch is suddenly expressed most explicitly in harmony. Against the near‑silence of unpitched actions, any pitch event is inevitably foregrounded, serving as a highly conspicuous behavioural rupture and a referent anchor‑point for the re‑evaluation of possibles in listening and performing. Our whole perception of what might happen next and what went before, is necessarily reconfigured in relation to this event, and again as (or if) it recurs. This is an oppositional form of hybridization: one in which the logics of one state violently disturb the other without affecting the objective consistency or self‑identity of either. The third state, or "result" of this collision

is perceived in the whole, not in a localized experience of one or the other (see Sergeant, 2013, pp. 123‑138).

Peter Ablinger's guitar and tape piece, *1‑127* (2009) draws an interesting parallel. In *1‑127,* descending chromatic guitar scales are interrupted with chaotic bursts of street noise, forming two well‑defined and internally consistent behavioural identities. As with *'...und nicht vielmehr Nichts',* these behaviours do not generate a third state through interruption, but rather, one violently disturbs the logic of the other simply by existing. This reading is reinforced by the fact that following a burst of noise, the scale continues 'as if nothing had happened' (Johnson, 2009). The sudden change in behaviour is not assimilated into the logic of music following it (until it is repeated), nor can it be considered a viable instantiation of the compositional logics preceding it.

This lateral entanglement, for me, requires that every possible pitch within a gesture be subject to a behavioural logic that is unlikely to be perceived as a random procession, and yet will not be obvious enough to reveal itself in the whole without a very high incidence of sounding. Non‑randomness is a necessary precondition because if the pitches did not form relational/quasi‑tonal patterns in the instance that more than one sounded, they would be less disturbing an imposition on the noises of near‑silence. Non‑obviousness likewise, because if the whole logic became clear too easily, it would fail to reorient our perceptions in the event of further soundings. The effect of touch as a filter to the audibility of this totality would also be rendered redundant.

The process responsible for the gestures themselves in *'...und nicht vielmehr Nichts?'* takes its cues from *Polytropos,* but is considerably pared down. There is only one class of material encompassing a set of behavioural tropes responsible for all instances. Each passage contains at least one of three possible phrase‑types (see figure 10), and at least one of three possible octave‑independent scales stretched to shifting upper and lower bounds dictating range. A single pitch contour, derived from the opening bass part of Miles Davis' *So What* (1959), runs repeatedly through the scales (see figure 11). Every instance in the same section emerges

from the same sets of numbers dictating the overall length, the number of divisions, the proportions of those divided elements, the phrase type per division and the scale per division. These sets of numbers are produced by attractors that tend toward repeating or near-repeating loops of differing lengths that combine in different ways (for a diagrammatic explanation of a similar process, see figure 13 in chapter 5.1 on *826 Harry Cowley*). The pedal serves to bind events within the same passage, elucidating something of the territory to which they belong should they sound.

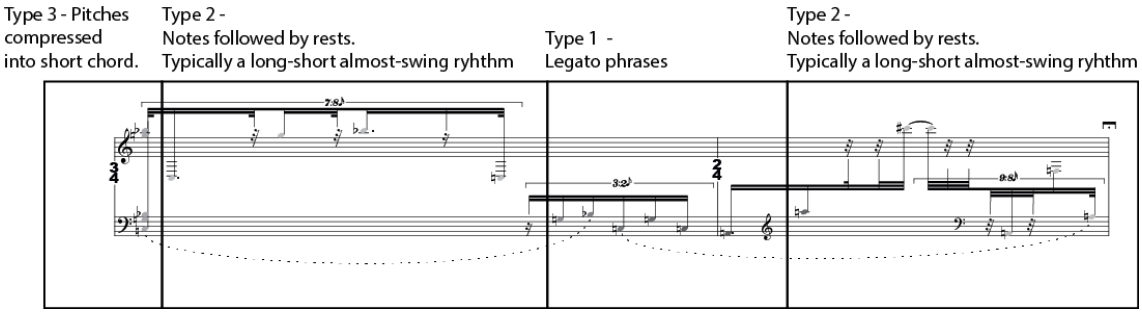


Figure 10 - An extract from section IX showing gesture types.

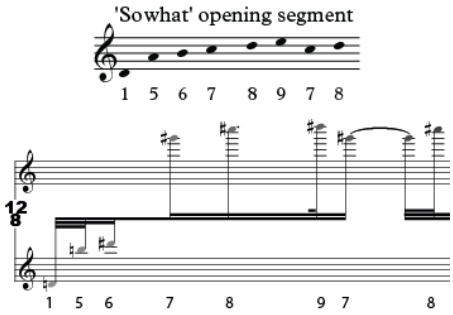


Figure 11 - Illustration of 'So what' contour, extracted from the first system.

4.3 Cross purposes: performer/material meta-hybridity

While touch is widely described as the means through which a pianist produces an individual palette of sound qualities to be rendered in response to the expressive demands of a piece, the possibility that a performer-instrument interface can also lead to qualities of silence has already been explored. Einarsson (2012, p. 54-56) describes his use of '***f***' in *Negative Dynamics* (see figure 12), in terms that can be applied relatively easily to my own work, as an 'attractor' (Einarsson, 2012, p. 56) for a performer to ultimately aim for, and as a particular

kind of intensity brought about by a performer's 'over-attention' (Einarsson, 2012, p. 55) in their effort to remain silent in spite of the actions they are undertaking.

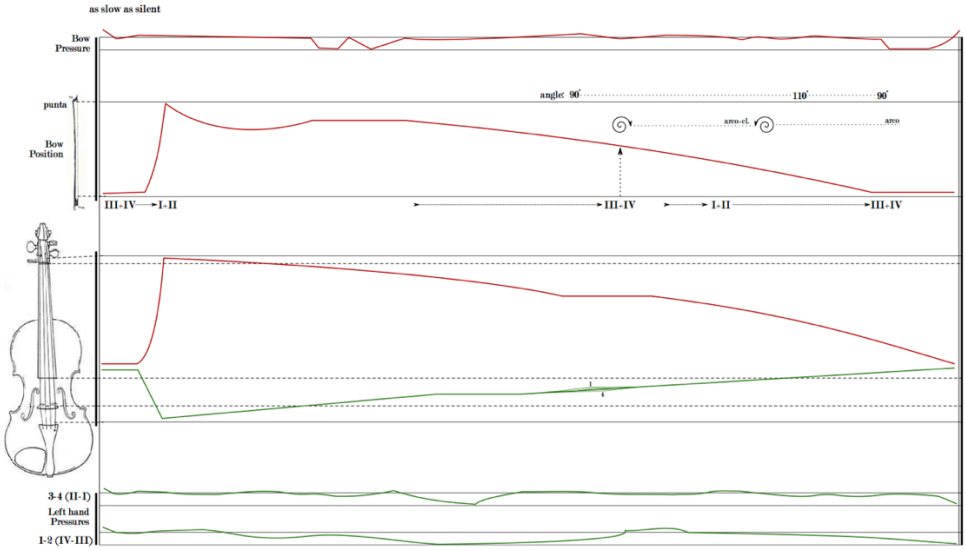


Figure 12 - The score for Einar Einarsson's Negative Dynamics, extracted from Einarsson, 2012b.

In *'...und nicht vielmehr Nichts?'*, as in *Negative Dynamics,* these are 'silences' coupled with actions: they, too, are subsequently loaded with their own vulnerability (risk), manifest in the diligence of a faithful performer. In always risking a note, and in requiring great effort to avoid the note in many of the given contexts, these actions also take on an intensity in their own right that is not merely a negation of intentional sound. Where I most obviously depart from Einarsson is in his use of a tablature (see figure 12) prescribing actions as opposed to my own hybrid notation. Einarsson's (2012, p. 58) fair reasoning is that action intended not to produce sound is purely physical, and this fact ought to be represented 'notationally as well as conceptually'.

For *'...und nicht vielmehr Nichts?',* it is important for me that each action (or gesture as a whole) is presented to the performer as a blueprint of possibilities: a cartographic representation of all the potential soundings *as they might sound* while at the same time presenting the risks *that they actually will* and so with it the *intention* that they do not. Also, the notation immediately resembles that of traditional piano music, bringing forward the historicities I am seeking to evoke. Alongside this, the relationship between gesture and timbre accounts for the expression text that seems to describe sounding results (e.g.

''cantabile'): these, too, are attractors pulling the material through various qualities of gestural intensity along its course. They are one way in which the material pushes back against the performer's ultimate intention not to actuate the strings. The various tempos, *ritardando* and *accelerando* markings, and irregular metric subdivisions are intended to have a similar affect, as changes of pace necessitate different physical approaches (Kay, Turvey, & Meijer, pp. 1‑3, 2003). These combine with variously awkward distributions of notes between left and right hands, often contorting and de‑familiarizing otherwise 'pianistic' movements. In this sense, the exposure of habits O'Sullivan suggests is a necessary means for critical freedom is arguably stronger here than for the *Polytropos* or *Condensation (Strike Work)*.

Together, all the content defines a dynamic context or series of conditions informing the expression of an individual performer's 'movement strategies' (Dahl, Bevilacqua, Bresin, Clayton, Leante, Poggi & Rasamimanana, 2010, pp. 37‑39) and direct a given gesture's 'initial unifying momentum' (Doğantan‑Dack, 2013, p. 257): the movement prior to the first attack that defines the whole (Doğantan‑Dack, 2013, pp. 257‑260). As these are typically goal oriented and refined by auditory feedback processes (Dahl et al., 2010, p. 37) that are less applicable in this case, the performer is being asked to project beyond the extremely narrow boundaries to which the gestures are necessarily confined, to project more a quality of not sounding than of sounding.

The performer and his or her relationship with the instrument is foregrounded as an active presence in the work as opposed to a notionally transparent medium for its performance. The instrument becomes a 'timbral canvas' (Sergeant, 2013, pp. 101‑102), both as a historically loaded cultural object and as an active material 'exemplifying a separate behavioural state' (Sergeant, 2013, p. 102). Its own historically and materially contingent dispositions (key responses, hammer weight, and so on) interface with both the musical material and the performer as a further layer of exchange. While I say this of all the pieces presented in the portfolio, it is stronger in this case because the potential for strings to sound is so heavily influenced by the responsiveness of the piano keys, and because the piece itself specifically alludes to historical precedent. In parallel with the exposure of a given performer's touch (to

themselves), this is another example of a *critical point* (see Ch. 1, p. 13), for audience as well as performer, by bringing forward the historical and mechanical relationships that Wilson (2013, pp. 425-435) suggests are often taken for granted by virtue of their presumed passivity.

5 826 Harry Cowley

5.1 Instrumentation and materials

826 Harry Cowley was written for Christine Avis, in celebration of her newly acquired electric cello. As a guitarist, I see strong distinctions between the acoustic guitar and its electric counterpart: not only for its sound but also in its resistances to, and manners of correspondence with, performing bodies. With this in mind, I sought to find materials that were (if not impossible) highly impractical for performance on the acoustic cello. The material to be played occupies the very bottom of the fingerboard, a somewhat inaccessible part of most cellos that require a large resonance chamber to project their sound. The electric cello strings, partly as a result of decreased tension, and a narrower gap between string and fingerboard, are less resistant to degrees of pressure that do not result in contact with the fingerboard. This more malleable tendency allowed me to treat it as a more active space than would only be allowed with a great deal more caution on the acoustic cello. The score consists of several modules generated from layered loops of repeating and variating patterns (see figure 13), and selected from a much larger pool. Similar-sounding modules were filtered out, because it was discovered in the early stages of the compositional process that there were discernible variations in repeated instances of the same material.

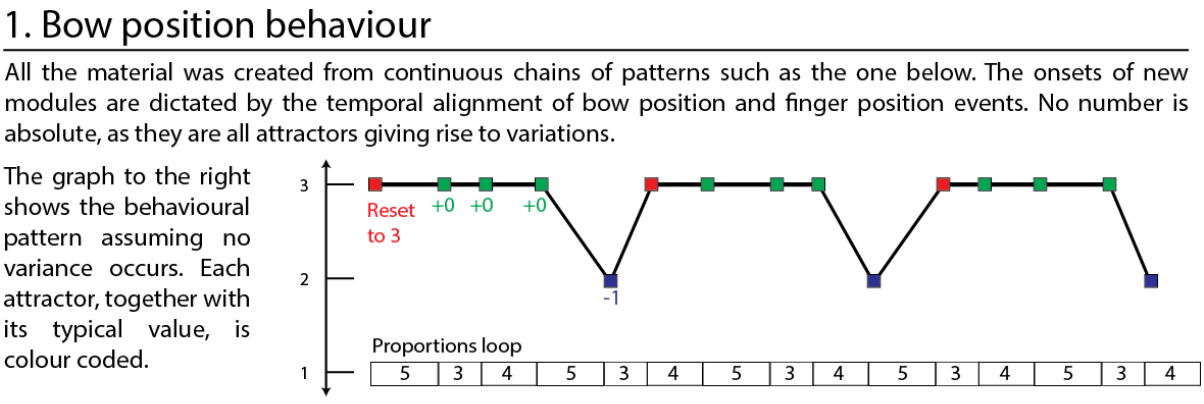
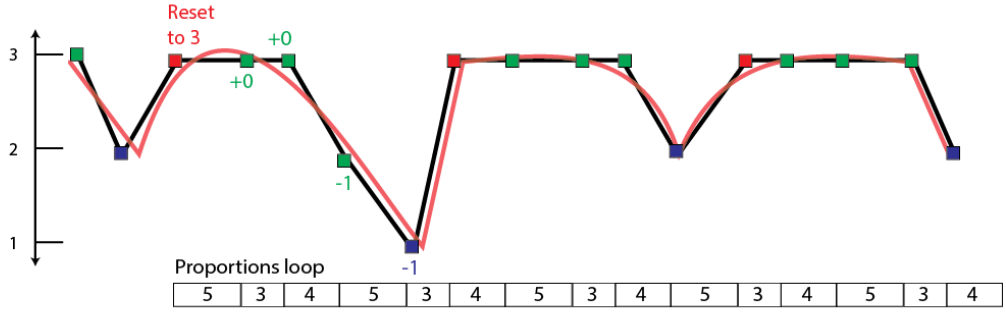


Figure 13a (continued overleaf) – An explanation how material is produced in 826 Harry Cowley, using the bow position parameter as an example. The module to which this specific instance pertains appears fourth on the left in the top row of the score, and again second down on the left-hand side.

2. An example of a specific variation

The graph below is extracted from the data used to create bow position information for the module shown in step 3. The black line is a literal representation, while the red line, a derivative spline, is the version presented in the score. The attractors are colour coded as above, but the values presented here are specific to this particular variation. Although it conforms in this instance, the proportions loop may also vary.



3. Final presentation

The spline, rendered with pressure data produced in much the same way, is shown to the right as it is presented in the score. The proportions have been simplified to produce legible and sensible subdivisions.

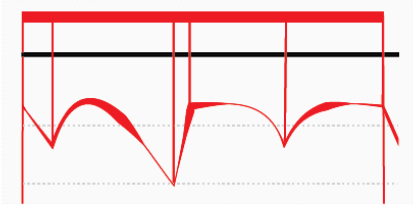


Figure 13b (continued from previous page) - An explanation how material is produced in 826 Harry Cowley, using the bow position parameter as an example. The module to which this specific example pertains appears fourth on the left in the top row of the score, and again second down on the left-hand side.

The modules all occupy one small space on the fingerboard, and one is linked to the next through shared pitch-spaces, either by virtue of being on the same string(s), or else by sharing at least one string with its neighbour. The piece is organized into a Matthew Sergeant inspired map of possible routes (for example, see figure 14, an excerpt from *bet denagel* (2013) and his summary of the macrostructure in Sergeant, 2013, p. 113, and figure 15, an excerpt from *826 Harry Cowley*). Where Sergeant's routes link materials with audible and intrinsic similarities in order to create a gradually changing surface, my own routes serve partly as a function of similarity in themselves. As each route demarks different strings for the modules they pass through, they occupy distinct timbre and pitch spaces. Each route allows for movement from one to another through transitional pathways demarking double or triple stops. Together, the written material forms a series of audibly related events taking place within a tightly bounded behavioural framework.

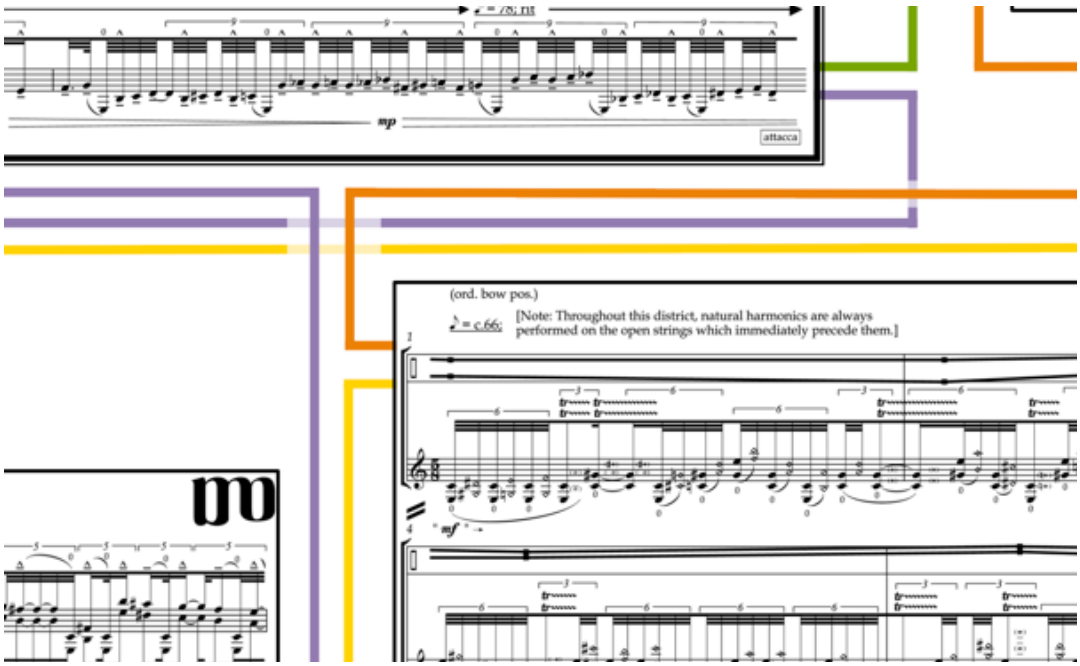


Figure 14 – An excerpt from bet denagel (2013), extracted from Sergeant, 2013b.

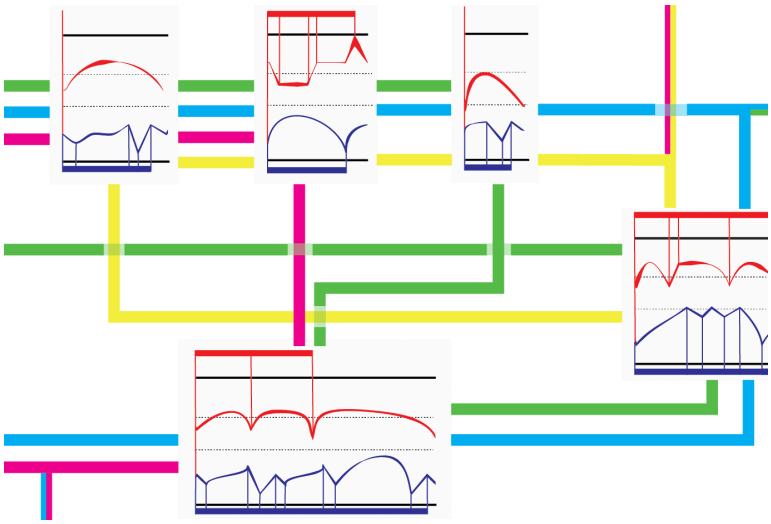


Figure 15 – An excerpt from 826 Harry Cowley.

Aside from that in the score, there is another important material at play: a signal processing chain consisting of an overdrive pedal, valve preamp, and a Max patch designed to realise a stark behavioural rupture at an unpredictable point in the performance. The Max patch consists of two parts (see figure 16). The first is a gate on the output stage of the second, by default closed, that opens if the cumulative sum of peak amplitude measurements on the input reaches a constrained random threshold that neither I, nor the performer can know

until it has been surpassed. Once the gate is open, it closes after 10 seconds, marking the end of the piece. The second part of the patch operates silently for as long as the gate is closed, and recursively layers a feedback delay line with the incoming signal.

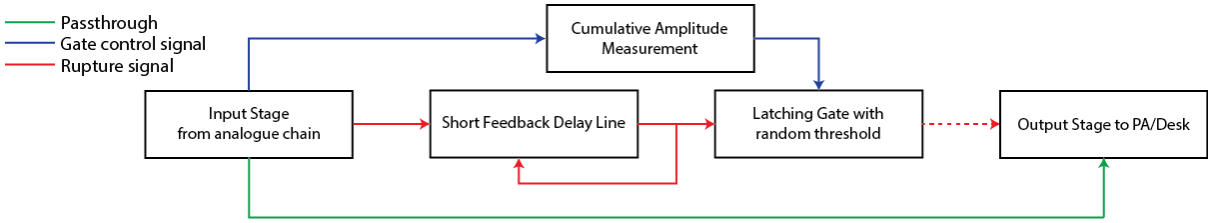


Figure 16 – A block diagram of the Max patch for 826 Harry Cowley.

As a result, the patch builds an increasingly chaotic and dense wall of potential sound to be unleashed at an unknowable but contingent point in time. The behavioural rupture results in a lateral hybridity comparable with that explored in *'…und nicht vielmehr Nichts?'* In some senses, the piece is more inward-looking: neither the score-performer interface nor the material itself overtly refers to the performance tradition of the cello. Although it remains an important contingency, neither is the interface between performer and instrument explicitly foregrounded to spectators. Rather, its internal behaviours rupture by virtue of their own logics, even if this is as they are expressed by a particular performer who has a material impact on the precise nature of the sounding material, and (as a result) when that rupture will take place.

5.2 Politics of performance: tension and terminus

The knowledge that the actions being performed always form an active contribution to a catastrophic inevitability confers a certain performative tension. Because the gate mechanism in *826 Harry Cowley* is recursive and additive, and because amplitude peak readings are represented in this case as positive numbers, every sound the performer makes in the interests of expressing the written material simultaneously inches them toward the eventual rupture. Peter Ablinger's *Exercitium 1-6 (1997),* for guitar, calls for each string in turn to be plucked repeatedly in various rhythms and simultaneously tuned upwards until it eventually snaps. In the case of *Exercitium 1-6,* the tension is shared with a knowing

audience, because there is an observable cause‐affect link between an ever‐tightening string and its eventual breakage even if the threshold is not known. The material conditions giving rise to the rupture are self‐evident and where they are normally peripheral, here they are subsumed into the piece proper from the perspectives of both spectators and performers.

For a performer of *826 Harry Cowley*, this tension is all their own, allowing for a private, perhaps more intimate foregrounding of a similar performer‐instrument interface to that found in *'…und nicht vielmehr Nichts'*. The knowledge that a rupture is to take place forms an atemporal *terminus*[15], an ever‐present endpoint to which the interpreting body is always in correspondence. The site of such correspondence is in the tactile zone, 'the dance of animacy' (Ingold, 2013, pp. 97‐108) between the body, strings, fingerboard, and bow. While the collision at the same site *in '…und nicht vielmehr Nichts'* is between a prescribed intention and unsympathetic materials, here it is manifest in the tactile push/pull relative to an approaching inevitability. One might resist and/or encourage the rupture as it comes ever closer. The notation allows for interpretative scope in this regard: speed is defined as a window rather than an absolute, and rhythmic proportions and pressure indications are understood relative to their nearest neighbours as opposed to fixed points of reference. Further, such considerations may contribute to the performer's choice of route through the piece's map of possibilities, toward different strings and loops of material. The performer/instrument interface, then, functions as more than a transducer for the translation of given actions into sounding results. Together with the score, it is a surface upon which the performer's embodied knowledge comes under their own gaze in correspondence with the *terminus*.

The result is a *meta‐hybridity* quite unlike that of previous pieces, because (performatively speaking) where habit and accumulated knowledge previously served as a conduit always

[15] Taking his cues from the radical empiricist philosopher, William James, Massumi defines the *terminus* as 'an organizing force, exerted by the end, from the very beginning' (Manning & Massumi, 2014, p. 97; *see also* Massumi, 2011, pp. 29‐37).

operating on the material at hand, it is now contingent on what went before, and influences what is to come. For example, a performer who at the beginning of a performance undertook actions with relative strength of force might later re-evaluate in order to resist the *terminus* in the interests of prolonging the performance. The *critical point* I discussed in relation to previous pieces here exists in two coupled forms: it is both imminent, as in *Polytropos (Ch. 3.1, p .26; Ch. 3.4, p. 39)* and *'…und nicht vielmehr Nichts'* (Ch. 4.3, p. 46), and after the fact, as could be said of *Condensation (Strike Work) (Ch. 2.2, p. 21).* Unlike that found in the latter, however, the potential for *critical points* is neither localized nor met with ossification, but operates in tandem with '*compilation*' (Sergeant, 2013, p. 127): bundled traces in memory that form a larger-scale impression of all that went before.

5.3 Uncertain hesitation: rupturing the concert ritual

Through Todorov's (1975 cited in Sergeant, 2013, p. 131) literary theory of the *fantastic*, Matthew Sergeant (2013, pp. 131-132) presents a compelling thought experiment. He tells us to imagine he is telling a story about the random sighting of a unicorn in a world that otherwise conforms with observable reality. Sergeant offers us three potential narrative possibilities, one for each of Todorov's narrative mechanisms, in reaction to the force of the 'conceptual violence' (Sergeant, 2013, p. 136) with which the story confronts us. The narrative could go on to resolve the tension in one of two ways. The *marvellous* would see the narrator reconciling the story's reality with the event, such that it was later found that unicorns had been commonplace after all. The *uncanny* would have the narrator reconciling the event with the story's reality, such that the unicorn later transpired to be an elaborate prank. There is a third option. Todorov's *hesitation,* pushed to an extreme, would have the narrator never mention the unicorn again, leaving it 'in a perpetual conceptual orbit [which] proliferates a process of questioning…' (Sergeant, 2013, p. 138).

Sergeant (2013, pp. 133-137) cites numerous illuminating musical examples of the three possibilities in action, but I would contend that there is a fourth: a related subcategory of the *hesitation*. To extend the thought experiment, what if the reader had sufficient reason to

believe, in the midst of *hesitation* (either without closure or prior to it), that the sudden appearance of the unicorn was some kind of misprint? Perhaps the story was published among several others to which its appearance could be more readily reconciled. As Sergeant rightly points out in relation to the harmonic language of Debussy, the possibility of the fantastic as an *experiential force* binding the rupturing events with preceding logics is in no way dependent on an authorial intention to invoke it, but what if the intentionality of the *event itself* was uncertain to an experiencing subject?

It would be unreasonable for an informed observer to conclude that Debussy had mistakenly selected chords that could not be reconciled with the tonal language that precedes them, or that his work has sadly been the victim of continuous misprints since first publication. Likewise, a listener might have a hard time entertaining the idea that members of the BBC Symphony Orchestra had somehow managed to mix the same loose page of Schubert's *Der Tod und das Mädchen* (1817) in among the score for Richard Barrett's *Vanity* (1992). With a first hearing of *826 Harry Cowley* however, the possibility that the event could in fact be erroneous is distinctly palpable. The presence of a PA system is already accounted for: the electric cello requires amplification. The signal, prior to rupture, is already being processed and so it could easily be inferred that all of the additional equipment is operating on it prior to the rupture. A saturated buffer could be the result of any number of digital equipment malfunctions. Its rapid looping likewise sounds like a particularly digital kind of "machinegun" effect sometimes caused by buffer underrun errors. The event lasts ten seconds, directly after which the piece ends, further opening out potential for reasonable doubt.

A perceivable ambiguity of intention has the potential to violate the performance ritual itself. In this way, the piece defies objecthood in a way no other piece in the portfolio could be said to do: by risking the very frame in which its enactment nominally takes place. I contend that it is the uncertainty, acting as its own force in tandem with that of the *fantastic*, that in my case transforms the boundaries of the performance ritual into a further example of Richard Sennett's *border.* Concert music performance rituals rest on an ideological construction that 'excludes or annuls the [perceptibly] un‑artistic' (Heister, 1992, p. 51). However, this

particular disruption can neither be cast aside as a meaningless distraction, nor can it be tethered assuredly to the performance act.

Through Manning and Massumi (2014, p. 124), the performance-as-event can be read as a ritual bound by an 'affective tonality'. There is a 'shared quality' (Manning & Massumi, 2014, p. 113) marking out the territory: a chain of linked events (in movement, in sound, in crossmodal perceptual affect) 'whose singular just-so's are directly, perceptually-felt to belong together, *across any distance* [emphasis added] at which they might occur' (Manning & Massumi, 2014, p. 113). If it were clearly intentional, the difference in sensation between the disruptive event and all that came before it, the *fantastic*, would not alone be enough to destabilize the performance territory. However, the act of performance in a concert setting can be understood to be 'an activity wholly separated from the heterogeneous interests of life's clamorous desires and strident demands… away from the racket of socio-economic complexities that both underwrites the concert's autonomy and contradicts its ideals' (Priest, 2013, p. 166). With this in mind, is the electronic equipment (in precisely such an underwriting capacity) not exposing something of that which such a territorializing machine depends on excluding, by raising the perceptually unanswerable question of its own unintended failure?

This particular affect cannot be said to frame everyday experiences as art, as in Alison Knowles' *The Identical Lunch (c. 1967-73)* (Higgins, 2002, pp. 47-48), nor can it be said to subsume one into the other, as in the case of George Brecht's *Drip Music (1963)* (Higgins, 2002, p. 49)[16]. Instead, it exposes the vulnerability of the art-event to the molecular flux bubbling beneath its surface. Just as material conditions are (ontologically speaking) the prior fact of its emergence, so too might they risk its collapse. Marina Abramović's performance art piece, *The Artist is Present (2010),* makes for an interesting counterpoint. Spectators were invited to sit opposite her, on a chair in the middle of the gallery, and make eye contact for any length of time.

[16] This was the subject of previous research as part of my undergraduate degree, which has since been published in a non-academic context (see Aulich, 2015).

Much like the music venue, the art gallery is permeated with an ideology of insular autonomy all of its own. Sean Kelly (in Dupre, Chermayeff & Akers, 1:35:33), under whose auspices the event took place, describes 'a little rent in the fabric of the universe that was wholly her own that she occupied. And she did it in a room filled with many, many people. And many, many people felt that charismatic space as a reality'. Adelle Senior & Simon Kelly's (2016, pp. 74-83) dialectic on the nature of charisma in relation to the piece reminds us that any such reality is mutually constructed, emerging from a combination of the gallery ideology, the perceptions and reactions of spectators, and Abramović's behavioral rules of engagement. Crucially for my purposes, a construction that 'might be threatened and potentially lost if either the artist or spectator allows themself to fully experience otherness' (Senior & Kelly, 2016, p. 80).

On the third day of the 2010 performance at MoMA, one such spectator was Abramović's former collaborator and partner, Ulay [Frank Uwe Laysiepen], with whom she had parted 21 years previously. Overcome with emotion, Abramović broke with her established rules and tearfully reached her hands across the table. The ostensible art‑object, Abramović–turned–gazing–machine[17], momentarily collapsed; the spectator's awe gave way to applause in celebration of a very human moment (Dupre, et al., 2012, 1:00:00). As with *826 Harry Cowley*, the behavioral rupture was sufficiently loaded to expose the messy underbelly upon which the whole art ritual in one way or another rests. What is produced in both cases, albeit by very different means, is a palpable '*zone of indiscernibility*' (Deleuze, 2005, p. 50). It is not a question of art‑or‑life, art‑as‑life, or life‑as‑art: one affirms the other in so *becoming. Becoming‑art, becoming‑life. Becoming‑machine, becoming‑human.*

[17] Abramović (in Dupre, et al., 2012, 0:16:07) herself notes the training required to create the 'charismatic space' so central to this work. As Amelia Jones (2011, p. 18) remarks, Abramović's normative interaction with spectators is a representational re‑enactment, or a 'simulation of relational exchange.'

6 Closing Remarks

If cultural output is predicated on the material conditions that it gives rise to, it may only project forward from such a vantage point. Although this is perhaps an unfortunate fact, I hope the irony would not be lost on readers if I were to now claim that art is insular after all, in those cases for which it might be convenient for me to argue as such. It is no more politically resistive, much less radical, to ignore this inherent complicity than it would be to fully embrace it. What each of the pieces hold in common is that they wilfully *occupy* the spaces they seek to destabilize. The pieces all have scores that in one way or another take their cues from traditional music notation, and require musicians with the skill set acquired by training in the Western art music paradigm, albeit to varying extents. Those pieces that do not explicitly allude to performance traditions still carry the weight of historically accumulated material circumstances by virtue of the instrumentation and the pedagogically instilled techniques in their employ.

The pieces 'inhabit [their] complicity and make it turn—in the sense in which butter "turns" to curd' (Manning & Massumi, 2014, p. 87), and in so doing they risk turning, however temporarily, those forces that act in correspondence with them. The previous chapters are littered with good examples of how the pieces inhabit contextual strictures to just such ends. Consider how *'...und nicht vielmehr Nichts?'* appropriates the piano's key mechanism: its tendency to excite strings turns from a complementary to an oppositional force (Ch. 4.1, p. 41). *Polytropos'* supposedly fixed score problematizes its own fixity, as a mass of continually reconfiguring priorities redefine the function(s) of horizontal space (Ch. 3.4, pp. 37-39). To a lesser extent, the same can be said of *Condensation (Strike Work).* As I observed in the previous chapter, *826 Harry Cowley* goes as far as to threaten the integrity of its own frame (Ch. 5.3 pp. 52-55).

These enactments are, of course, ultimately minor and ephemeral in nature. As I made clear in the introduction, they are of the *molecular* as opposed to the *molar*. Nonetheless, each provides a means for me, as a composer, to take ownership of at least some of the political

ramifications of my own work, and push it into interesting spaces for myself, for performers and for listeners. In the introduction, I qualified any success in this regard as 'provisional' and 'replete with implicit failures'. To speak of inherent complicity is also to recognize the futility of attempting to produce art that alludes to a society that does not exist. One can only point to horizons and critique from thresholds. In other words, I have yet to discover new ways in which they have failed to escape their nominal bounds, a line of enquiry (to be taken in perpetuity) that will surely lead to yet greener pastures.

I am considering new developments that could begin to reveal flaws in the basic premises hitherto offered. Scores could become more temporally contingent sites of exchange than those presented: across performances and performers. I am envisioning digital scores that could 'listen' and react unpredictably and irreversibly to the particulars of a given performance prior to the next, such that they literally hold the cumulative tracings of those who encounter them. I can imagine such scores eventually becoming entirely nonsensical under the weight of accumulated information, such that they avoid the trap of 'value adding' I discussed in relation to *Polytropos (Ch. 3.1, p. 27)*. Such a proposition reminds me of Manning and Massumi's (2014, p. 101‑102) open‑ended 'platforms for relation', such as the surround‑sound ice workshop devised by a group of participants for their interdisciplinary art‑research event, *Dancing the Virtual (2006)*. The participants sealed one microphone in ice and pointed another at a drip‑tray beneath. Those engaging with it could interact with the ice in all manner of ways to create sounds, and in so doing simultaneously altered the platform for the following participants.

Following *'…und nicht vielmehr Nichts'* and *826 Harry Cowley,* I have become increasingly interested in listening experiences that do not rely wholly on a narrative ambiguity embedded in the musical material as it appears in the score, but that project outwards in increasingly destabilizing ways. *'…und nicht vielmehr Nichts'* went a little way in this direction, and *826 Harry Cowley* significantly further. However, while both pieces expose the materiality of the instrumentation (in the broadest sense of the word) on the stage, neither foreground anything explicit with regard to the larger network of workers, companies, funding bodies

and institutions that contribute to the ideological construct Heister (1992, p. 51) refers to. The difficulty is in finding a means to do so that does not tip what ought to constitute an *enactment* of the political into a representation of it. It would not be enough, for example, to simply point to such a network in the midst of a concert without its capacity as a material actor being in some way sufficiently subverted to call the entire ritual into question.

A further point of development might also begin with the transposition of these ideas into an ensemble setting, which would bring about a whole host of new political and practical difficulties, but might also reveal the mechanics of encounters arguably more proximal than those I have thus far outlined. This would no easy task, but I can imagine taking inspiration from the oft-confusing sociological works of Christian Wolff, such as the elaborate cueing system in *Duo for Pianists II (1958)* (Aulich, 2016), perhaps in counterpoint with new manifestations of the *uncertain hesitation*, Sennett's *border* and *critical freedom.* In any case, the pieces and the research herein form the bedrock of a conceptual landscape that can now develop and extend into a wider body of work. As Felix Guattari (1995, p. 126) reminds us, 'conceptual tools open and close fields of the possible'.

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Condensation
(Strike Work)

2015

Solo Flute

For Richard Craig

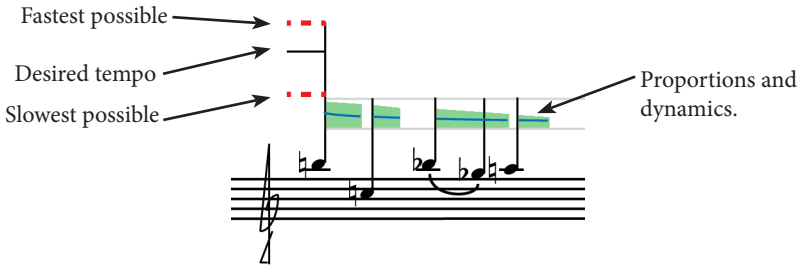
John Aulich

Duration: c. 5”-7”

General performance notes

Tempo, dynamics and durations

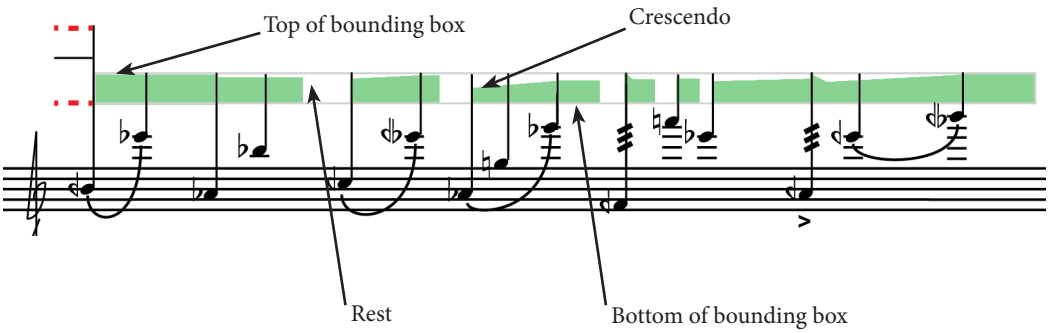
The piece is written in a form of proportional notation. Each staff is subdivided proportionally in relation to itself, but not to any other staff. The duration of each staff is dependent on the tempo marking on the left-hand side:



The two dotted red lines indicate extremes of tempo (slowest and fastest possible), as determined by the contents of the staff to which they are attached, while the black line indicates the desired tempo relative to those extremes. In order to determine the slowest possible speed, for example, the longest continuous duration without rests should be considered a breaths length, and used as a reference point for the remaining durations on the staff.

In order to determine the fastest possible speed, the same principle applies, but proportions should be extrapolated from the most difficult part of the given staff to execute quickly whilst maintaining accuracy. Very occasionally, the desired tempo is indicated above the upper extreme. In this case, the desired effect is that caused by an attempt at realisation faster than it is possible to do so accurately. Apart from where units end with indicated rests, players should move from one staff to the next without pausing.

The proportional notation is integrated with the dynamics, in order to make the directionality of the phrases as clear as possible. The lower and upper limits of the light grey box represent niente and fff respectively.



Accidentals

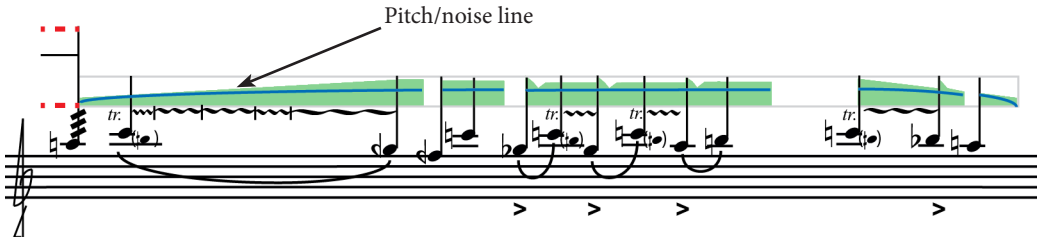
Accidentals are given for every note, except when an immediately preceding note of the same pitch already has one. In this case, the accidental given with the first note applies to the following note(s).

Techniques

Pitch/noise line

Some notes are accompanied by a blue line dictating changes in the embouchure/flute position to achieve a given pitch/noise ratio in the sound. The bottom of the light grey box represents no or very little discernible pitch, while the top represents the normal playing position for that note.

In cases with potentially unstable combinations of pitch/noise line and given pitch (for example very high notes, or quarter tones) the given pitches should be taken to be aspirational rather than expected results. Where there is no line, the notes should be played normally.



Plosive/Consonant attacks

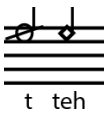
Consonants beneath normal noteheads indicate special attacks, where those consonants should be articulated with the mouth but not with the vocal chords.

Other attacks

Loud attacks are indicated by normal accent wedges, and particularly loud attacks are notated with marcato wedges. Under-emphasized attacks, or anti-accents, are indicated with the following symbol: ∨

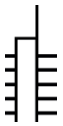
Special noteheads indicating spoken sounds

There are two kinds of noteheads indicating spoken sounds (including the vocal chords). No effort should be made to prevent the flute from resonating incidentally as these sounds are made.



The notehead on the far left indicates an abrupt articulation of the given consonant with the fingering indicated (either by a diagram or by its position on the staff if it is a traditional fingering). In the same way, the notehead to the right indicates an articulation of a consonant with an accompanying vowel sound, such that it can be sustained.

Special notehead indicating indeterminate sounds

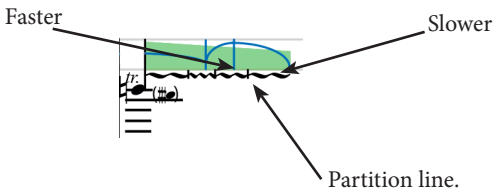


The notehead to the left indicates an indeterminate sounding result, where the given combination of dynamic and fingering is potentially unstable.

Techniques (continued)

Trill speed

The rough speed of a trill is indicated by the density of the accompanying trill line – where this changes in the midst of a trill, it is indicated by a small partition.

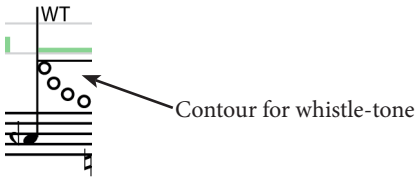


Tongue-ram

Tongue rams are indicated with the following notation (where x is the fingering and the notehead is the sounding result):

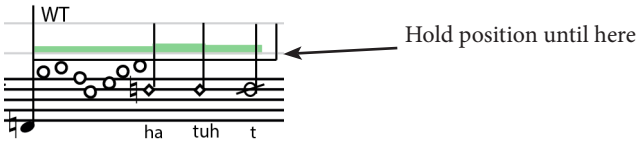
Whistle tones

Whistle tones are indicated with the text 'WT' and accompanied by a general contour given in circles (see below). The contour is relative only to the whistle tone to which it belongs, and not contours for other whistle tones following or preceding it:



Maintain Position

Sometimes, following a whistle-tone or tongue-ram, the flute position, with the mouth covering the mouthpiece should be maintained for the actions following it. This is indicated by a line extending from the stem of the first to the offset of the final action, as shown below:

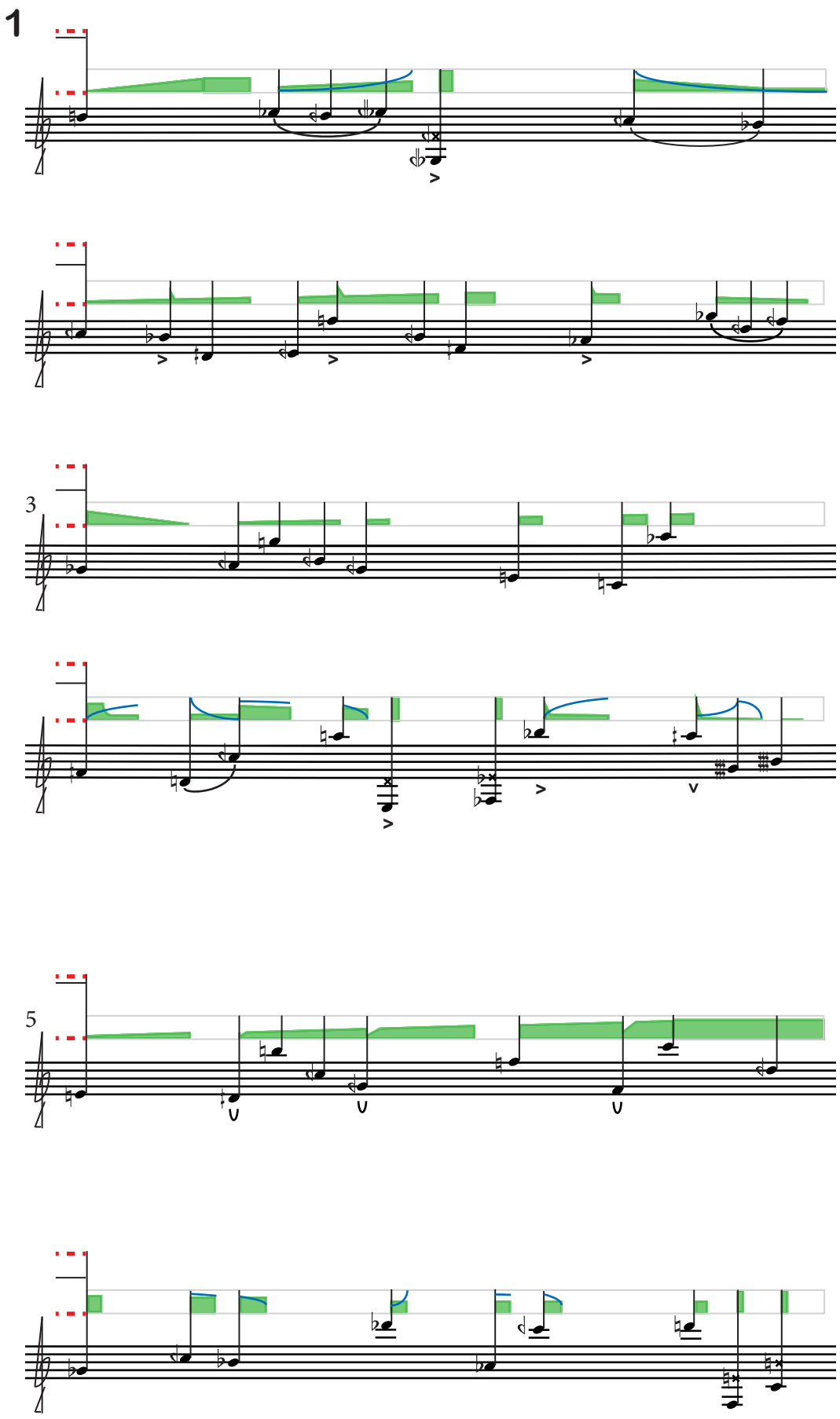


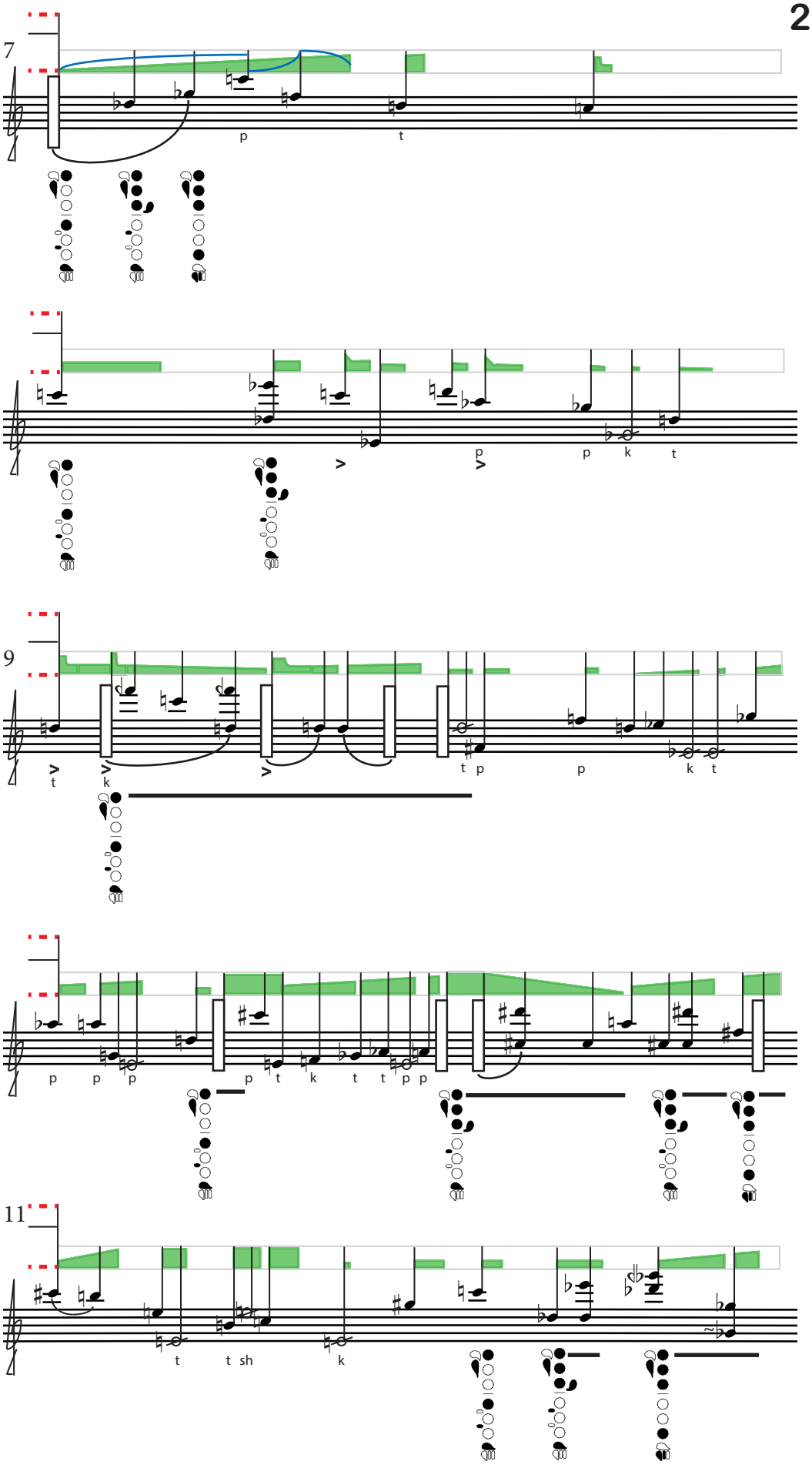
Flutter-tongue

Flutter-tongue articulations are indicated by three tremolo lines:

Alternate fingerings

Alternate fingerings are presented directly beneath the actions to which they pertain. A black line indicates that the fingering applies to all of the events it runs beneath.


1
3
5


7
p
t
p
p
k
t
9
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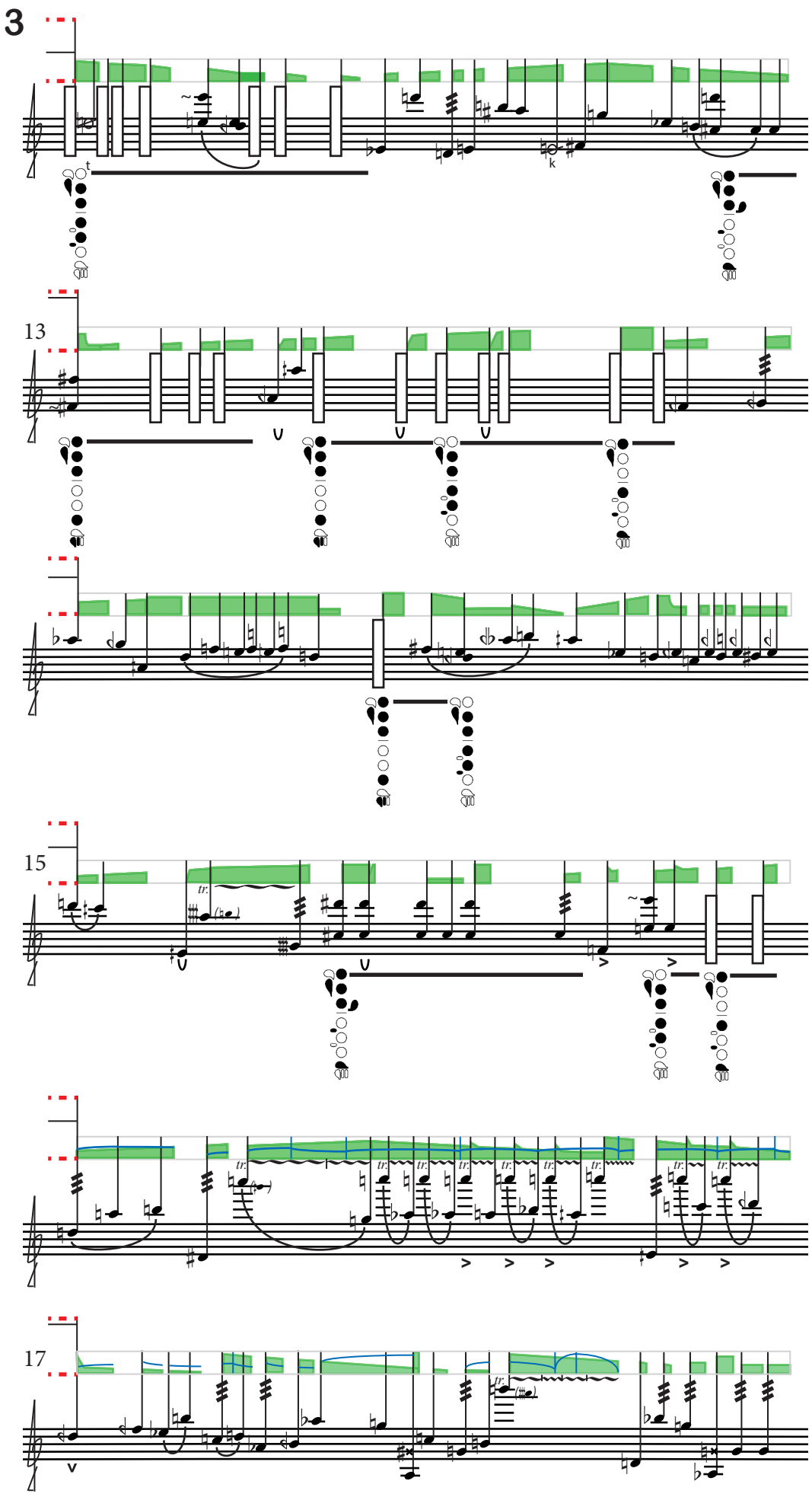
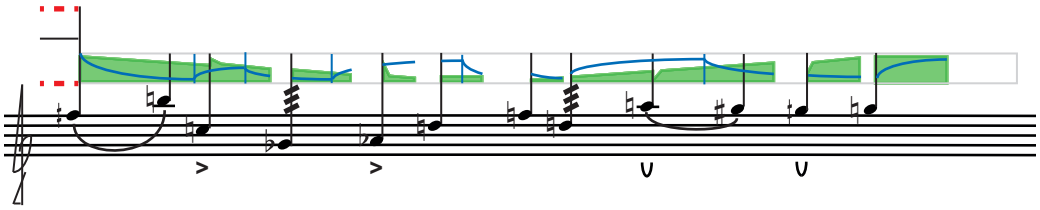
k
t p
p
k
t
p p p
p t k t t p p
11
t
t sh
k


3
13
15
17



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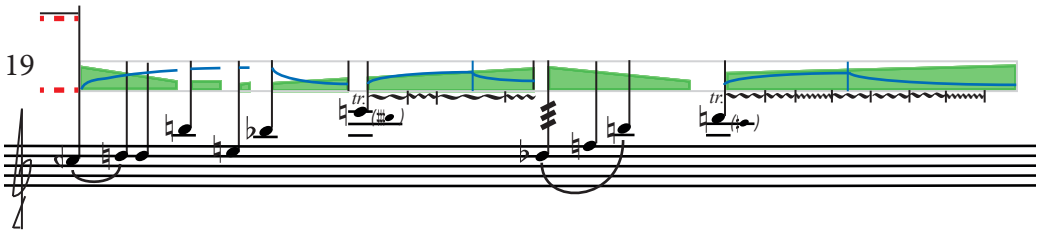

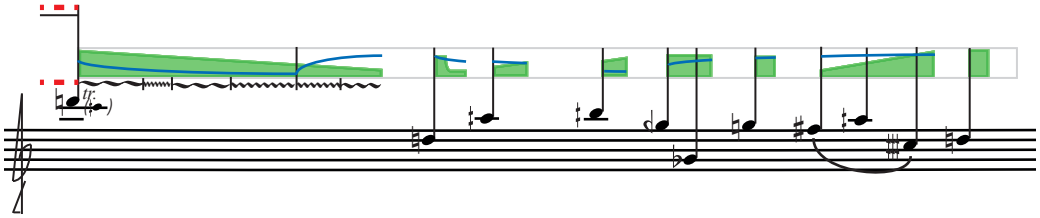

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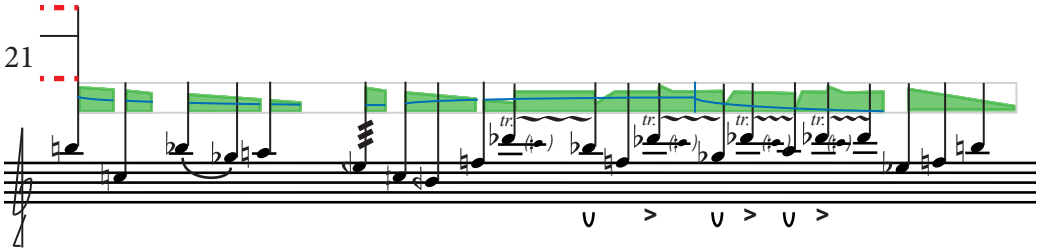
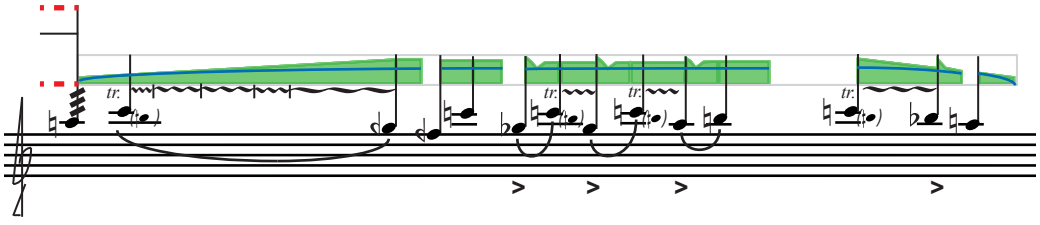
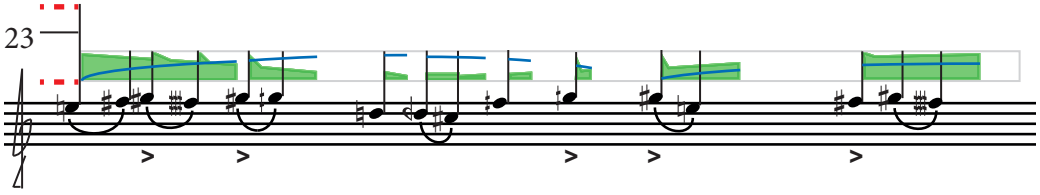
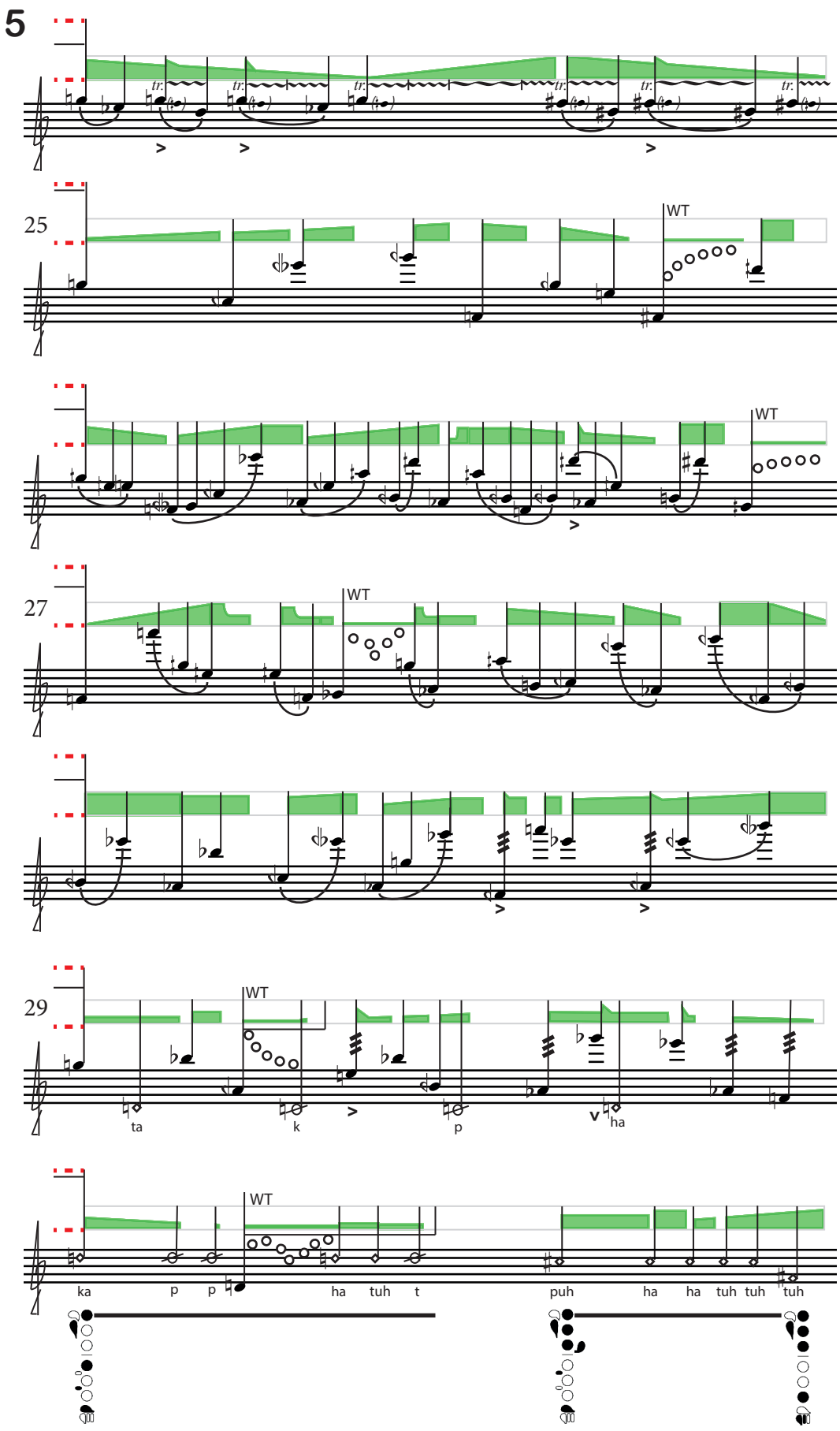
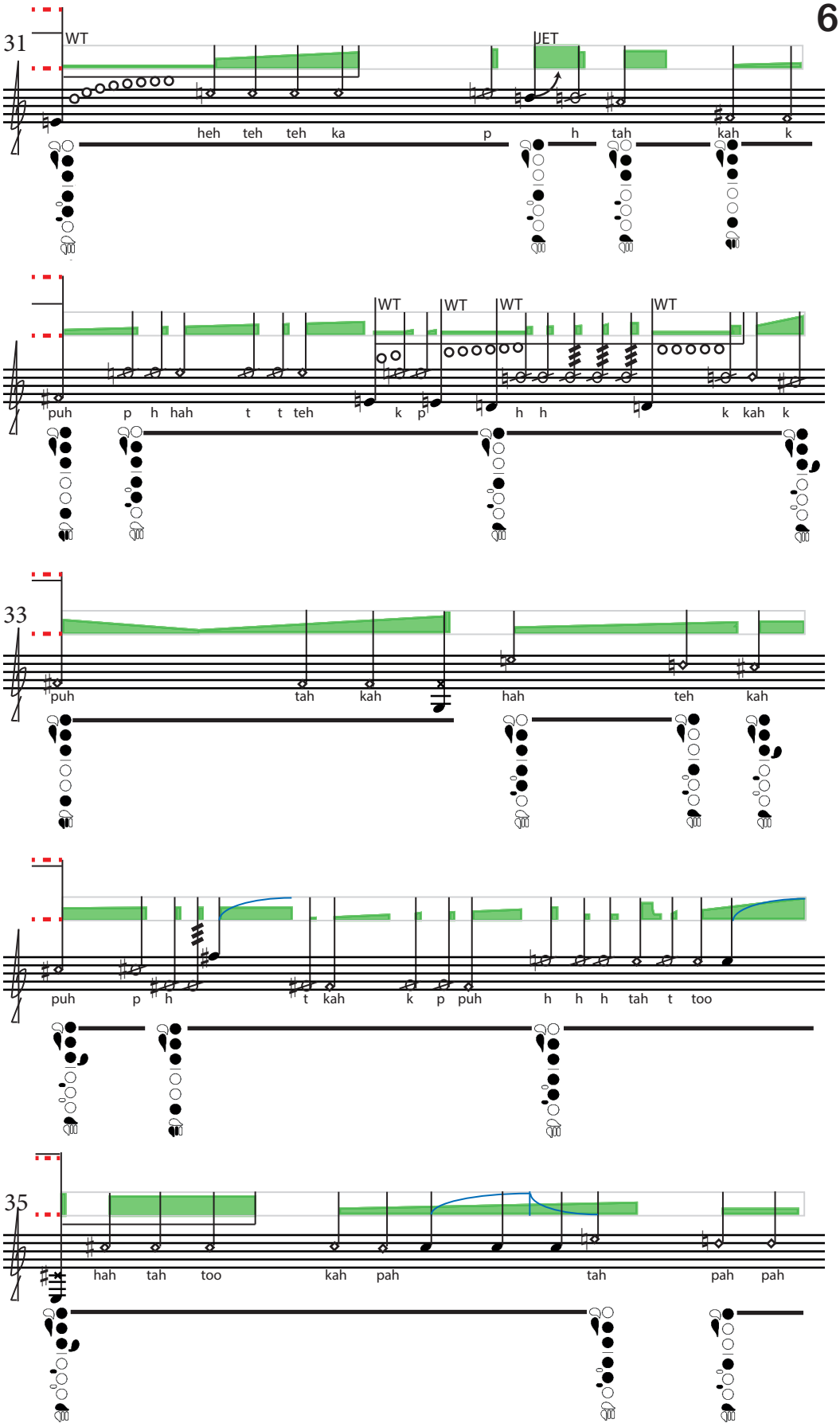


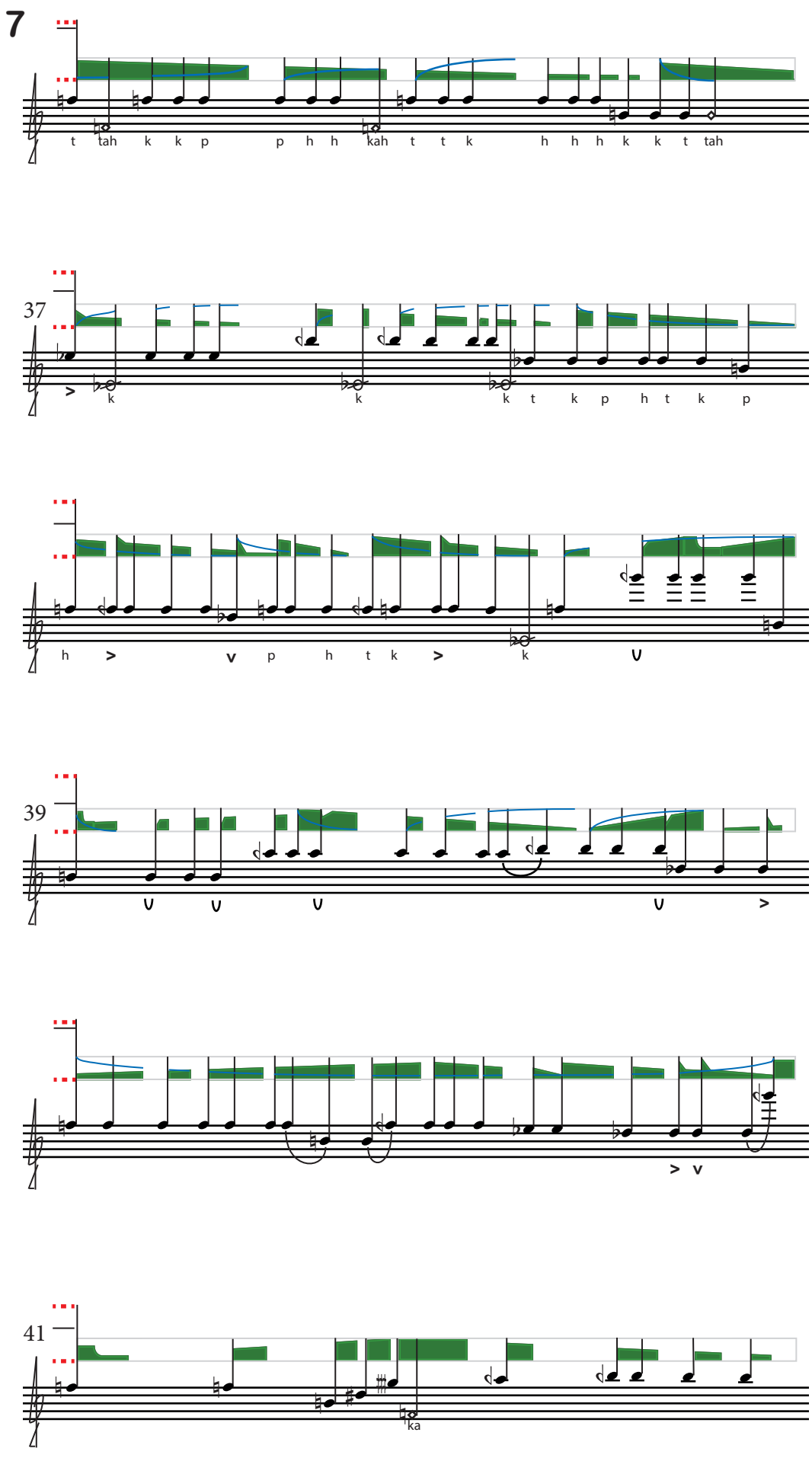


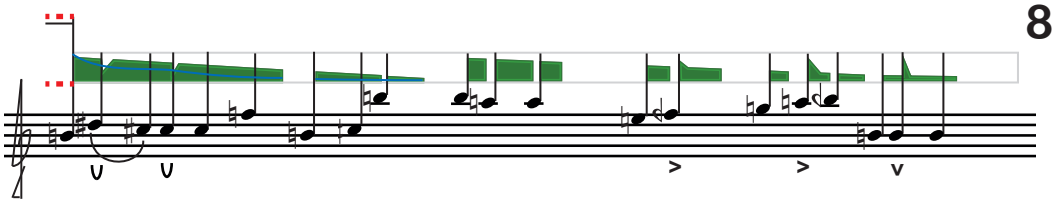
23

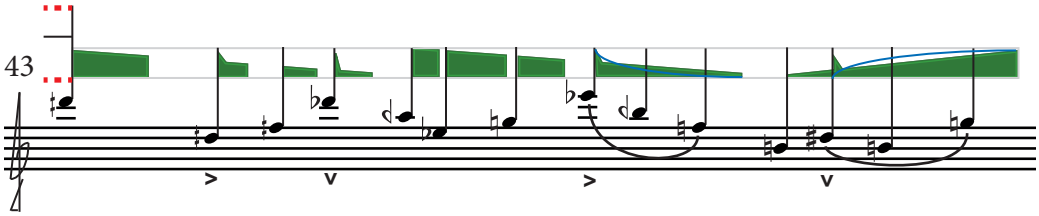


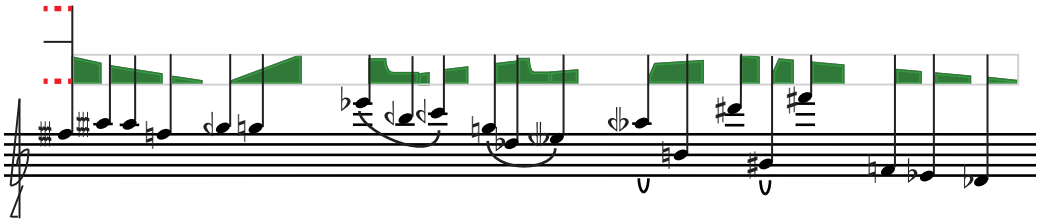

5
tr.
25
WT
27
29
ta
k
p
ha
ka
p
p
ha
tuh
t
puh
ha
ha
tuh
tuh
tuh

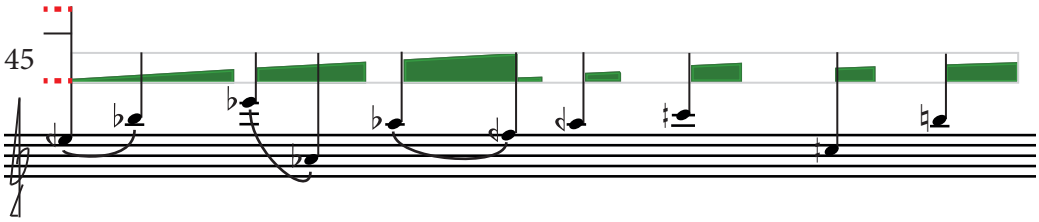

31
WT
JET
heh teh teh ka p h tah kah k
WT WT WT WT
puh p h hah t t teh k p h h k kah k
33
puh tah kah hah teh kah
puh p h t kah k p puh h h h tah t too
35
hah tah too kah pah tah pah pah

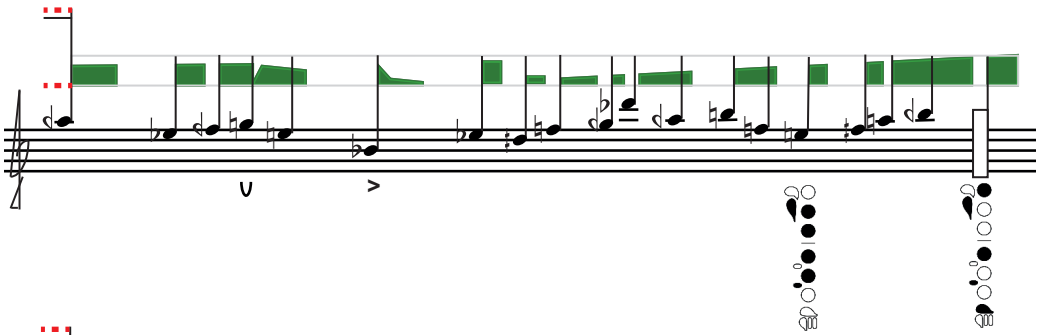

7
t tah k k p p h h kah t t k h h h k k t tah
37
k k k t k p h t k p
h p h t k k
39
ka

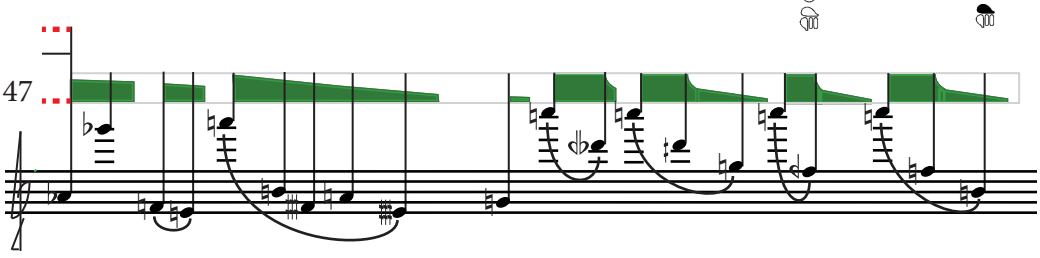


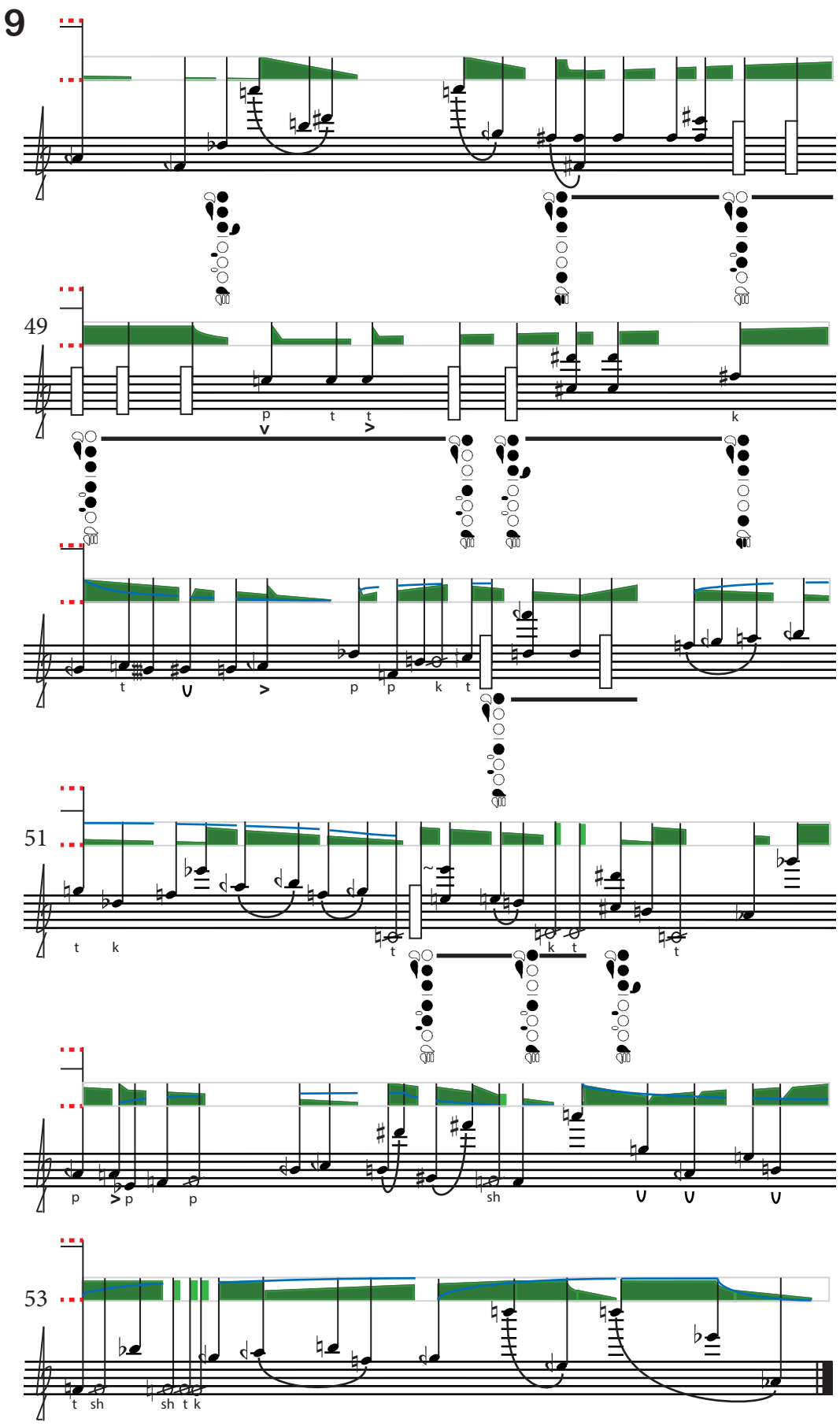

43




45




47


9
49
51
53

Πολυτροπος 2016

For Bass Clarinet in Bb.

Written for and dedicated with gratitude to James Wood,
without whom this piece would not have been possible.

Duration: Approx. 20-25'.

John Aulich.

Πολυτροπος [Polytropos]. An epithet for the Ancient Greek god, Hermes, who has many faces; he is the conduit between worlds, the one who stands at thresholds, transitions and boundaries.

Performance Notes

Flow rate line

Running throughout the piece is a l**ine of variable thickness** that represents the **‘flow rate,’** or the kind of interaction the performer should have with the material at hand. When the line is at its **thinnest,** performers should **dwell in the material**, **pay more attention to detail,** and **take as much time as is necessar**y to execute the particulars as given. When the line is at its **thickest**, performers should **hack through the material**, allow for a **high degree of inexactitude**, and move **faster**.

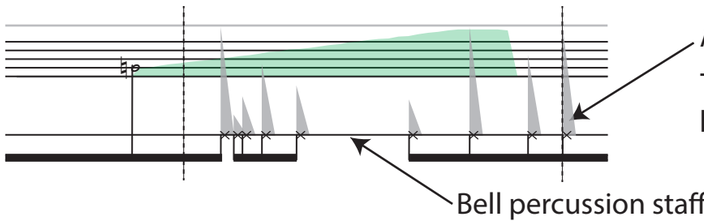
Pitch

Pitch is notated using standard quarter-tone accidentals. Performers should **base degrees of accuracy on the thickness of the flow rate line**, together with their **training and personal experience. Special fingerings are not necessary** if they are **not already known** to the performer; simply playing **perceptibly flat or sharp relative to the nearest semitone** is sufficient. **All notes have accidentals,** except for those immediately following another of the same pitch.

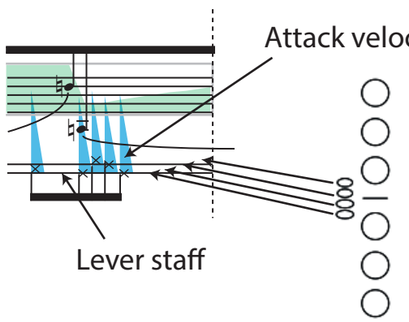
Timing/proportions

Exact **timing emerges** from the **performer’s interpretation** of the material as **mediated through the flow rate line**, and for this reason I have not specified a metric. **Proportional relationships** should only be read as **locally significant** (i.e. in comparison to immediately surrounding material and the flow-rate line). **Performers should not apply a global time-space ratio.**

Special Staves



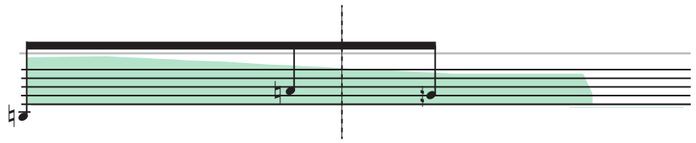
T**he bell percussion staff** consists of one line that indicates **taps with the left hand on the bell of the instrument**. **Attack velocity** is indicated by **grey spikes**.



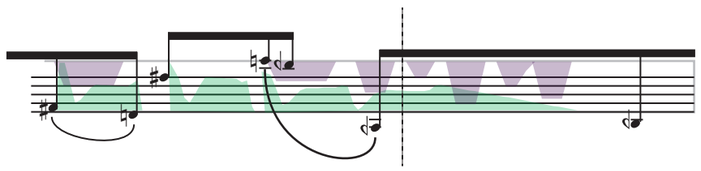
The lever staff indicates **levers that should be depressed** and then (most often) immediately released. The effect is both percussive and pitch-altering. **Attack velocity** is indicated by **blue spikes**.

Performance Notes (continued)

Shaded areas

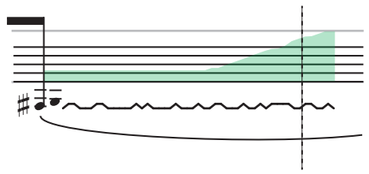


Air – The amount of air going into the clarinet, as dictated by the green shading. The **upper limit** is denoted by the **grey line** and roughly corresponds to the amount normally required for ***mf***. The air shading also **dictates the note's length and envelope**. For the sake of clarity, I have added **accent and anti-accent** marks where the strength of an attack deviates significantly from the surrounding contour (see 'accent marks'). The marks are **for reference only**, and particularly when the flow rate line is thin, the more precise shaded area should take priority.

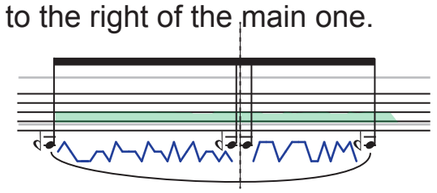


Tongue-damping – The degree to which the tongue should **inhibit the vibration** of the reed is indicated by **purple shading** from the top of the staff down. **Where there is no shading,** the reed should be **allowed to vibrate freely**. Where the area is **entirely shaded,** the reed should be **kept from vibrating as much as possible without deadening it** to a degree that would absolutely guarantee an air-only sound.

Trills



Standard trill - A standard trill is indicated by a **black line** specifying its **internal proportions**. The second pitch is indicated by a stemless notehead to the right of the main one.

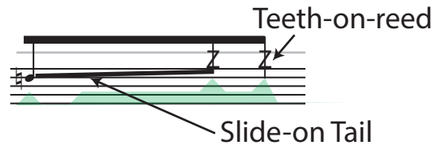


Register key trill - A register key trill is indicated by a **blue line with two extremes and a midpoint.** At the **uppermost** extreme it is **not depressed**, at the **half-way point it is half depressed**, and **at the lowest point, it is fully depressed.**

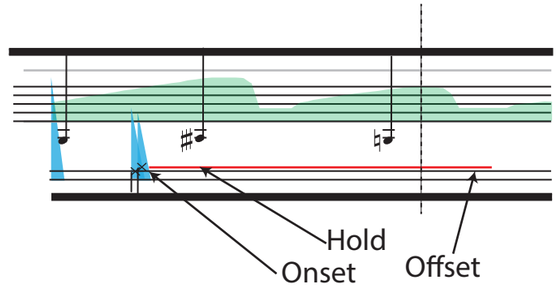
Accent marks

The accent marks **reflect the shaded air area**, and are used for **extra clarification** when the **strength of an attack deviates significantly** from the general dynamic contour or envelope of the note. **Apart from the standard marcato and accent marks,** I have also used an **anti-accent mark**. Where this occurs, the **air stream on the note onset is significantly weaker** than the rest of the note. The marks are **for reference only**, and particularly when the flow rate line is thin, the more precise shaded area should take priority.

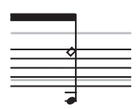
Special symbols



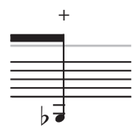
Teeth-on-reed - Place the teeth on the reed, such that it **squeaks** when the note is attacked. This symbol may have **a tail** coming away from or leading up to the stem, which indicates that the **teeth should slide onto the reed** as the previous note still sounds **or off the read** for the next note.



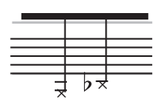
Hold line - **Hold the key or fingering** for the length of the line. Used for multiple harmonics with the same fundamental pitch, and in the lever staff when a lever should not be immediately released after it is struck.



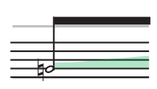
Harmonics - Harmonics are notated with **diamond-shaped noteheads**. Although **specific pitches are given**, it is only necessary to **follow the rough contour** if the flow-rate line is not at its thinnest.



Slap-tongue – Slap-tongue is indicated with a + sign above the note. Slap tongues should **have some pitch**, and be as **soft as possible.**



Key-clicks are indicated with **crossed noteheads** on the pitch staff, corresponding to the required fingering.



Air-only is indicated with a **hollow notehead.**

Tenacious, but clumsy - grasping for something just out of reach.

7

Breath ad hoc.

13

19

Suddenly contemplative and restrained

25

31

37

Delicate, fragile, meticulous, like a warn tapestry, slowing to almost complete standstills.

Highly anxious, scuffling, uneasy.

Breath ad hoc.

Alternatively:

43

49

(or similar)

55

Breath ad hoc.

61

(or similar)

67

73

(Rearticulate
with breath only)

79

Breath ad hoc.

Breath ad hoc.

85

91

Breath ad hoc.

97

Breath ad hoc.

103

109

115

Pushing against a brick wall with increasing impatience

The wall collapses.

121

127

Sudden stillness.

133

139 *Engine turning over*

145

151

Breath
ad hoc.

157

163

169

175

Breath ad hoc.

Breath ad hoc.

181

187

193

199

“...und nicht vielmehr Nichts?”

2016
Solo Piano
John Aulich

Minimum duration: c. 5’

Performance Notes

Intention

The score consists of a number of 'passages,' each of which must be performed with the intention that no string will sound, but with a palpable risk that they will. Most passages feature performance directions that refer to a sounding result. Performers should consider these to be imaginary goals that inform particular gestural, physiological and psychological approaches to the material. If string(s) do actuate in spite of the performer's intentions, this should be considered a valid product of circumstance as opposed to a mistake. While I anticipate that the phenomenological fabric of a good performance will highlight touch as a performer-instrument interface loaded with historical import and, as a consequence, a degree of struggle with unsympathetic materials, I also expect that a certain amount of theatricality will be unavoidable. Performers should not give this aspect more than its due. A focused if not slightly understated attempt to grapple with the material at hand is far preferable to a dramatic representation that would see the central concerns of the piece rendered behind a superficial display of struggle in the more general sense.

Structure

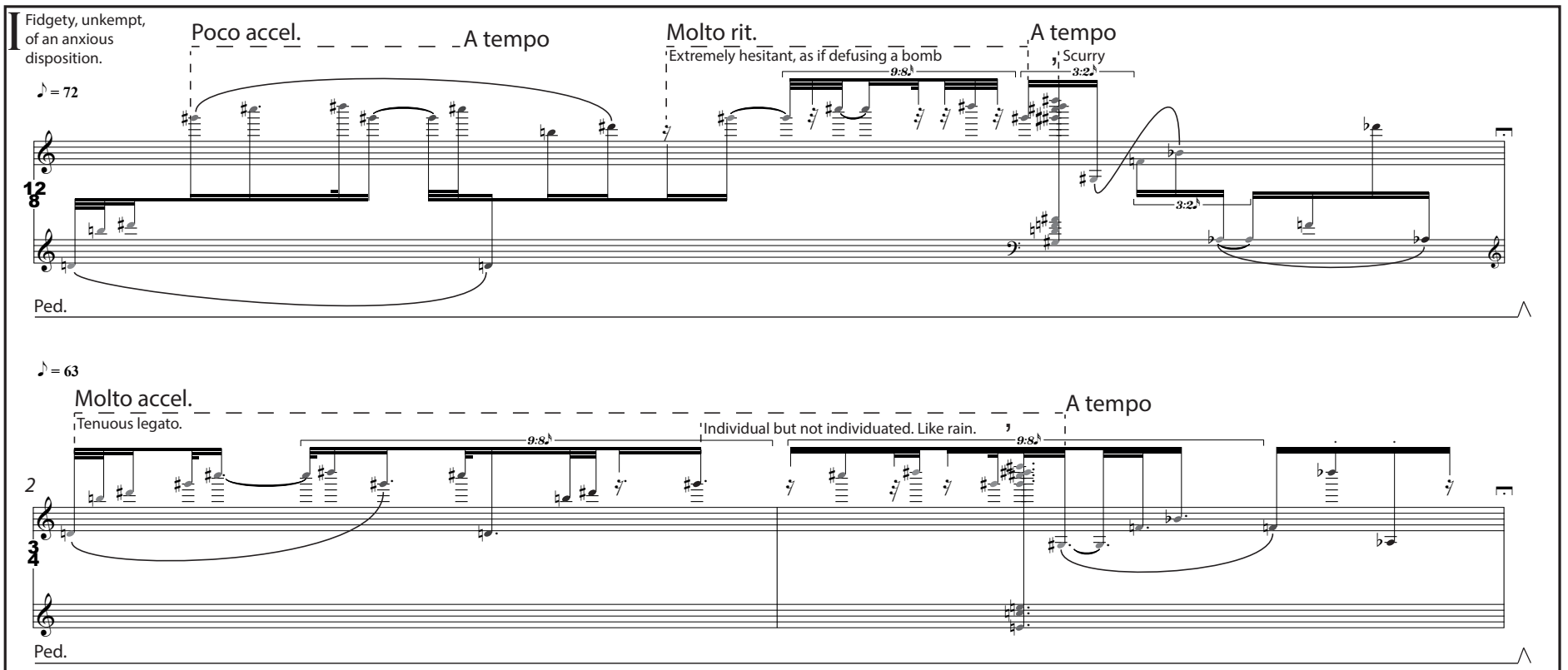
The piece consists of 9 sections, each containing a varying number of passages. Each section must be played in the order it appears, but the passages contained within them may be played in any order, and may be repeated any number of times. Each passage inside a section must have been played at least once before the performer can move to the next section. While most passages are a system in length, additional systems belonging to the same passage are indented. Passages always end with a pause.

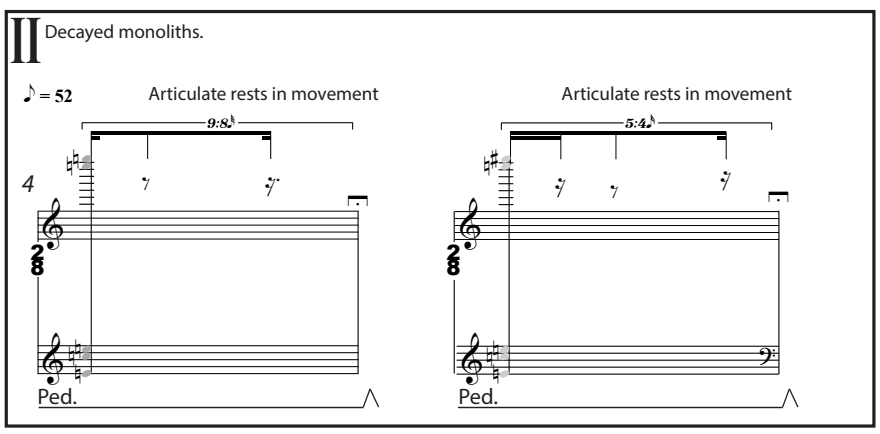
Performers are encouraged to take a playful approach to repetition.

Notation

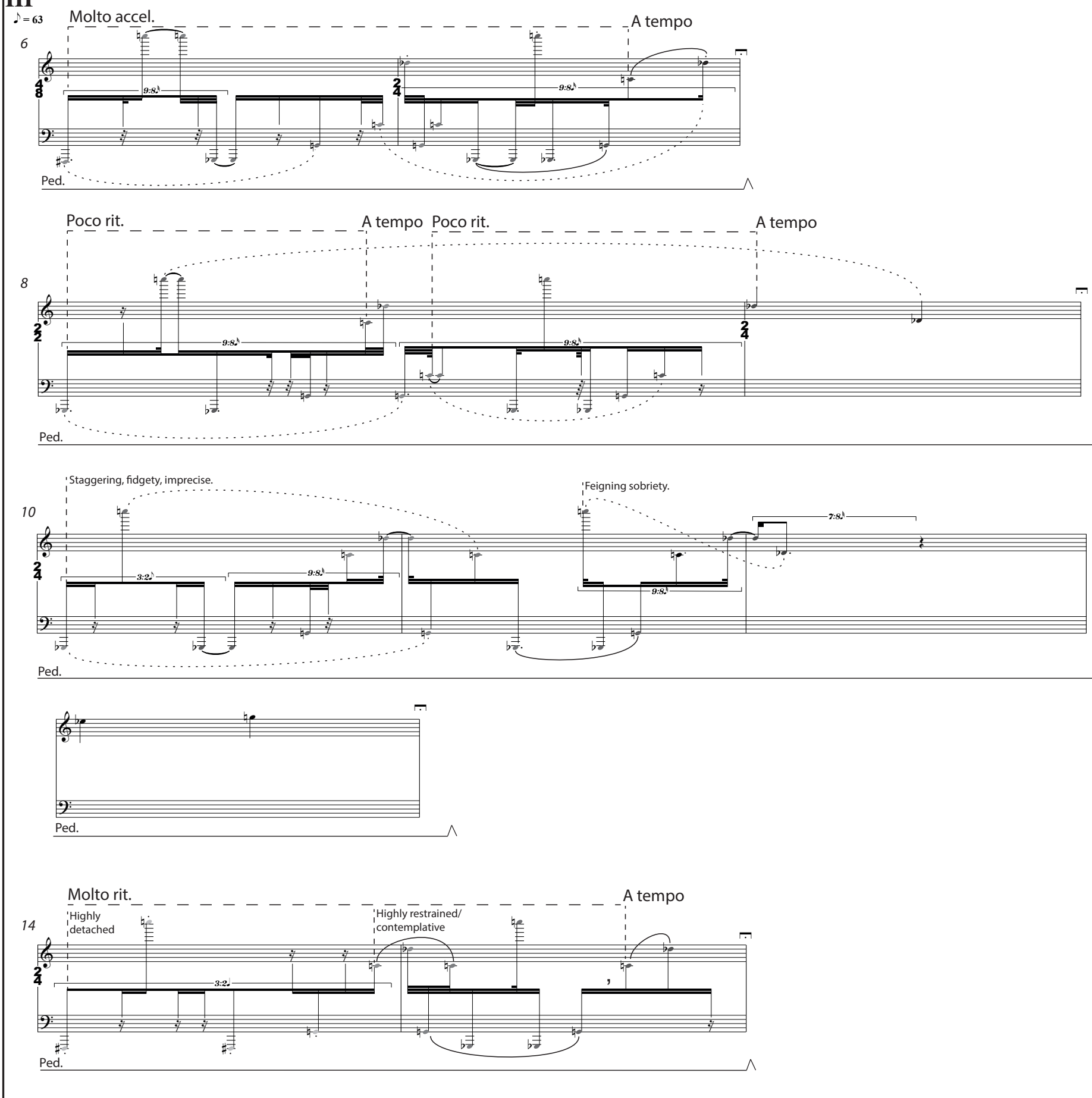
The force with which a performer should press the key pertaining to a particular note is indicated by the shade of the notehead in question. At its lightest (light grey), the key should be depressed with such little force that there is almost no risk of the string actuating. At its darkest (black), the key should be depressed with enough force that it is more likely (but by no means certain) that the string will actuate.

Pauses should be more or less the length of a deep breath.


I
Fidgety, unkempt, of an anxious disposition.
♪ = 72
Poco accel.
A tempo
Molto rit.
Extremely hesitant, as if defusing a bomb
A tempo
Scurry
9:8
3:2
12/8
Ped.
♪ = 63
Molto accel.
Tenuous legato.
A tempo
Individual but not individuated. Like rain.
9:8
2
3/4
Ped.


II
Decayed monoliths.
♪ = 52
Articulate rests in movement
9:8
4
2/8
Ped.
Articulate rests in movement
5:4
2/8
Ped.

III Dispersed events gathering into packs.



IV Melodic gestures and phrases with 'unwelcome' interruptions.

♪ = 72

16

Ped.

Ped.

V Agitated and restless.

♪ = 69

Poco rit.

A tempo

21

Poco rit.

A tempo

Ped.

Ped.

VI Jerky and crooked movements abruptly breaking into flowing gestures

♪ = 72

Pochissimo rit.

A tempo

24

Ped.

Moltissimo rit.

A tempo

Graceful, alla rococo

26

Ped.

VII

Smudged pointillism.

28 ♪=72

6+2/16 — Highly detached — 13:12 — Ped.

2/4 — Highly detached — 7:8, 9:8 — Ped.

3/4 — Much less detached — 3:2, 5:4, 3:2 — Ped.

2/8 — Individual but not individuated. Like rain. — 9:8 — Ped.

VIII

Strained little melodies.

33 ♪ = 63

6/4 — Cantabile — 3:2, 9:8 — Ped.

IX

Events forming packs, then dispersing.

34 ♪ = 72

3/4 — Poco accel. — 7:8 — A tempo — 3:2 — Poco rit. — 2/4 — A tempo — 9:8 — Ped.

36

3/4 — Poco rit. — 11:8 — A tempo — 5:4 — Poco accel. — 5:4 — A tempo — Ped.

38

10/8 — 3:2 — 9:8 — 3:2 — Ped.

39

10/8 — Poco accel. — 9:8 — A tempo — 3:2 — 9:8 — Ped.

40

2/8 — Poco accel. — 3:2 — 4/8 — A tempo — 3:2 — 4/8 — Poco accel. — 15:16 — A tempo — Ped.

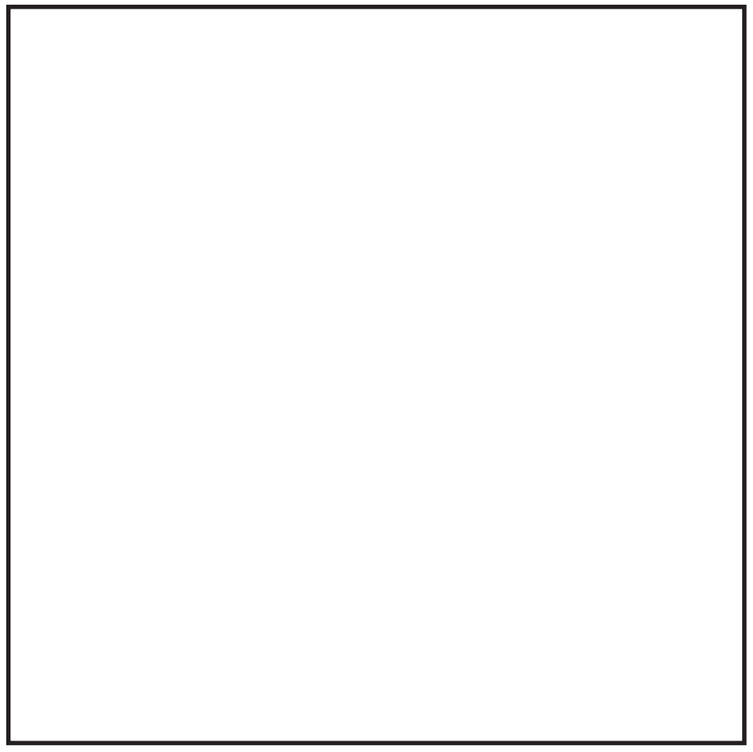
826 Harry Cowley (2016)

electric cello and electronics.

for Christine Avis

Duration: Up to approx. 30′, but may
be considerably shorter.

John Aulich



The Max Patch necessary for this piece is included on this disc. It has been tested and is working on Max 7.23 on PC and Mac.

Introduction

The score is a map consisting of numerous modules along various routes. The setup described below consists of an analogue effects chain and a Max/MSP patch, included on the provided disc. The material in the score should be played for an indefinite length of time. The Max patch takes a cumulative measure of amplitude peaks. When this measure reaches a random, unknowable threshold, the patch will initiate a loud 'rupture' event and begin a countdown timer from ten seconds, after which it will fall silent. The performer should continue playing during the rupture and stop in sync with the timer.

Technical requirements & setup:

Instrumentation:

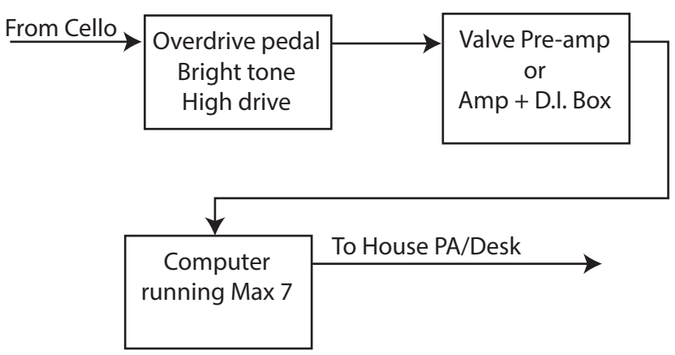
This piece requires an electric cello with unhindered access to the bottom of the fingerboard.

Equipment:

- Overdrive guitar pedal*
- Valve preamplifier (or amplifier and direct injection box)*
- Computer running Max (with an appropriate audio interface)
- P.A. or other means of amplification

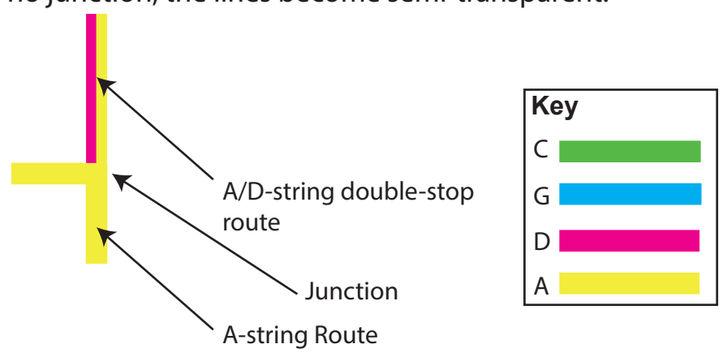
* The overdrive pedal and valve preamp combination can be substituted for a warm-sounding distortion pedal.

Signal path:



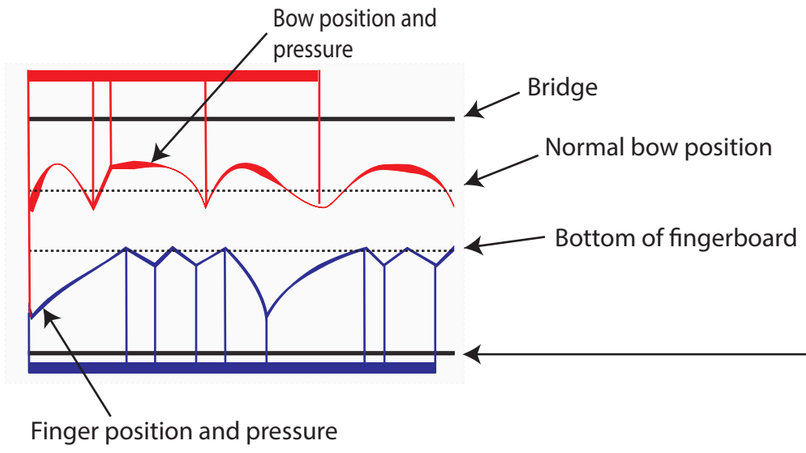
Routes

Each route is a formal pathway that dictates the string(s) on which the modules should be played. The route may dictate a single string, a double-stop or a triple-stop. Players can begin with any module, following any route, but may not depart from a route except at a junction. A junction connects two routes with at least one string in common. Where one route crosses another and there is no junction, the lines become semi-transparent.



Modules

Each module should be played slowly. A longer module should last around 30 seconds. The pace need not be consistent from one module to another, and rhythmic proportions should be interpreted relative to the module at hand rather than the whole. Each module should be played legato, with a short pause (between 1 and 5 seconds) between one module and the next.



Finger position in relation to double and triple stops

In the case of double and triple stops, the fingers may be spread a comfortable distance. In this case, the finger position given on the score relates to the movement of the hand as a whole. An effort should be made to maintain a consistent distance between fingers.

Pressure extremes

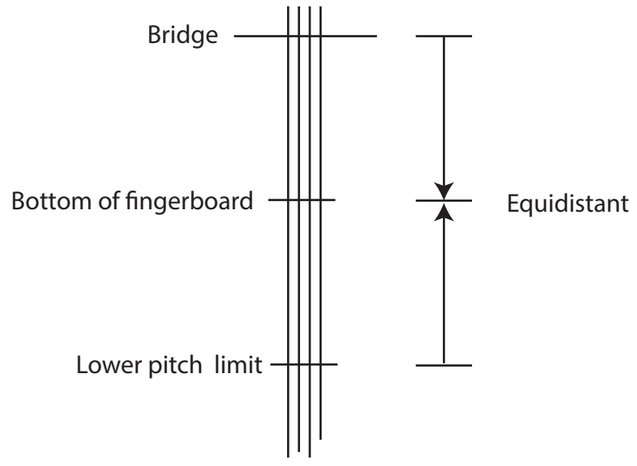
For the bow, the thickest line segments indicate pressure sufficient to break the sound up. The thinnest line segments indicate low enough pressure that overtones speak louder than the fundamental at normal finger pressure.

For the finger(s), the thickest lines indicate pressure sufficient for an overtone-rich timbre with the fundamental intact at normal bow pressure. The thinnest lines indicate low enough pressure that the sound consists of multiple harmonics and noise at normal bow pressure.

Incidental sounds

The performer should make no attempt to stifle incidental tremolos as the bow moves position, finger scrapes, or any other incidental sounds through the course of the piece.

Pitch



The distance between
the lower limit and the bottom of the fingerboard
is roughly the same as that between the bridge
and the bottom of the fingerboard (see diagram above)

Key

C

G

D

A