

...empty spun-sugar shibboleth...

Performative Impossibility as a Compositional Device

A thesis submitted by

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Abstract

In ...*empty spun-sugar shibboleth*... the unique, identity crafting, physical system of the performer and the web-like relationships intertwining the embodied mind, the mechanical instrument, the musical notation and the dynamic environment coalesce to form a singular meta-performer. An unstable multiplicity no longer driven by a quantitative, measuring consciousness and performative absolutes, but rather a reflexive, indeterminate, haptic, qualitative feedback loop where gesture (and its raw material, physical movement) and the natural responsive modification of felt physical states are given primacy as expressive and formal devices.

This work uses graphic notation to present the performers with grandiose, physically impossible tasks. The performer's mind, mouth, tongue, fingers, vocal chords, appendages and throat are de-coupled and pitted against each other culminating in an informational overload unavoidably leading to "system failure." The formal and temporal aspects of this work hinge on the idea of inevitable failure. Often times the information presented is physically impossible or uncomfortable, resulting in strained, fragile sounds. Other times the physical tasks notated have no audible effect on the sonic result but rather influence the psychology of the performer. All of these complex, paradoxical, physical gestures are writhing under the skin folding into each other and manifesting through a single voice.

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I - Introduction

...*empty spun-sugar shibboleth*... is a work that requires and actively encourages performative failure. The impetus lies in the title which originates from David Foster Wallace's short story *Octet*. A story largely following the crippling self-conscious thought-scape of an insecure writer:

“...on using the verb *to be* in this culturally envenomed way, too, as in ‘I’ll Be There For You,’ which has become the sort of empty spun-sugar shibboleth that communicates nothing except a certain unreflective sappiness in the speaker. Let’s not be naive about what this 100%-honest-naked-interrogation-of-reader tactic is going to cost you if you opt to try it.”¹

Here, the protagonist is claiming that the verb *to be*, when used in a romantic trope, has been watered down into an empty phrase. Although “I’ll be there for you” is intended to provide emphatic comfort its overuse in modern media reduces it to a meaningless vestige. Besides personally resonating with the creative plight of *Octet*'s protagonist this excerpt exemplifies one of Wallace's recurring themes, the inadequacy of language and the imminent failure of interpersonal communications, which I find extremely interesting. This concept is further expressed in the excerpt below:

“You already know the difference between the size and speed of everything that flashes through you and the tiny inadequate bit of it all you can ever let anyone know. As though inside you is this enormous room full of what seems like everything in the universe at one time or another and yet the only parts that get out have to somehow squeeze out through one of those tiny keyholes you see under the knob in older doors. As if we are all trying to see each other through these tiny keyholes.”²

¹ “Octet.” *Brief Interviews With Hideous Men*, by David Foster Wallace, Little, Brown and Company, 2007, p. 155.

² “Good Old Neon.” *Oblivion*, by David Foster Wallace, Back Bay, 2005, p. 178.

Communication with our sequential languages is an insufficient mode of expression. It cannot hope to express our constant, complex, non-linear, superabundant web of thoughts and emotions. To an extent, human language is a failure and, as Wallace posits, it is impossible to fully express the entirety of the human experience. Although we have the ability to communicate through language we are only able to experience fragmented glimpses of one another.

In ...*empty spun-sugar shibboleth*... failure, impossibility, futility, and self-consciousness are themes adapted from Wallace and applied to musical performance. These themes manifest in the form of overwhelming amounts of information and repeated elicitation of performative failure. These characteristics are crafted through an amplified focus on glaringly impossible physical performative gestures and their morphological progressions.

Traditionally, gesture in music is translated through and becomes dependent upon articulatory devices such as pitch, dynamics, timbre, tessitura, rhythm, or a combination thereof. In this gesture tradition, the expression and effectiveness of a gestural or physical event is reliant upon one's perception of the above-listed articulating devices. In my view, it is unfortunate that when taken by itself, the physical gesture, the actual performed event, is considered by many composers to be tangential material and of secondary importance. Gestures are relegated to the status of mere aural effects, while melodic, harmonic, and/or rhythmic materials are considered the primary receptacles for music's power. Experiential descriptions of observed sonic events are often foregrounded while

the necessary physical actions performed to yield these sounds are forced into the background and left unconsidered as compositional parameters.

In ...*empty spun-sugar shibboleth*... , I am concerned with constructing a musical environment that elevates physical, energetic, kinesthetic, haptic, reflexive and proprioceptive gestural movements to the level of primary compositional materials. This elevation inverts gesture's traditional reliance on articulatory devices to an opposite expectation where sound is secondary, yet observed as a welcomed, indeterminate byproduct. This expectation's dependence upon the mediation of disparate physical, gestural forces reveals an ecosystem where sound is communicated through physical gesture as opposed to gesture being communicated and defined through more well-known articulatory devices.

My goal is to create a situation where the manifestation, communication and even existence and nature of sound, tempo, timbre, dynamics, pitch, rhythm, phrasing, duration, etc., is dictated and defined by raw physical gesture. The effects of this gestural physicality on the performers' momentary physical state and the resulting, sometimes unintentional, sounds emitted are what ...*empty spun-sugar shibboleth*... seeks to activate and shape.

Setting this goal required me to reframe my own notions of the "performer". Composers (myself included) like to say that, even though we spend copious amount of time studying instruments and their mechanisms, we don't write for instruments, we write for humans. This implies that instrumental mechanics should not be the composer's sole consideration and speaks to the

importance of considering the performer-as-individual. Their respective strengths, weaknesses, unique skills and preferences influence the composition's identity. Remaining conscious that the music being written is not exclusively expressed by an instrument, but by a symbiotic reaction between performer and instrument forming a dynamic where the idiosyncrasies of the performer, and the construction of the instrument have a mutual, evolving effect on one another. For example, some sopranos have a relatively expansive lower range and some saxophone players can access higher pitches than others. Idiosyncratic chunks of information such as these inform the very nature of the respective composition (what is possible, what is comfortable, what is to be expected, etc.) Considering this definition, the performer identifies as a collection of learned, motor and cognitive performance skills, a constellation of acquired abilities influenced by past musical education. Their amount of practice, past mentors, performing experience, artistic pursuits, and musical proclivities are all determining factors of their identities-in-action.

This definition, despite its plausibility, is incomplete. Instead of a collection of acquired skills, the performer can be defined simply and treated as a human possessing a material body. Consciousness, unconsciousness, and a repertory of sensations all interface here. Rather than focusing on a narrow set of learned performance-specific motor skills which remain an active influence as they alter the physical make up of the body, the defining focus is expanded to consider the totality of the organic body. A unique psychophysical multiplicity of

all learned and unlearned functions can be considered here. Strengths, weaknesses, reflexive tendencies, abnormalities, medical histories, and endurance are all valid factors in addition to learned, performance-specific motor skills. For example, in the case of a vocalist, a cultural accent, a throat injury, asthma, or extra teeth, are all examples of unlearned, naturally ordained physical phenomena yielding a fundamental yet unintended influence on the identity of performed movements and sounds.

Furthermore, to “perform” is often defined as a fulfillment or adherence to imposed expectations. Performers are often primed to act with intent to achieve a specified goal. In *...empty spun-sugar shibboleth...*, the expectations set forth are extremely abstracted and often highly volatile casting the performer in a new frame. Here, with the obfuscation or absence of clear goals the performers are treated as “processors”. The performer’s unique physical system processes and responds to notational input in a similar manner of a music box. A music box processes its input (in the form of a punch-out score) and omits a realization whose sonic identity is determined by the physical construction of the processing music box. Structural material, reliability, and innate processing speed all construct the identity of the output. Thus, the same input can be given to disparate performers producing varying results. This implies that there is no definitive objective to achieve, but rather the perception and acceptance of chance-through-individualism.

The innate physical system of the performer acts as a fingerprint, a unique set of physical features that fundamentally embellishes performed sounds with identifying information. All movements made by a body are influenced by the body itself and therefore the existing physicality of the performer is largely responsible for the quality and feasibility of a given expression. Recent studies suggest that individual performers can be consistently identified solely by observed physical variations in “motion and timing parameters”³ occurring during performance. These performance hallmarks are the result of “non-deliberate, subjective and consistent motion variations...which [have] been shown to be sufficient to accurately identify a performer above chance level. Such variability is influenced by both biomechanics and cognitive factors in both space and time.”⁴ With these identifying motion variances being “non-deliberate” yet “consistent” it is apparent that innate physical and/or cognitive attributes effect resulting physical (and by extension sonic) performance in a fundamental, pronounced, and observable manner. These attributes are so strong that the resultant physical idiosyncrasies result in the detection of an individual identity, one that is not consciously pursued, but rather the result of organic psychophysical programming made evident through habits and features.

³ Baptiste Caramiaux, Frédéric Bevilacqua, Caroline Palmer, Marcelo Wanderley. Individuality in Piano Performance Depends on Skill Learning. 4th International Conference on Movement Computing MOCO 17, Jun 2017, London, United Kingdom. pp.1 - 7, 2017, Proceedings of 4th International Conference on Movement Computing. <10.1145/3077981.3078046>. <hal-01577872>

⁴ *ibid.*

In ...*empty spun-sugar shibboleth*... the unique, identity crafting, physical system of the performer and the rhizomatic, web-like relationships intertwining the embodied mind, the mechanical instrument, the musical notation and the dynamic environment coalesce to form a singular meta-performer. An unstable multiplicity no longer driven by a quantitative, measuring consciousness and performative absolutes, but rather a reflexive, indeterminate, haptic, qualitative feedback loop where gesture (and its raw material, physical movement) and the natural responsive modification of felt physical states are given primacy as expressive and formal devices.

II - Material: Gesture & Impossibility

...*empty spun-sugar shibboleth*... uses gestures, movements, reflexes and psychophysical trajectories as primary materials. For the purposes of this work, I offer a twofold definition of “gesture”:

1. The internal flow of strength in a movement⁵, and
2. The combined sensation of physical movements and sound.⁶

It is important to note that gestures used in this work are featured for their physical components. I also consider how selected gestures effect the performer physically and cognitively, how convincingly they can be notated, and their consistency of replication. Quite often, gestures are chosen without extensive consideration of sonic result and the resulting sound is reframed as a byproduct, borne from the bodies’ physical reactions to the notated kinesthetic input. I posit that movements, even when presented in silence, embody musical or sonic information. Often, the inherent musicality of movement is communicated through visual activity. For instance, imagine watching an intense shoot out or car chase scene with the television volume off. These events will still be communicated to you as being “loud”, due in part to the way we are conditioned by past experiences and observations but also due to the intensity and quality of

⁵ “Chapter 6: Gesture and Counterpoint.” *On Sonic Art*, by Trevor Wishart, Harwood Academic Publishers, 1996, pp. 109–126.

⁶ *ibid.*

actor's/actress' movements. Additionally, consider watching two people engage in a passionate and heated argument, communicating with each other silently exclusively through sign language. A bystander can clearly see that the movements are imbued with intensity, mass amounts of energy and sharp articulations which communicate a situation of passionate, excessive force. Such a situation, if translated aurally, would be unquestionably raucous.

Throughout the sketching process I visualized and organized this raw, gestural material in the form of, often simplistic, graphic shapes. Below in figure 1 you will find linear representations of a spiral and glissando:

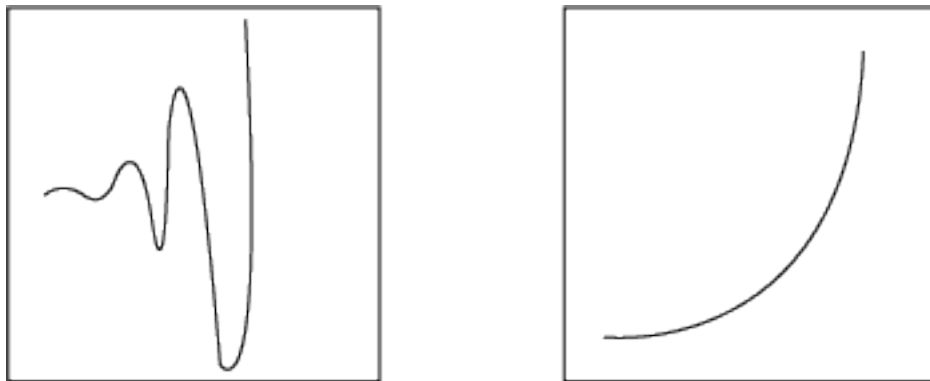


Fig. 1: representation of basic gestural shapes.

To expand and develop these shapes as formal materials, I applied a multitude of motivic transformation processes: inversion, retrograde, retrograde inversion, uniform or partial compression, uniform or partial expansion, shifting the shape around a fixed point etc.

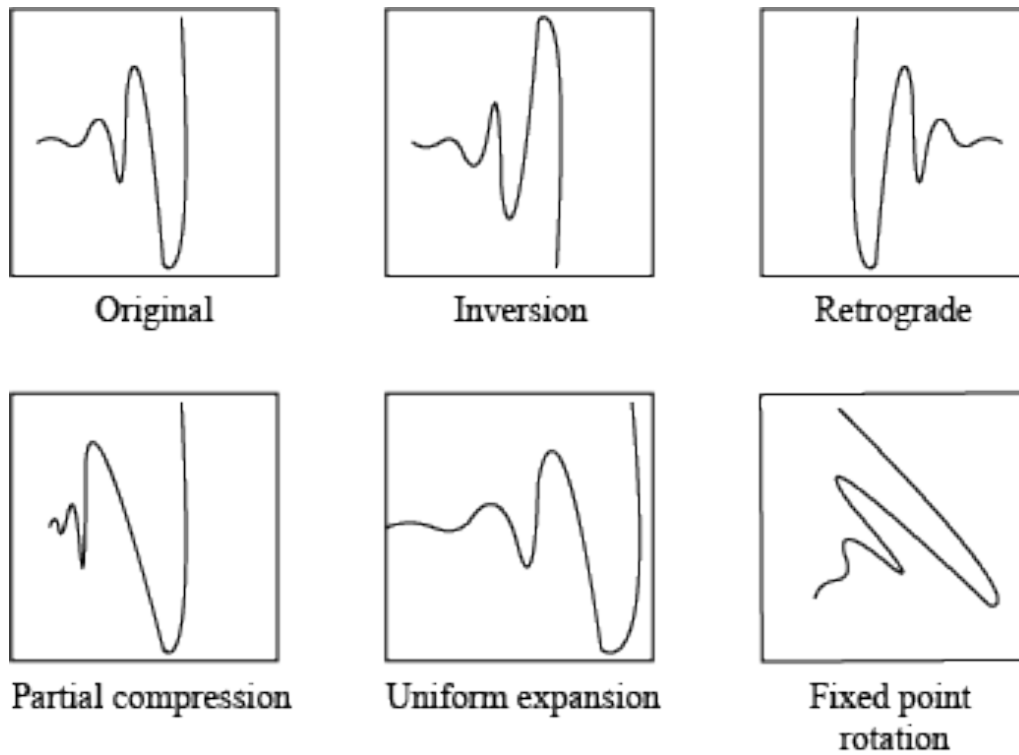


Fig. 2: Inversion, retrograde, partial compression, uniform expansion and fixed point rotation of a spiral shape.

Further experimentation was carried out by superimposing gestural shapes. For example, creating a single glissando gesture using other, smaller, less pronounced glissandi (a glissando-of-glissandi so to speak) or superimposing two circles onto a larger circle at two points, both of which can be viewed below:

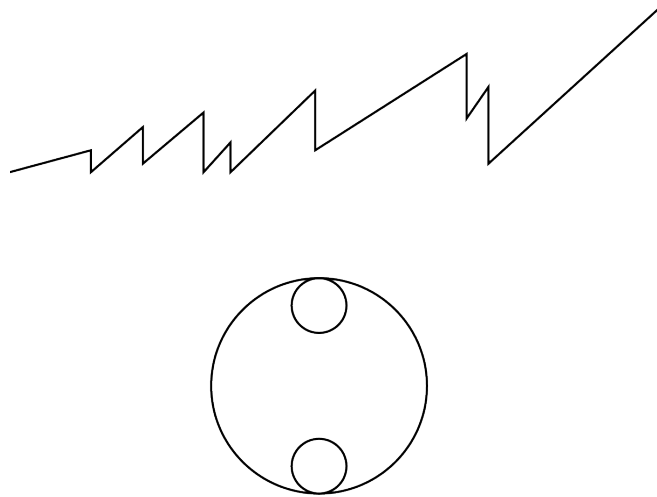


Fig. 3: Compounded shapes

After these initial experiments, I defined the physical locations of the performer that would perform these gestures. In *...empty spun-sugar shibboleth...* the performers are redefined as physical entities consisting of numerous independent, sound-producing, or sound-effecting, structures. The score graphically communicates assigned, choreographic actions in a process of subdermal parametric polyphony through which the performer is stratified into disparate sound-producing and/or effecting locales (E.g. mouth shape, tongue position, throat constriction, amount of air, embouchure tightness, finger pressure, width between fingers etc.). These locales are all made structurally and morphologically independent.

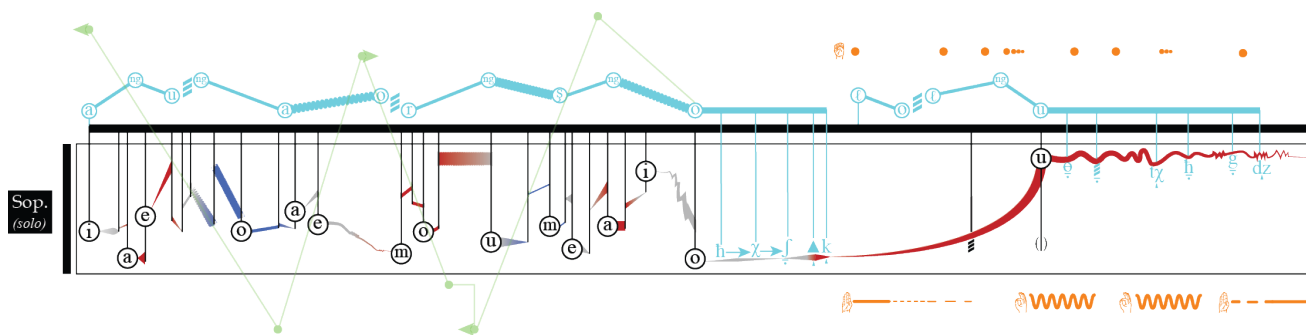


Fig. 4: Soprano excerpt from page 2 of *...empty spun-sugar shibboleth...* showing parametric polyphony.

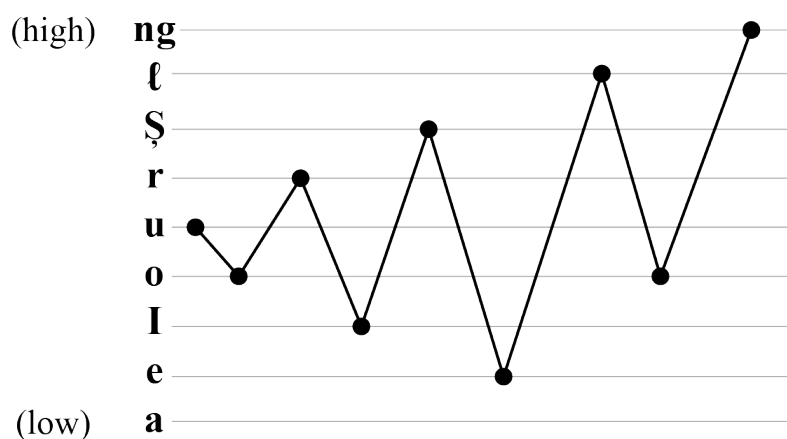
In the above example, mouth shape is represented by a circled vowel symbol, amount of air is shown by the size of the respective lines, throat phonation is expressed through color, information above the black beam in light blue shows movement of the tongue, green information shows orientation and position of the head, and orange notation indicates the use of hand percussion and/or filtration.

I then crafted a catalog of the available physical parameters and on which axis (x-axis, y-axis and/or z-axis) they operate:

X-Axis	Y-Axis	Z-Axis
Horizontal bow movements	Lateral bow movements	Finger pressure
Throat state/resistance	Mouth shape	Embouchure placement
Finger width	Tongue position	Bow pressure
Lip tension	Amount of air	
	Finger width	
	Pitch	

Fig. 5: Axis chart

Next the raw gestural shapes were mapped onto identified body locales and developed through transformational processes. In the figure below a spiral shape is applied to tongue position. The available tongue positions in the figure are arranged according to the tongue's vertical location. With "a" being the lowest and "ng" the highest. The spiral shape is then mapped onto this space. The initial sequence is then subjected to inversion, retrograde, and retrograde inversion:



Original: u - o - r - I - Ş - e - ℓ - o - ng

Inversion: u - r - o - Ş - I - ℓ - e - r - a

Retrograde: ng - o - ℓ - e - Ş - I - r - o - u

Retrograde Inversion: a - r - e - ℓ - I - Ş - o - r - u

Fig. 6: Transformation of a tongue position sequence.

The gestures created through this transformational process could be developed further by re-mapping their assignments like so:

1) Single-axis: material is transferred between two different locales but remains on its original axis of operation (E.g. y-axis parameter to different y-axis parameter)

2) Cross-axis: material transferred between two different locales and applied to a different axis (E.g. y-axis material applied to z-axis)

3) Intra-performer: material moved or shared between different parameters active within a single performer (E.g. mouth shape information transferred to tongue motion)

4) Inter-performer: material from a similar or different parameter moved from one performer to another (E.g. finger pressure of cello moved to tongue position in soprano)

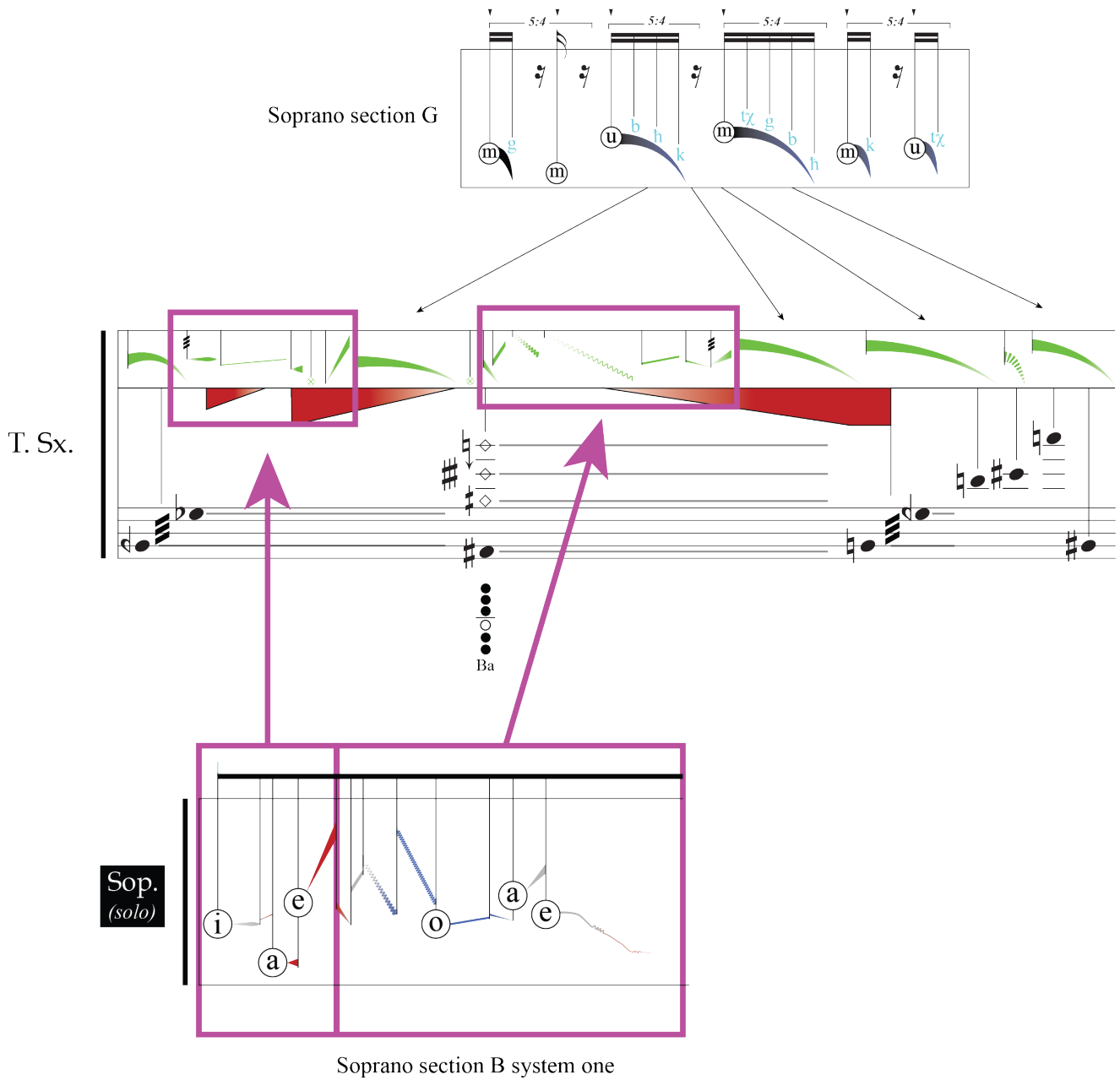


Fig. 7: Gestural transference between performers

In figure 7 above, the pitch and dynamic information from the soprano (at section “B”) is modified by transformation techniques and applied to embouchure position and dynamics in the tenor saxophone part (at section “O”). A prominent gesture from the soprano part at “G” is interpolated between two instances derived from section “B” material. Information representing pitch in sections “B” and “G” now represents embouchure movement. Information relating to dynamics (expressed by the size of the line) is shared as it remains unaltered.

These forces, populating a single body, engage in a crucial process of perpetual, real-time mediation where the independent parameter streams are colliding, engulfing, obfuscating and fusing amongst each other, as they are forcefully folded into a single, composite amalgamation of gestural information, expressed through and experienced by a single vehicle (voice or instrument). How these parameters are mediated is determined by the idiosyncrasies of the performer’s body, their momentary physical and cognitive state, and any changes of these states occurring during performance.

The actual resulting sound is runoff energy expelled during the reactive mediation of internal forces, a futile byproduct whose experienced identity is a result of the performed physical gestures as mediated and filtered by the performer’s corporeal system. Any information concerning pitch, rhythm, duration, dynamics, timbre, or similar parameters is no longer a means of intentional expression constructing the identity of gestural shape, but a series of

unintentional gaffs created through momentary, psychophysically determined mediation.

III - Form: Mediation, Physical States & Feedback Loop

“The ruin is built into the creation” - Don DeLillo ⁷

The architectural crux of *...empty spun-sugar shibboleth...* is its complex treatment of psychophysical states defined by relative levels of comfort and overwhelm, as well as the type of generative mediation process. These psychophysical states are visceral experiences filtering all perceived and movement-based input, dictating how much, and what kind of, information is assimilated from the notation, what types of movements and sounds are possible, and the physical character of performed movements and sounds. These psychophysical states are measured and experienced on various continuums accommodating such contrasts as comfort/discomfort, focus/overwhelm, energetic/lethargic, impossibility/plausibility, and density/sparsity.

In practice, a given state may have six independently active physical parameters, which I have notated in the score relatively abstractly. These states and their parameters are to be performed in a fast tempo. Here the performer experiences excessive overstimulation to the point of impossibility, physically projecting an awkward, discomfoting failure to realize these movements in performance. As seen in Figure 8, the cellist is given dense, stratified gestures in an abstracted notation with a duration of seven seconds. It is psychophysically

⁷ *White Noise*, by Don DeLillo, Penguin Group, 1986, p. 258.

impossible for the performer to decode the notation and perform given the duration's brevity.

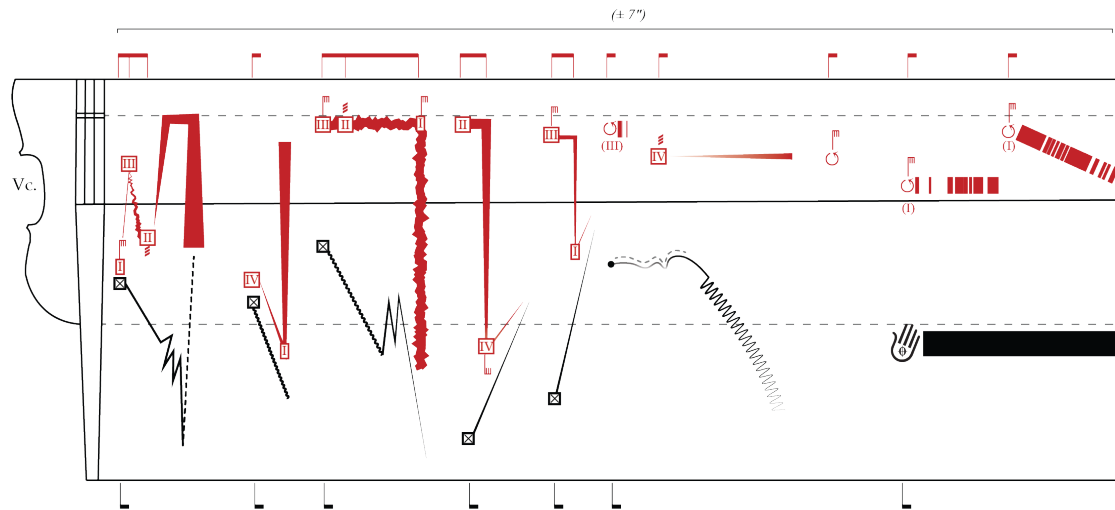


Fig. 8: Cello excerpt from page 18 of *...empty spun-sugar shibboleth...*

Shifts between successive psychophysical states are facilitated by changes in raw gestural input involving the degree of parametric polyphony, degree of impossibility, operative dynamic environment, and type of notation. These shifts function as formally significant musical markers that may not be observable by the audience or even upon close analysis. Instead, they are experienced deeply in the moment of performance.

We all experience psychophysical states in everyday life. Common states include fatigue, illness, stress, frustration and various physical afflictions like sprains, impaired vision, or sore throat. Within these states, available physical and/or cognitive facilities are concretely defined by physical experience. For example, if you're tired you will often experience lack of concentration, slower

motor skills, lack of energy, or aching limbs, all of which alter your physical and mental systems. There are inherent impossibilities that serve to define the boundaries and nature of psychophysical states. If a patient recently received eye surgery and cannot see clearly for a certain time the patient will be unable to identify the color, size and shape of visual stimuli. Once the state changes, and the patient's visual abilities are recovered, the activities that are deemed "possible" shift, unlocking a different set of possibilities, expanding upon a shared set of possibilities, or in some cases, decreasing the number of possibilities.

When these states shift, the performer experiences "real movement".

Henri Bergson states that "real movement is rather *transference of a state* than of a thing."⁸ As these psychophysical states change, the motion is palpable for the performers. Due to the internal nature of cognitive assimilation and kinesthetic expression, meaning is encoded, consciously or reflexively, to every performed movement. The substance of this meaning is predicated on the movement's intuitive effect on the current psychophysical state. Movements which mitigate physical discomfort are imbued with a positive connotation while movements which increase or sustain physical discomfort are felt as destabilizing. Thus, in my music, if a state is defined by extreme throat constriction for an extended period of time and finally the score indicates relaxation of the throat, this movement will be experienced as a relief with the movement of relaxing the

⁸ "Duration and Tension." *Matter and Memory*, by Henri Bergson, Dover, 2004, pp. 267–277. Italics mine.

throat as responsible for this release. In this case, the resulting new state will be relatively more relaxed and manageable.

The form of *...empty spun-sugar shibboleth...* is driven by controlling how and when these psychophysical states change. These states are constructed, defined and controlled by the existence of and changes within a rhizomatic⁹, web-like feedback loop comprising four areas that simultaneously effect and are effected by each other: embodied mind, mechanical instrument, dynamic environment and notation.

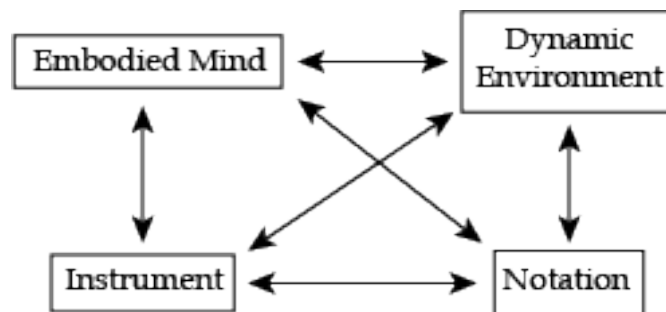


Fig.9: Rhizomatic web

Embodied mind

The performer as embodied mind includes both the physical body and its cognitive processes. It is the “object” that experiences the psychophysical state and is controlled by variances in parametric polyphony. Degree of impossibility

⁹ The Deleuzian rhizome. A non-hierarchical model, with no beginning or end, which continuously develops cross-dimensional links and communications.

and qualities of mediation and gesture are also paramount considerations in the expressive world of *...empty spun-sugar shibboleth...*

The number of active, independent parameters is used as a formal tool, often resulting in material that is intentionally physically impossible to perform and/or cognitively impossible to assimilate. Generally, the greater the number of active parameters the more implausible a passage becomes. Additionally, the nature of the relationships between active parameters can be manipulated. When the independence between active parameters increases, the level of impossibility follows suit.

The inspiration to explore impossibility was a natural step in my progression as a composer. I have long been drawn to complexity and my work is typically very challenging to perform. I decided to embrace this tendency and discovered that there has been some work done with purposeful impossibility in dance, namely in the work of choreographer William Forsythe.

In his 2013 installation work entitled *Towards the Diagnostic Gaze* the observer confronts a simple feather duster placed on a stone table. Engraved into the stone table are the instructions “HOLD THE OBJECT ABSOLUTELY STILL”. When attempted, this is judged to be impossible as the feather duster will respond to and amplify any micro-movements or tremblings of your hands.

Text from the installation offer a reflection on this impossibility:

“Towards the Diagnostic Gaze challenges visitors to become aware of the ceaseless and imperceptible mechanical activities of the body’s muscular and nervous systems. Despite the relatively simple instruction, it is impossible to hold the feather duster ‘absolutely’ still - the tiniest vibration registers in the

trembling of the feathers, which act like extensions of limbs. This awareness is key for Forsythe, who characterizes choreography as an expansive medium through which unconscious, instinctive thinking actions are realized in material form: ‘Essentially, what I often attempt to do is to illuminate phenomena that are so fully integrated into our unconscious physical selves that they have become invisible to us’¹⁰

Forsythe identifies constant, invisible, “mechanical activities” occurring within the body and through this work renders them visible, in turn provoking awareness of their existence. From experiencing this installation I realized that the degree of impossibility, and the effectiveness of successive attempts to achieve this futile goal largely depends on an experienced psychophysical state. If, when holding the duster, you are extremely hungry you may experience more frequent, pronounced hand tremors due to low blood sugar. You may have just undergone hand surgery and don’t have nuanced control of your hand, making the task more difficult. By constructing and automating the degree of physical impossibility, the experienced state can be changed which in turn effects the nature of attempted movement.

In *...empty spun-sugar shibboleth...*, impossibility functions on two levels simultaneously: physical and cognitive. Physical impossibility occurs when the performer is asked to synthesize absurd stimulus levels and often conflicting information into a performance. The impossibility may be derived from the motions, the natural physical state, the momentary physical state, or the nature of the instrument. Impossibility is used to destabilize the performer through the

¹⁰ Wall text for *Towards the Diagnostic Gaze*, by William Forsythe. William Forsythe: Choreographic Objects, Oct. 31, 2018 - Feb. 21, 2019, Institute of Contemporary Art, Boston

activation of physical structures in unconventional, awkward ways, distancing them from any learned performance behaviors or expectations and thus allowing the idiosyncratic, sub-dermal, reflexive feedback of the physical system to dictate performance decisions and results.

Cognitively, the performer experiences an unsettling dissonance where they are made aware that they are not achieving what is seen on the page. In the case of Western concert musicians, this likely elicits stress or self-criticism (despite the fact that in this context failure is considered desirable). By inundating the performer with the sheer number and difficulty of tasks to assimilate, they are distanced from their habitually measurement-oriented Western-conservatory-trained mind. The performer enters into a type of physically driven, survival mode.

Evolutionarily, survival depended on an individual's ability to rapidly, smoothly and accurately gather critical information from immediate surroundings and process a response to selected stimuli when warranted. By overwhelming the performer with information, and foregrounding the awareness of their constant failure to faithfully perform what is on the page, the typically conscious, goal-oriented, *modus operandi* is abandoned and the performer necessarily assumes a plant-like, survival-oriented state in which any expressed physical actions are reflexive, qualitative responses to the existing psychophysical environment. This is similar to the way some plant roots, when presented with various paths, will opt to follow the path providing access to water. Plants can interpret which direction

they need to grow in order to maintain or maximize survival. When performers enter this mindset, there is next to no conscious, aesthetic shaping of the performance, but rather an essential survivalist desire to persist, thereby defaulting performative control to organic, real-time physical responses.

In this cognitive mind-set, the body's state and proprioceptive awareness are of paramount importance, as they are largely responsible for the characters of any movements. In patients afflicted with transient global amnesia, there is no memory of the recent past, and every ninety seconds any memories formed within that time frame are forgotten. Then this loop starts over again. In many cases, the immediate information the patient requests is “where am I?” or “when am I?” Answers to these questions are vitally important for survival. The patients become proverbial “broken records” and like machines, eerily expel, almost verbatim, the same questions over and over.¹¹

Here, the brain is stuck in a static state and is experiencing the same input (same doctor, same people in the room, same hospital room). Like a machine, the brain expels the same output in the form of repeated questions. It is quite clear that in this situation the conscious, measuring mind is subverted. The brain has defaulted to survival mode and has placed any other non-essential information in the background. This is a physical system, one that is not being influenced by a consciousness or by desires, but by a hard-wired, physical impetus. Impossibility

¹¹ Abumrad, Jad and Krulwich, Robert. “Loops” *Radiolab*, WYNC Studios, 11 Feb. 2019. <https://www.wnycstudios.org/story/radiolab-loops>

incites a similar state for the performer where the hard-wired physical reflexes are foregrounded and become responsible for any and all movements and sounds.

Mechanical Instrument

Impossibility is also active in both the vocal and instrumental writing of *...empty spun-sugar shibboleth...* The frequent use of extreme registers or wide intervallic leaps serves as a tool to place stress on the mechanics of the instrument, as well as the performer's attention to execution. The instrument is the interpretive vessel of the mediated gestural energy stream and further responds to and morphs any kinesthetic input. With the instrument being mechanically taxed, it comes to function as an unpredictable, unreliable refraction device.

Dynamic environment

In addition to the corporeal elements, Bergson posits that movements describe the spaces in which they operate.¹² In *...empty spun-sugar shibboleth...*, dynamic environments ("spaces" where movements occur) are constructed and automated. Dynamic "attractors" serve as magnetic forces which require the performer to adjust sounds to achieve the prevailing dynamic. Extremely quiet (*pppp*) and extremely loud (*ffff*) attractors are used. Often times the actions prescribed in a given attractor are paradoxical; for instance, singing a high pitch with maximum air pressure while remaining as soft as possible. In these

¹² Bergson, 2004

paradoxical cases, the performer will achieve the natural dynamic level (in this case, a loud vocal event) yet immediately make adjustments to their physical system to achieve the indicated dynamic goal.

Figure 10 has the viola perform *col legno battuto* and overpressure passages while a paradoxical *pppp* attractor is active.

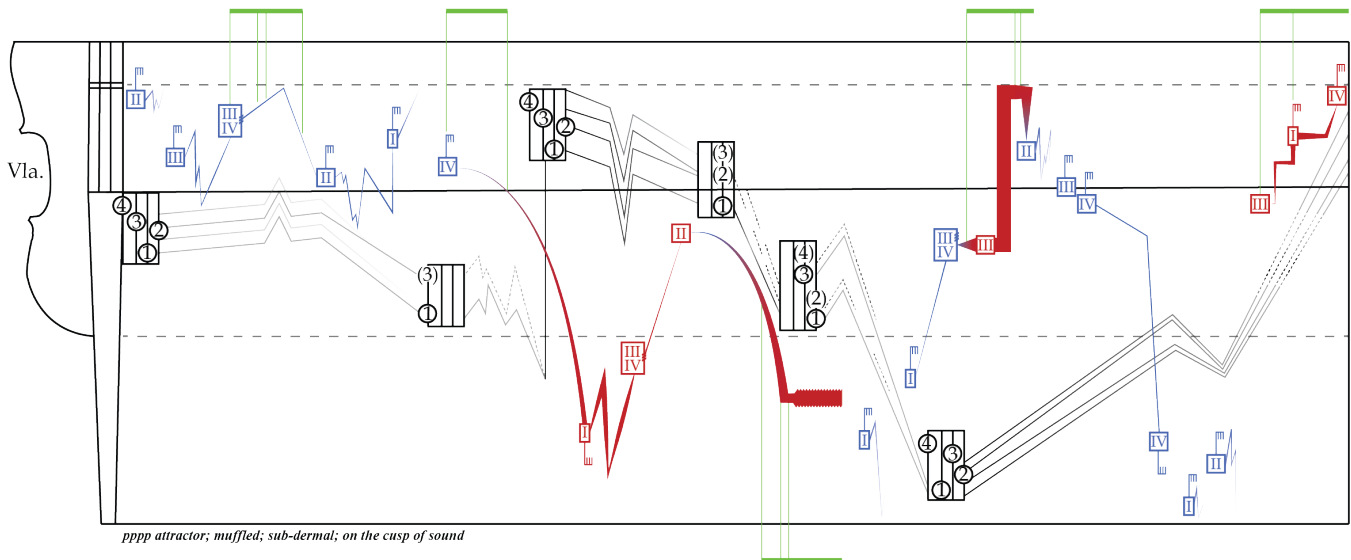


Fig. 10: Viola excerpt, page 10 of *...empty spun-sugar shibboleth...*

In addition to dynamic attractors, “negative dynamics” act as another environmental descriptor. Negative dynamics act as an inversion of gestural goals. In most cases, gestures have an innate musicality, an intention or proclivity to produce sound. Here, the goal of the gestures is to preserve silence while engaging in activities which are attempting to create sound. In a passage employing negative dynamics, the performer is to physically realize the physical

states necessary to perform the indicated material whilst remaining completely silent. For example, if a loud high vocal pitch is notated the performer is to achieve the physical state which facilitates this event in normal performance *but remain silent*. This is a blatantly impossible request to engage in sonic brinkmanship, straddling the line between sound and silence. When sounds do result they are accidental and imbued with a hesitant instability and strained demeanor. Looking back at the soprano passage in figure 4, the intense notated events are to be performed *silently!*

Through the use of negative dynamics, the lines between gesture types are blurred. There are three distinct types of gestures:

1) Sound-producing: the parameter/gesture is directly involved in producing the resulting sound.

2) Sound-effecting: parameters/gestures that are not directly responsible for existence of sound but function as a way to control, alter or filter the sound. Often responsible for timbre.

3) Sound-adjacent: parameters/gestures that are not involved in sound production or effect the sound in any audible, measurable way. More of a visual accompaniment to the sound, an aspect of performance.

In sections of *...empty spun-sugar shibboleth...* employing negative dynamics, I set out to explore the gray area between “sound-effecting” and

“sound-adjacent”. At section “B” (page 2 of score; excerpt found in figure 4) the soprano performs intense, conceptually, and visually, “loud” material with many independent progressing parameters while instructed to remain silent.

Simultaneously, she is asked to move her head horizontally and vertically following the notation in green and use her hands in various forms of body percussion. In a normal dynamic environment, this movement of head and hands would have no effect on sound, they could be classified as sound-adjacent. In this extreme case where silence is the goal, the movement of the head and hands changes the alignment and nature of the physical system on some occasions, so much so that audible sound is unintentionally emitted. Negative dynamics produce a fraught yet delicate environment where the slightest perturbation, in this case movement of the head, can galvanize the catastrophe of sound. In addition, this ultra-delicate environment fundamentally changes the movement of the head from a gesture normally considered sound-adjacent into a sound-effecting gesture. A small, usually negligent, shift in physical position results in a fundamental change in performance.

Notation

...*empty spun-sugar shibboleth*..., employs numerous notational formats and explores the strange intersection between specificity and ambiguity. The presentation of highly specific, repeatable choreographic actions results in indeterminate sounds. Notation-style shifts alter the way performers interface with

the material by frequently shifting the “a=b” relationship between what is seen and what is heard.

By changing the mechanism of communication between score and performer, the a=b relationship between score and sound can be controlled and used to influence the performer. Notational changes can create maximum clarity where there exists a relatively clear a=b relationship between notation and sounding result. An example of this in ...*empty spun-sugar shibboleth*... can be found in the bass flute seen below in figure 11. Here familiar notational hallmarks such as, time signatures and staff systems, are used. These are relatable devices on which the performer can build a relative sense of clarity. On the other hand, notation can serve as a tool to muddle this relationship and force a fissure between score and sound. This is evident in the bass flute part shown in figure 12. In this section abstract phonetic symbols and subjective graphics are used as a means to unground the performer. Notation contributes to the active psychophysical state by deciding the difficulty of assimilation and destroying the typical a=b correlation and further serving to influence the performer on a psychological level.

B.Fl.

r u ha g z du k piñ b vør ş g ya k p

Fig. 11: Bass flute excerpt from page 15 of *...empty spun-sugar shibboleth...*

score

B.Fl.

f (iʒa) zɪ h g k f s zɪ ai f (iʒy) k t vɪ z g k hu

Fig. 12: Bass flute excerpt from page 27 of *...empty spun-sugar shibboleth...*

score

Rhizomatic Web

As introduced in figure 9, the embodied mind, mechanical instrument, dynamic environment and notational format continuously effect and are effected by one another. Figure 13 offers a detailed depiction of the rhizomatic web.

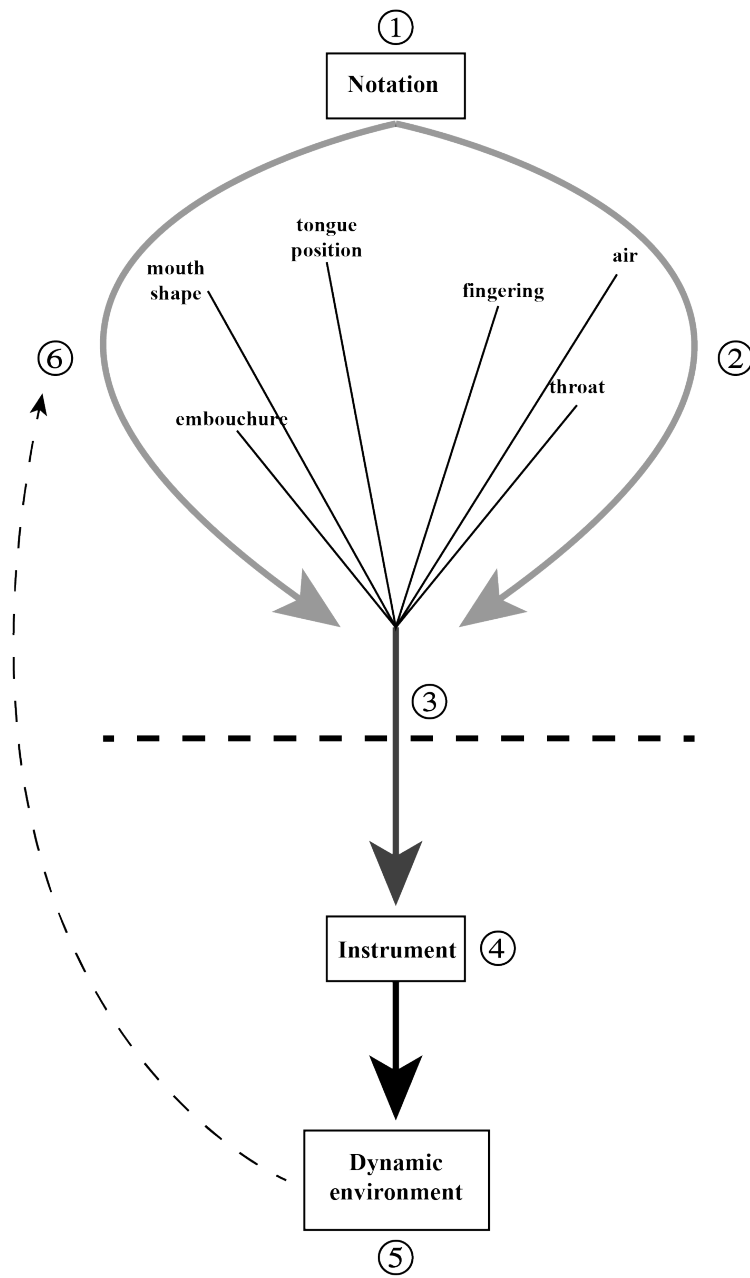


Fig. 13: Rhizomatic web example

- 1) The notation is observed by the performer. Its relative abstraction influence how much and how quickly information can be assimilated
- 2) The performer attempts to perform what is on the page. The active parameters are folded together into a single energy stream through mediation
- 3) The energy stream is expressed by the body
- 4) The energy stream enters and interacts with the instrument and its respective physical idiosyncrasies
- 5) Sound is coming from the instrument and interacting with the constructed dynamic space. If the environment is defined by a *pppp* attractor and a loud sound is expelled, the performer must make adjustments in the active parameters to achieve the prevailing dynamic. This creates a new energy stream and the loop continues.

IV - Conclusion & Further Experimentation

The elevation of physicality to primary material was a successful move and achieved my desired textures. Increased focus on the gestural created a unique sound world with intense expressive, theatrical, and acoustic traits. However, the initial goal of physical reflexivity as driving force was not completely achieved as many performative expectations and goals were constructed by the score and superimposed by individual performers.

In my previous experiments working towards this goal, such as the piece *...most of Us²⁷...*, I worked with soloists, in this case a soprano vocalist. In this context the work's temporality remained flexible and responsive to physical feedback because there was no responsibility to cue or be cued by other performers. Also important in the case of *...most of Us²⁷...* is that little to no textural expectations are expressed in the score. The score completely focuses on choreographic actions and does nothing to construct performative intent. Thus, I feel that this earlier solo work is more complete in achieving the stated goal.

The ensemble context of *...empty spun-sugar shibboleth...* creates a situation where alignments and cues between performers are important facilitations. Hence, in the score there are specific duration indications for each section, specific marks for cues, and specific textural descriptors. While there are sections where the performers progress independently, reminiscent of the earlier

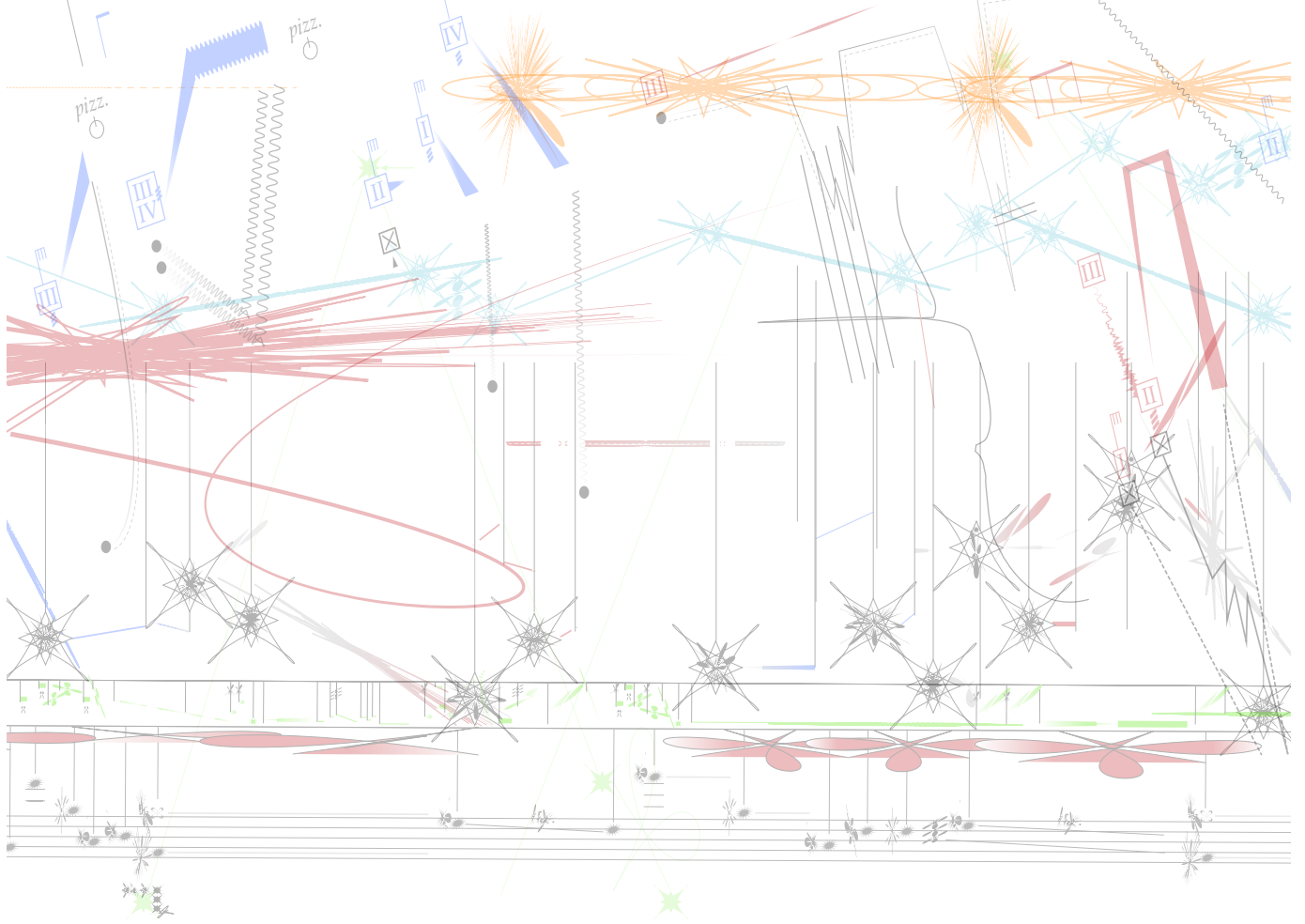
solo work, the presentation of duration, texture descriptors, and cues clearly suggest the sonic intention of the composer.

When the performers see this information they, out of habit, extrapolate a specific sonic intent and direct more focus and craft toward the realization of this sonic goal rather than directing attention to actual gestures. This was quite evident throughout the rehearsal process for *...empty spun-sugar shibboleth...* A recurring rehearsal topic was formal synchronicity. Bass flutist Orlando Cela assumed a conductorial role to signify duration, cues and formal location.

At the onset of rehearsals, saxophonist Philipp Stäudlin felt ungrounded and perplexed by the conceptual and notational paradigms. In fact, after the successful premiere, Philipp confided that he “never faked a performance so much in his life”. It appears what Philipp perceives as “faking” is based on the unusual situation of having no specified outcome and instead attempting to realize blatantly impossible information which provokes frequent and public failures. “Faking” implies that Philipp had constructed and imposed a performative outcome and is acutely aware of his shortcomings encountered in its pursuit. Personally, I feel Philipp’s performance and interpretation was a resounding success. The fact Philipp is aware of, what he perceives as, failure, speaks to the influence intentional impossibility and experienced failure commands in performance. In other words, Philipp’s “failure” is *...empty spun-sugar shibboleth...*’s success.

This being said, this project has led me to conceive of new threads I will explore, hopefully leading to new means of reaching this goal. It is clear that, in an ensemble setting, eliminating the expectations created by cues and textural intentions through establishing independent and non-referential relations between performers is paramount. With the responsibility of sonic intent, vertical unity, and formal linearity eliminated, reflexive responses to physical input can be championed.

Currently, how the performer responds to their physical states is subjective and abstract. It would be interesting to construct an interactive fluid score mediated through a tablet running an application. I imagine an interface akin to a treadmill where the performer follows a “training program” (a pre-programmed sequence of resistance, incline and, speed values) whose parameters and trajectory can be adjusted at will. At a fixed time interval, performers will be presented with a push notification. Through these notifications, real-time adjustments can be made to the degree of impossibility, speed, dynamics, notation or any given parameter. The score will then adjust changing its requirements based on the physical data. It is quite clear that if a performance’s absolute identity is to be based on haptic responses and the elimination of conscious intent, independence and malleable scores are necessities.



...empty spun-sugar shibboleth...

for ensemble
Ryan Carraher

For:

JMcD
&
DFW

"You already know the difference between the size and speed of everything that flashes through you and the tiny inadequate bit of it all you can ever let anyone know. As though inside you is this enormous room full of what seems like everything in the universe at one time or another and yet the only parts that get out have to somehow squeeze out through one of those tiny keyholes you see under the knob in older doors. As if we are all trying to see each other through these tiny keyholes."

- David Foster Wallace
Good Old Neon

"The ruin is built into the creation"

- Don DeLillo
White Noise

"It's...it happens...the muscles do it-' then recalling an old trainer's words-'it's muscular," smiling beautifully and already, by the act, conscripted, already cannon fodder, the pale bar-light across the grating of his close-shaved skull-'it's reflexes, you see...Not me...Just the reflexes"

- Thomas Pynchon
Gravity's Rainbow

Instrumentation: Bass flute, Tenor saxophone, Soprano voice, Viola and Cello

Duration: ca. 24'

Conceptual/Contextual Remarks

Considering the nature of this piece, and the concepts that lead to it, here is some background of the three main concepts:

1) Impossibility

...empty spun-sugar shibboleth... is impossible to be performed exactly as written. This is intentional. In fact, this work cannot be performed as written on purpose. The piece should be viewed as a futile, unglamorous, but very dignified human, struggle towards an unattainable ideal. The score aims to choreograph a physical and psychological brinkmanship that is deliberately just beyond reach. Each performer is asked to serve as a human "environment", activating multiple physical zones (i.e. mouth, tongue, fingers, hands, air, throat etc.)

The score presents a "sub-dermal parametric polyphony" existing in a single body. Each performer (or body) focuses expression through a single vehicle (voice or instrument). These stratified actions clash, cancel, amplify, and/or destroy one another in a process of real-time mediation as they are filtered through the performer's unique physical system and/or the physical nature of their respective instruments. Concepts relating to duration, phrasing, velocity, friction, sustainability, manifestation, audibility, pitch and concrete shape are impacted by the performers' failure to realize the page's demands. Nevertheless, it is crucial the performer *approach this work with the intent to perform it exactly as written.*

Often, the score presents too much information causing overstimulation and resulting in system failure. This will lead to situations that, in reality, do not manifest audibly in performance. This is okay. These situations are designed to influence the performer's psychophysical and proprioceptive spaces and they should always be attempted even if they do not sound in performance or if the performer discovers they will not audibly signify. The effect is meant to be experienced as a mechanism to control the level of overwhelm and clutter present in the performer's multi-tasking event space. Any sounds these actions do create are welcomed by-products; no natural, unpredicted or unintended response to the presented choreography should be concealed or curtailed in any way, it is precisely these responses which constitute the character of *...empty spun-sugar shibboleth...*

2) Notation

In *...empty spun-sugar shibboleth...* notation is elevated to function as a primary material. This work largely explores communication, namely the failure of communication. Here, notation is a form of communication and various incarnations and styles are used to support or deny effective communication. This work uses and shifts between many different, contrasting forms of notation in an effort to not only define the momentary psychological and physical states and intentions of the performers as individuals, but also to shape and change their unique relationship to the score itself and the very process, and level of ease, with which they extract and interpret information from the score.

Each form of notation can be labeled with a "degree of prescription" (a spectrum of the rigidity, possibility and likelihood of a descriptive a=b relationship between what is presented on the page and what is actual realized). Many notational forms yield more questions than answers and rely on the performer's interpretation while others happen to more straightforward and accessible. For example, section "M" is largely "traditional" notation and suggests more attention to accuracy, a heightened a=b relationship between score and performance, while sections "F" and "O" are highly prescriptive, abstract and open to a certain amount of interpretation.

The performance of the score is a verdict on its value as a communicative object. Traditionally, a score is notated meticulously to eliminate doubt and allow for a certain performance which can be, more-or-less, replicated. In *...empty spun-sugar shibboleth...* the score is still meticulous and implies meaning, specific formal events and textural environments but, in its most abstract areas, it fails to be clear, conjures confusion and is intentionally vague to force the performer to interface with it differently and to rely on personal interpretation and haptic feedback.

3) Degree of Interface

The last aspect to consider is the degree of interface and relationships between not only the individual performers, but between the individual physical strata activated within each performer at any particular moment. There are moments of unison, moments of support, amplification, cancellation and/or destruction as well as moments of absolute independence or moments that are based on a series of visual cues. The communal dynamic at play in any given section can be inferred by the notation and should be taken into account when making any performative extrapolations from the score.

Negative Dynamics & Dynamic Attractors

Portions of *...empty spun-sugar shibboleth...* utilize "negative dynamics". Here, an inversion/reappropriation of the goal(s) of physical actions is called for. Rather than approaching these physical actions with the usual intent to produce sound, the goal is to perform these actions, complete with their normal vigor, physical state and energy whilst *remaining silent*. Here, the use of the term "negative" does not imply a cancellation, absence or negation, but implies a "positive negativity" as the goal to achieve and maintain silence does not negate the on-going physical presence of physical actions (which become experienced in a highly internal, cryptic way) and the realization of audible sonic events is not completely nullified as these events will inevitably (and welcome) result, but, in this context, audibly and expressively reframed as unintentional, accidental and/or unpredicted.

The critical issue is that the performer attempt to realize/achieve the natural physical state associated with each action. For example, if a high vocal pitch is notated at a loud dynamic, this implies use of maximum energy, a certain position/state of the glottis and myriad other alignments of anatomical structures. In this mentioned situation, the performer should achieve the physical states associate with the "loud" notated event, physically act in the same way as if they were going to perform the action normally, utilize the same amount of energy and achieve the required physical state but remain silent. These actions will often be visually loud yet conflicted and this should be embraced (imagine watching an intense criminal interrogation scene where the detective is clearly screaming wildly at the suspect but you have the volume on your TV off). When the inevitable sounds do manifest, the performer should adjust their physical state to once again achieve silence. This is akin to an abstract incarnation of "whack-a-mole" where once the goal is achieved (you have successfully "whacked" a mole; or effectively achieved silence) another issue presents itself (a new mole arises; unintentional sound slips out) and needs to be dealt with ("whacked" once again; adjusted so silence is achieved once more).

Negative dynamics are indicated by the instruments name on the score (left most side of the system) by the following "negative" color scheme:

B.Fl. T.Sx. Sop. Vla. Vc.

Negative Dynamics & Dynamic Attractors (Cont.)

This “whack-a-mole” analogy, leads to the use of dynamic attractors. Dynamic attractors are omnipresent forces which define and create an environment, effecting all events under their jurisdiction. In ...*empty spun-sugar shibboleth*... two dynamic attractors are used: *pppp* and *ffff*.

pppp attractor: every event notated should be performed *as soft as possible*, constantly on the edge between silence and sound. Often times paradoxical, conflicting information will be found (see the example above regarding the loud, high vocal pitch) and this task will become extremely engaging and difficult. When the inevitable “non-pppp” sound results, the physical apparatus should be adjusted (see “whack-a-mole”) so that pppp is once again achieved.

ffff attractor: this attractor functions in the same way, but instead of setting pppp as the magnetic force that all physical actions should be pulled and adjusted towards, the goal is *ffff* or *as loud as possible* which often times will result in extreme use of energy leading to the production of unintended, unpredictable and unstable sonorities.

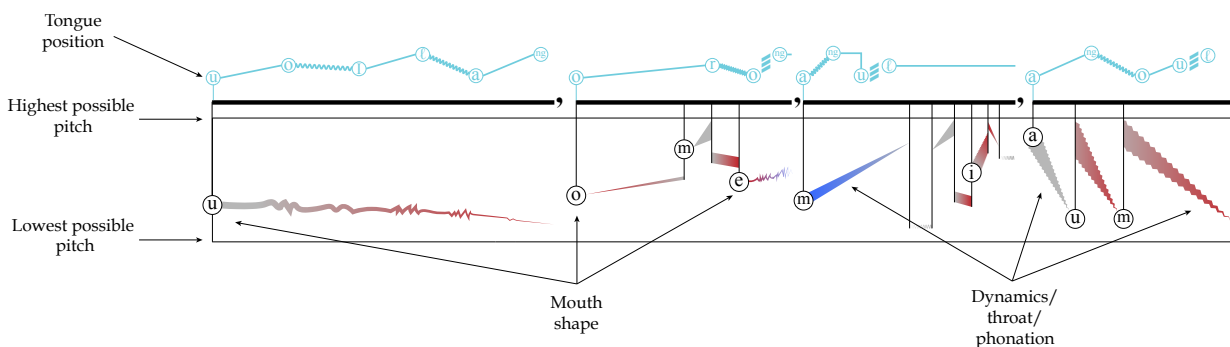
Dynamic attractors and negative dynamics can function on a individual level (effecting one instrument only etc.) in which case, verbal notation will be presented adjacent to the effected instrument. Or, they can apply on a group level (effecting all instruments or an indicated group of instruments) in which case there will be a verbal indication next to the rehearsal mark and/or next to any/all effected instruments.

General Performance Considerations

- 1) All trills and tremolos (pitch-based or voice-based/ phonemic) are irregular and should express no discernible pattern(s)
- 2) For the soprano, and the vocal elements encountered in the bass flute and tenor saxophone, the performer is encouraged to use the full range of their voice (i.e. normal voice, head voice, chest voice, falsetto etc.)
- 3) Time stamps/markers are provided as means to structure form and any performance cues but they need not be interpreted strictly; they may be treated as open suggestions or a general ballpark estimate of the section
- 4) At no time should the performer attempt to perform anything that will cause damage to performative health. However, actions viewed or felt as uncomfortable and unusual should be attempted as they amplify the strained, unpredictable sonic landscape.
- 5) It may be useful to think of the phenomenon of “Latah” where a diagnosed individual is compelled to mimic/interpret/assimilate/embody all of the physical gestures they observe. When they observe more than one gesture simultaneously, they attempt to mimic the observed multiplicity, resulting in a composite gesture.
- 6) The score should be printed on 11x17 paper for maximum legibility
- 7) This work may be performed with amplification
- 8) Instruments are transposed

Vocal Notation - Soprano

Due to the use of different notational methods, each one will be looked at individually.



Mouth Shapes:

(N.B. these markings serve to notate physical mouth shape rather than vowel sound)

- Ⓐ = exaggerated open, tall, vertical shape (Father)
- Ⓘ = spread, horizontal, nearly oval-like (Need)
- Ⓒ = similar to above but opened a bit more (egg)
- ⓪ = cartoonishly rounded (oh)
- Ⓤ = rounded yet narrow with pursed lips (Wound)
- Ⓜ = mouth closed, as if humming

When a stem is seen with no mouth shape; the most recent mouth shape remains in effect

There is always, smooth transitioning between mouth shapes

Tongue Positions:

(N.B. these markings serve to notate physical tongue location rather than phoneme's sound)

- Ⓐ Ⓒ Ⓤ Ⓜ = refer to the tongue positions of the indicated vowels
- Ⓘ = tongue almost concave, tip bent close to top front teeth (nice)
- ⓪ = tongue bent, located in center of mouth but pointing towards roof of mouth (nothing)
- Ⓘ = tongue bent, located in center of mouth but pointing towards roof of mouth (error)
- Ⓘ = forward, behind top front teeth, fatter and less pointed tongue (evil)
- Ⓢ = nearly parallel to palette, when combined with a vowel shape, the tongue will extend past lips (shh)

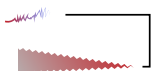
Throat State:

- = normal/naturally sung/pure tone
- = extremely constricted/rough/abrasive/unstable/strained/vocal fry
- = ingressive phonation/inhale
- = (found when pppp dynamic attractor or negative dynamics are in effect) disregard the restrictions of any imposed dynamic ruling and sing with intensity
- = transition between two states




Vocal Notation - Soprano (Cont.)

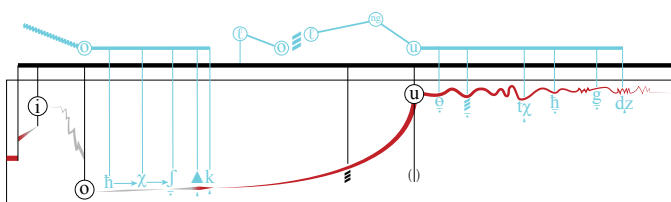
Amount & intensity of air/dynamics are articulated by the size and shade of the line. The lines show pitch contour, articulation, throat state and dynamics.

- — = small amount of air/soft/ pppp
- ■ = extreme amount of air/loud/ ffff
- ▶ = transition loud to soft
- ◀ = transition soft to loud









 = forms of vibrato and perturbations of the sound; degree of intensity and regularity is determined from the graphics

The light blue line found above the beam dictates the movement of the tongue (in addition to fricatives, articulations and interruptive superimpositions). Often times the tongue is to be in a different position relative to the one normally produced by the mouth shape. The performer is to keep the mouth shape consistent whilst they perform the tongue information. Any information presented in this shade of light blue, is to be superimposed upon any other active material.

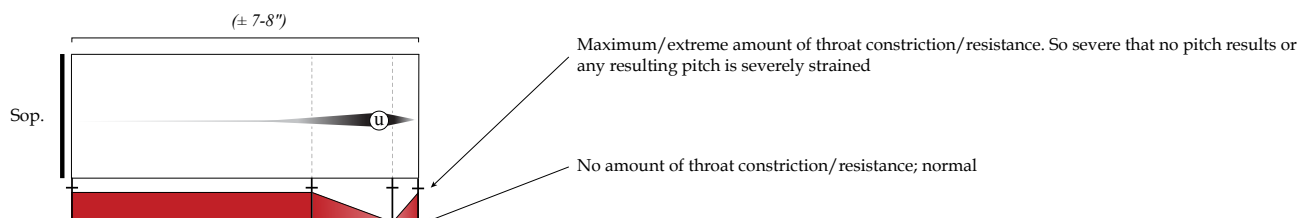
-  = transitioning between positions
-  = transitioning between the positions while performing tongue vibrato (moving the tongue rapidly up and down and/or side to side)
-  = rapidly and irregularly tremolo between the two indicated states



Superimpose the indicated phoneme or articulation over the active materials. In this example, the singer starts with an "O" mouth shape, soft dynamic, on a low pitch and performs fricative inserts whilst maintaining the "O" shape. There is a switch to vocal fry texture and a glissando to a very high pitch, all the while a transition to a new mouth shape "U" is occurring in addition to superimposed events of the tongue. At the end, fricatives, articulations and plosive events are superimposed over the high, vocal fry pitch (see pronunciation guide for more information)

-  momentary flutter tongue insert
-  flutter tongue continues until "(" is seen
-  diaphragmatic re-attack of sustained pitch
-  sharp, aggressive, accent
-  throat-based growl insert
-  apply a stepwise, descending (max. 1 whole step) mordant to sustained pitch
-  apply a stepwise (max. 1 whole step), ascending mordant to sustained pitch
-  perform the boxed phoneme as loud as possible; clear; assertive

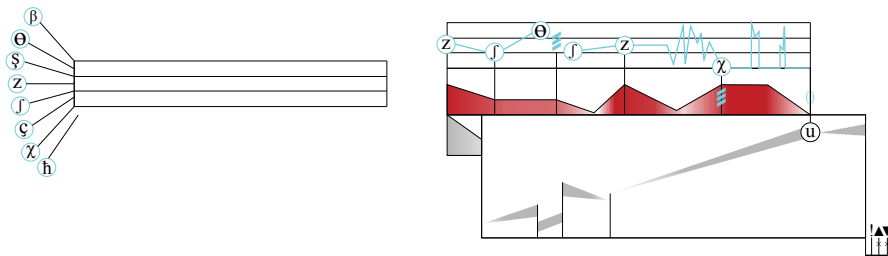
In some cases throat constriction/resistance, is notated as follows:



The above example is taken from section "A", here the soprano is to form the physical state associated with the U mouthshape in middle register while keeping the throat extremely constricted. Gradually increase the amount of air and decrease the amount of resistance/constriction until the pitch is actually sounded. Once the pitch is sounded immediately increase resistance to cut it off.

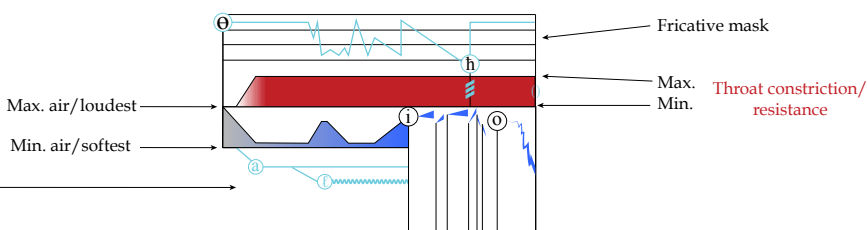
Vocal Notation - Soprano (Cont.)

A further extension of the superimposed light blue material leads to the "fricative mask"



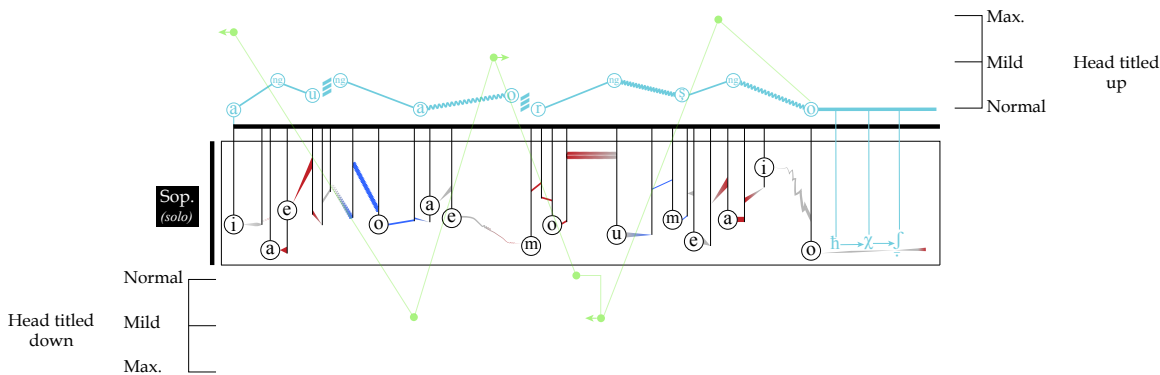
A fricative mask functions like the tongue notation; the material is to be superimposed over everything that is happening. In some cases, these fricatives will be used solo and only air and throat contours will be notated. Most often, there are pitched gestures that are performed in tandem with the fricative mask.

Fricatives are assigned a dedicated location on a 4 line staff and connected with light blue lines or tremolo markings. A light blue line from one fricative to another indicates a transition between these two positions. A graphic, active line (e.g. second half of the top right example) indicates a relative "sweep" through the fricative spectrum while following the graphic contour of the line.



When the fricatives are unvoiced, a smaller staff will introduce graphic material regarding air usage/dynamics with the top line being the most air and the bottom line the least air. The colors of these contours reflect phonation (gray=normal and blue=ingressive)

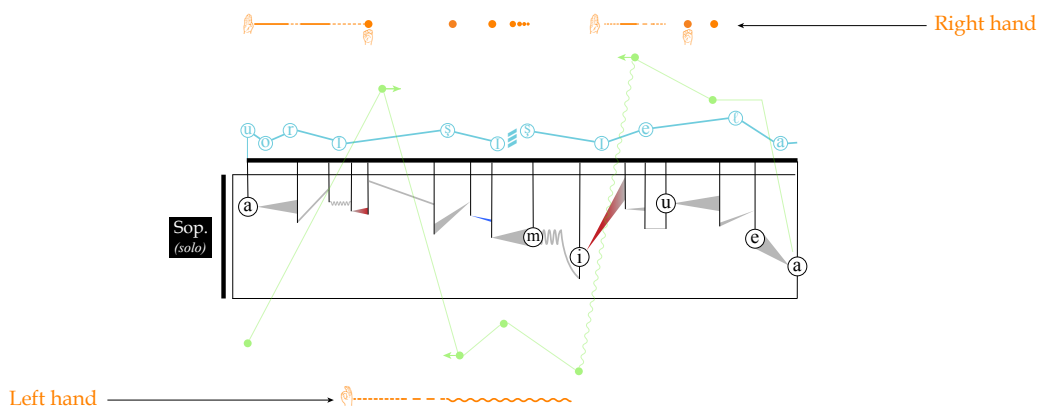
This is a special case where further mouth shape alteration is desired. The texture is to begin with an airy/loud "thh" and the mouth is to quickly open to an "A" shape (creating a gasp; like opening a sealed soda), resistance in the throat is to be maximized and the tongue is to be shifted to the indicated position



Green lines and dots indicate position and movement of the head. When a dot appears above the staff, tilt your head upwards. When a dot appears below the staff, tilt your head down. The farther the dot is from the staff, the more extreme the tilt. When performing these actions, you should always be able to maintain peripheral sight of the score. Green lines connecting dots indicate continuous movement between states. Horizontal lines indicate remaining at the most recent position. Squiggly lines indicate shaking of the head (this is usually combined with transitioning between two states) and these head shakes should be done in an irregular fashion (not a constant speed but rather unpredictably changing between slow and extremely fast/violent shakes).

A left-pointing arrow extending from a dot (←•) = turn your head to the left
 A right-pointing arrow extending from a dot (•→) = turn your head to the right

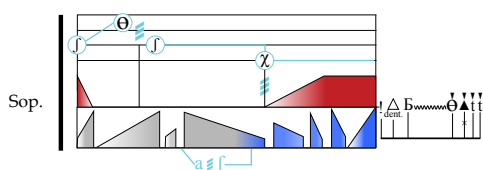
Vocal Notation - Soprano (Cont.)



Events in orange depict actions of the hands. Material above the staff pertains to the right hand. Material below the staff pertains to the left hand

- Using the thumb and index finger, lightly pinch cheek, slowly pull/manipulate/stretch in various directions
- Same as above but manipulating in small, fast motions; experiment with angle of stretch (try to achieve an audible effect)
- Same as above but manipulating in large, chaotic, fast motions; fleshy sounds
- Covering the mouth with the palm for the indicated duration
- Alternating between palm covered mouth and open mouth. Speed is determined by the density of the dashed line
- Using the flat side of the fist, beat it against your chest, forceful enough to have audible effect on vocal stream
- Size of orange circles indicate force (largest=most) and proximity indicates speed/density

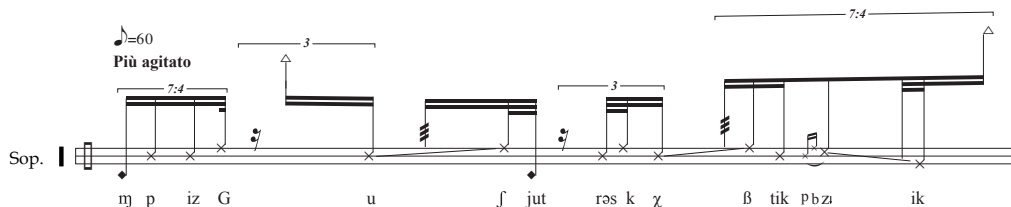
Other symbols pertain to unvoiced or spoken events:



- Б = lip trill/buzz
- Δ_{dent} = dental inhale. Clench teeth, parse lips and inhale through mouth
- \uparrow = loud inhale (when "x" is on stem perform a violent gasp)
- \downarrow = loud exhale (when "x" is on stem perform a fast, loud, exhale)
- ! = (post)alveolar click

Other phonemes will appear in this same black line notation, consult the pronunciation guide regarding these. Events in the black line should always be performed staccato and as fast as possible unless a sustain is indicated (e.g. the line attached to the lip buzz). Use normal speaking voice or stage whisper volume.

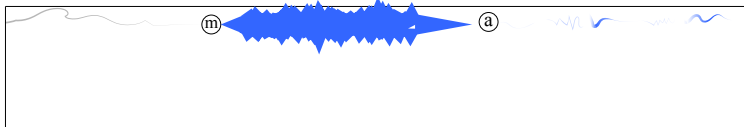
Notation of section "H"



Staff lines show amount of air/dynamics (bottom line is min. top is max). Black diamond note head indicates a sharp, guttural primal attack of the indicated phoneme. Triangles above the staff indicate a staccato attack on a very high pitch. The arrow next to the "Z" indicates ingressive phonation. Towards the end of the section, pitches are indicated on a 5-line staff. These pitches do not have to be exact but the intervallic relationship between the pitches must be preserved.

Vocal Notation - Soprano (Cont.)

The (M) multiphonic from section "P"



Perform an extremely high pitch (head voice works best) at a soft dynamic while keeping your mouth closed. Transition to ingressive phonation and increase to maximum air, a lower, unstable partial will result.

"Mimed" yelling

In sections "C", the latter part of "E" and elements of "F" text or individual phonemes are presented with the verbal instruction "mimed yelling". The vocalist is to perform the intense physical actions as if he/she were yelling the phonemes or text whilst remaining silent. This will lead to plosive pops and fleshy sounds.

Phoneme Pronunciation Guide

This is not a complete list of phonemes encountered in the work. These are phonemes that require a specific pronunciation. Any phonemes not presented here can be interpreted by consulting the International Phonetic Alphabet (<http://www.internationalphoneticalphabet.org/ipa-sounds/ipa-chart-with-sounds/>) or by personal intuition. Combinations of the following can and do occur.

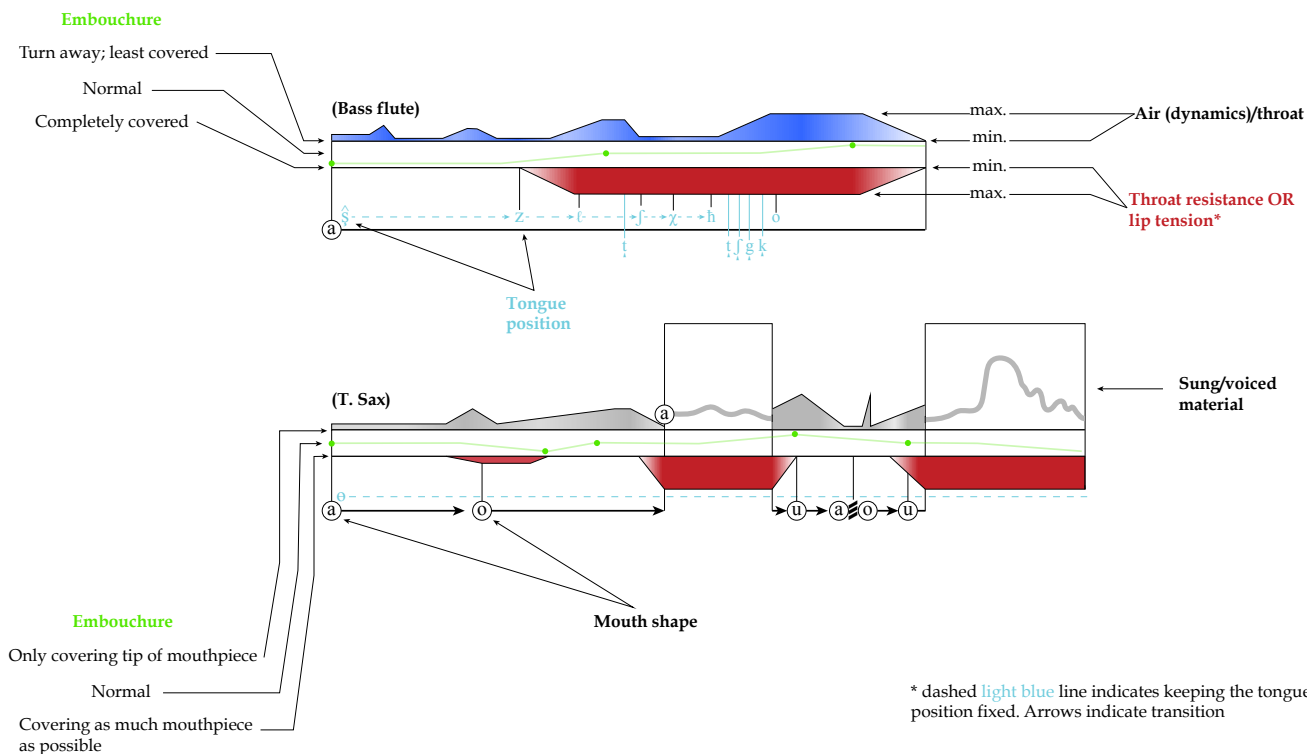
f = sh oe	t = aun t	d = de sk	ç = Sh aman but nasal
i = nee d	e = tele phone	S = so ck	ə = Vis a *
u = woun d	! = post alveolar click	j = ye t	
χ = Ba ch	g = go	l = ni ce	* The pronunciation of this vowel is extremely important in the final section
p = la p	ŋ = no t (very nasal)	ʃ = sh hh	
k = ba ck	θ = ba th	a = f a th er	
z = ze bra	v = y omit	o = oh	
y = ye s	h = ho g (in back of throat; full of phlegm)	ℓ = evi l (ll)	

Notation - Bass Flute and Tenor Sax

The vast majority of vocal sounds for the Flute and Sax, use the same notation as the soprano (review above). The same color scheme relating to throat states is used in application to flute/sax air graphics and vocal events.

Section "C" notation

*Throat resistance OR lip tension: when there are no actions to be performed on the instrument (vocal only) the red shapes signify throat tension. Whenever the instrument is in use (presence of a traditional staff) the red shapes signify lip tension with min. being as loose and relaxed as possible and max. being as tight as possible



Notation - Bass Flute and Tenor Sax (Cont.)

The previous notation is further developed as the following:

Everything works the same way as presented on the previous page with the addition of instrumental events. This is an example of when the red shapes apply to lip tension.

Noteheads								Markings			
①	②	③	④	⑤	⑥	⑦	⑧	≡	♭	♭	tr
●	◆	◇	➤	⊗	⊗	⊗	⊗	≡	♯	♯	tr
<ol style="list-style-type: none"> 1) normal sounding tone 2) 50% air and 50% pitch 3) mostly air 4) lip pizzicato 5) (flute only) speak into flute while fingering indicated pitch 6) key click 7) tongue ram 8) (flute only) quick airy "jete" burst of tongued attacks 								<p>≡ = flutter tongue ♭ = quarter flat ♯ = quarter sharp lip = lip gliss/bend () = cancels any previously marked flutter or growl — = attached note is sustained vi = ingressive phonation (inhale instead of exhale) B = attached sound grows louder. Δ = dental inhale. Clench teeth, parse lips and inhale through mouth ↑ = loud inhale (when "x" is on stem perform a violent gasp) ↓ = loud exhale (when "x" is on stem perform a fast, loud, exhale) ⚡ = kiss sound ⚡ = short, distorted, accented growl at back of throat ⚡ = when on upper part of stem=sing a short, staccato high note when on lower part of stem=sing a short staccato low note</p>			
<p>Light blue material is to be superimposed on any sustaining pitches; functions the same way as in the voice with the addition of the following:</p> <p> = while fingering the written pitch use free fingers to press and depress keys that are not in use; "cloud" effect</p>								<p>♭ = slightly flat ♯ = slightly sharp tr = trill irregularly between the primary pitch and 2 indicated (or chosen) pitches B = lip buzz (horse noise) f(iy) = rapidly combine the phoneme outside the () with the phonemes inside. ○ = low voice, fast, mumbled nonsense</p>			

Top line indicates fricatives or other noise/air based events that are sustained. The arrow indicates transition from one to another.

Bottom line is always performed as fast as possible (more temporal freedom in top line) and should be performed in a hushed stage whisper; very urgent sounding; largely staccato

Pitched events are shown in the previous manner

→ When the top line changes color, the color refers to throat state (in the given example, a change from normal to constricted)

Notation - Bass Flute and Tenor Sax (Cont.)

When this notation is encountered, the two lines collide and interrupt each other (light blue) and there should be an attempt to sound both simultaneously (e.g. attempt to perform the first lip bend below while sounding the phonemes at the same time)

The notation for Bass Flute (B.Fl.) consists of two staves. The upper staff contains musical notation with notes and rests, including a 'lip.' marking. The lower staff contains phonemes: 'a', 'g', 'h', 'p', 'l', 'j', 'θ', 'a', 'z', 'zi', 't', 'k'. A light blue shaded area highlights the first lip bend below while sounding the phonemes at the same time. A red bar at the bottom indicates lip tension.

In section "O" the embouchure and fingers become independent, there should be *complete separation* between hands and mouth.

The notation for Tenor Sax (T. Sx.) consists of two staves. The upper staff shows embouchure movement with green and red shapes. The lower staff contains musical notation with notes and rests. A red bar at the bottom indicates lip tension.

The **embouchure** staff on top still functions exactly as before, the position and contour of the line shows movement of embouchure position. Each stem is a tongued attack. The size of the line represents dynamics (thicker line = more air, thinner = less air). **Red shapes** indicate lip tension, as before.

In section "N" three staves are used; the top for traditional notation, the middle contains vocal events and the bottom contains graphics representing dynamics, with the top line representing *ffff* and the bottom line *pppp*. Black diamond noteheads indicate a short, direct, low, guttural phonation to the phoneme.

The notation for Bass Flute (B.Fl.) consists of three staves. The top staff is traditional notation with notes and rests, including a 'lip.' marking. The middle staff contains vocal events: 'u', 'a', 'i', 'va', 'na', 'say', 'no', 't', 's', 'p', 'b', 'v', 'g'. The bottom staff contains graphics representing dynamics, with a top line for *ffff* and a bottom line for *pppp*. Black diamond noteheads indicate a short, direct, low, guttural phonation to the phoneme.

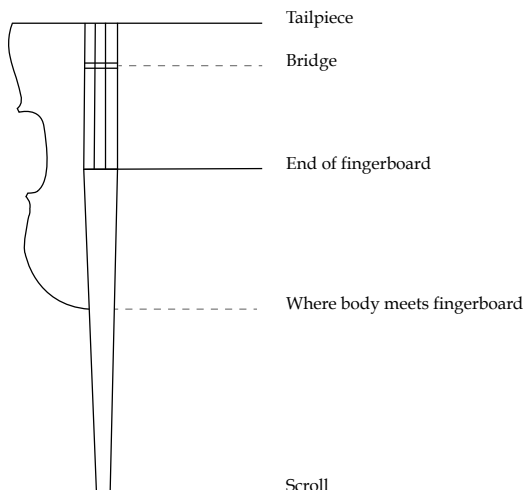
Notation - Viola and Cello

Indeterminate scordatura: tune your instrument to any tuning that satisfies the following:

- 1) Should be tonally dark but still resonant
- 2) All strings tuned down by varying degrees. Intervallic relationship between strings should be individually unique and asymmetrical (no repeating intervals)
- 3) At least 2 open strings need to be microtones
- 4) One string is severely tuned down; to the point of near flub and distortion; noticeably more distorted and less resonant than the others
- 5) The open strings must not resemble any diatonic or functional chord quality
- 6) The viola and cello must have different tunings

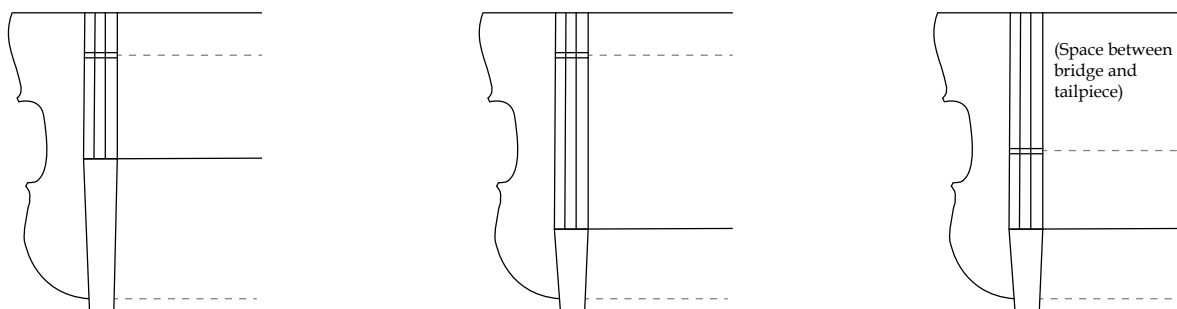
N.B. it is not required but the performer is free to change and/or adjust their scordatura during the performance. This may inspire the creation of multiple possible scordatura choices and variants.

Notation - Viola and Cello (Cont.)



String Clef

The clef graphically displays the instrument and divides it into crucial physical markers. The clef is prone to change if, for example, a passage takes place entirely above the fingerboard, the fingerboard portion of the clef will be removed (see below for possible variants of clef)



Left hand

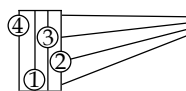
Actions of the left hand are notated with **black lines** and symbols

Finger positions are assigned by diagrams. Each circled number refers to a finger: 1 is the index finger, 2 is the middle finger, 3 is the ring finger and 4 is the pinky. In one case "T" is used to denote use of the thumb. Two fingers on the same string, with one in (), indicates a trill between these fingers



Movement of the fingers/hand shapes is represented by the motion/direction of the black lines relative to the cello staff (see example on following page)

Finger spacing is determined by how far apart the black lines extending from each active finger are: the graphic below depicts a shape at maximum spacing (fingers extended as far apart as possible) transitioning to a close spacing



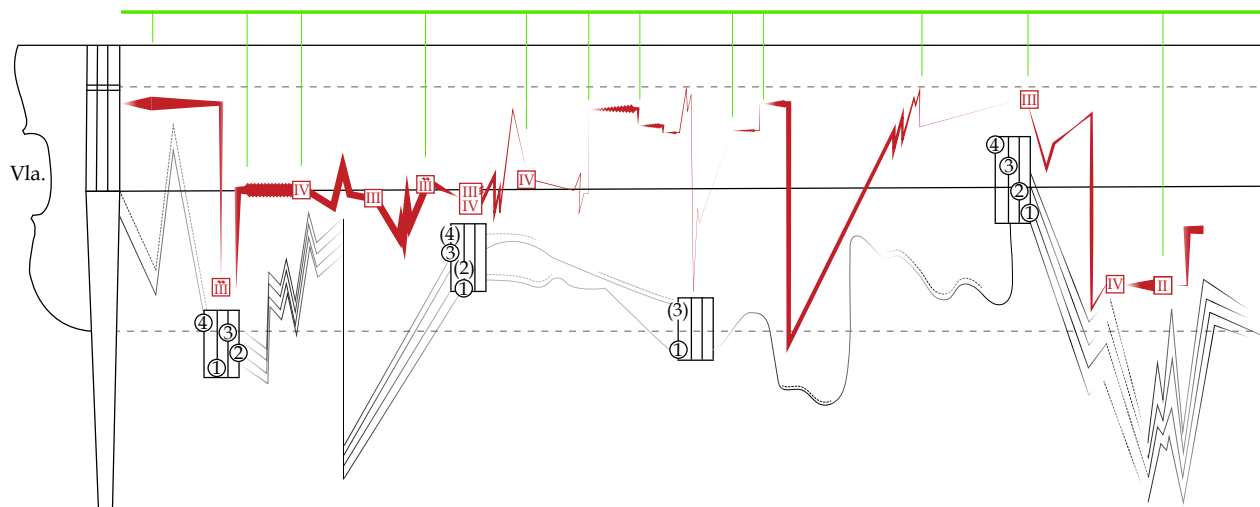
Finger pressure is represented by the hue/shade of the line:

- = normal pressure
- = half harmonic
- = harmonic
- = transition between normal to harmonic
- (x) — = muted pressure (no pitch)

Other LH symbols and lines:

- = pressure trill, rapidly shift between heavy and light pressure. Very percussive
- = trill between indicated fingers
- wwwww = wide, fast, over the top vibrato
- pizz.
○ = snap pizz at indicated location; any finger and any string can be used
- ☞ = use LH palm to cover and mute all strings
- ☒ = forcibly slap LH palm against strings & fingerboard

Notation - Viola and Cello (Cont.)



Left hand (cont.)

Quite often continuous motion is notated for the left hand; it should always be moving. What actually sounds and when will be determined by the bow but the constant flux of the left hand is crucial, sliding, squaking sounds of the activity should be audible

Right hand (bow)

Actions of the right hand are notated with red and green lines and symbols

The red information notates vertical, y-axis, movement of the bow (tasto, ponticello etc.) while the green information notates horizontal, x-axis, (down or up bow) actions. Each green stem is a change of bow direction. The length of the bow stroke is determined by the length of the green beam; the bow stroke continues as long as the beam is present. When there is no beam present, or a beam ends, the bow moves only vertically.

A red box with a roman numeral in it, [IV], indicates what string is to be bowed. Where it is located visually in the string cleff determines where it is to be bowed (due to the physical focus of this work, unusual situations like bowing behind the LH will occur and will be indicated by a crossing of the LH and RH lines). The thickness and shading of the line indicates how much pressure it to be used (thicker/darker is more pressure and while thinner/lighter is less)

In some instances, the bow line and symbols will be presented in blue which calls for col legno bowing

= quickly bow the indicated string, then the string below it, then back to original (ornamental)

= quickly bow the indicated string, then the string above it, then back to original (ornamental)

= energetic jete burst on any fingered strings

= bow two indicated strings together

= tremolo between two indicated strings

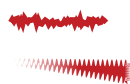
= dropped/bounced bow/percussive

= max. pressure

= normal pressure

= light (barely audible)

= 1/2 hair 1/2 wood



= irregular bow pressure; constantly change between extreme, normal and light pressure

Sections "N" through "P" add some additional symbols and doesn't use green notation as every new attack is a new horizontal, x-axis, attack. In addition, the RH and LH are no longer as separated here, therefore the presence of a beam indicates sound and the absence of the beam, silence

LH

- = finger placed on the indicated active string
- ◆ = same as above but using a touch 4 harmonic
- ☒ = strike palm against fingerboard and slide palm following black line contour

RH

- or = Bow is fixed in a location and cranked in violent semi-circles. A crunching, gritty sound
- = Above, combined with thrown bow, specific string indication and graphic representation of number and spacing of cranks

Cues



Light red arrows indicate cues. The circle notates what event is being used as the cue (from another instrument), the arrow identifies the response to this cue, and the circled instrument abbreviation is the instrument from which the cue is received. The cues can be visual as/or aural. The cues should not be overly theatric or discernible by the audience; practice a more subdued cue etiquette.



Light blue arrows indicate two events that happen together

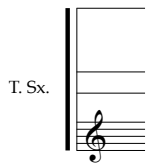
Additional Information

Stage layout: there is no concrete stage layout, but all performers must have a clear line of sight amongst each other

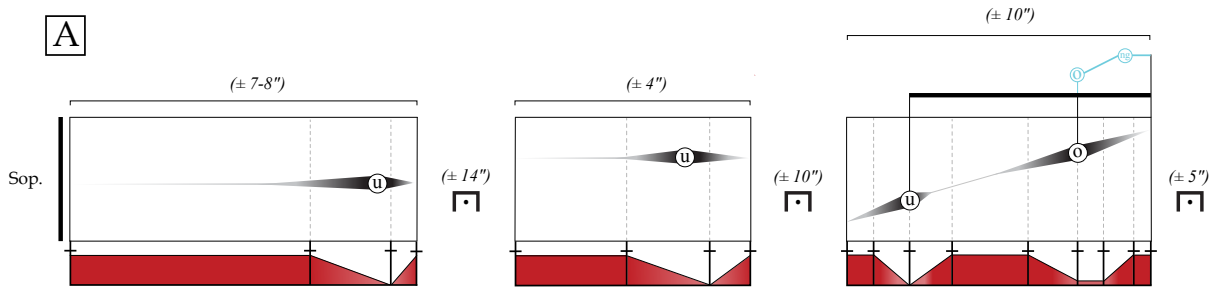
Text: the text passage used in sections "E" and "F" are taken from *Westward the Course of Empire Takes it's Way* by David Foster Wallace

...empty spun-sugar shibboleth...

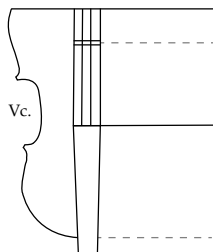
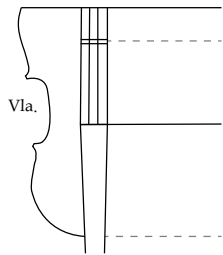
Ryan CARRAHER
2019

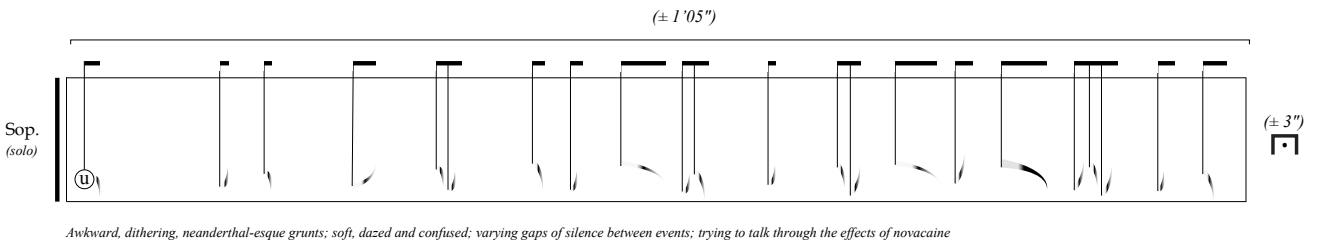
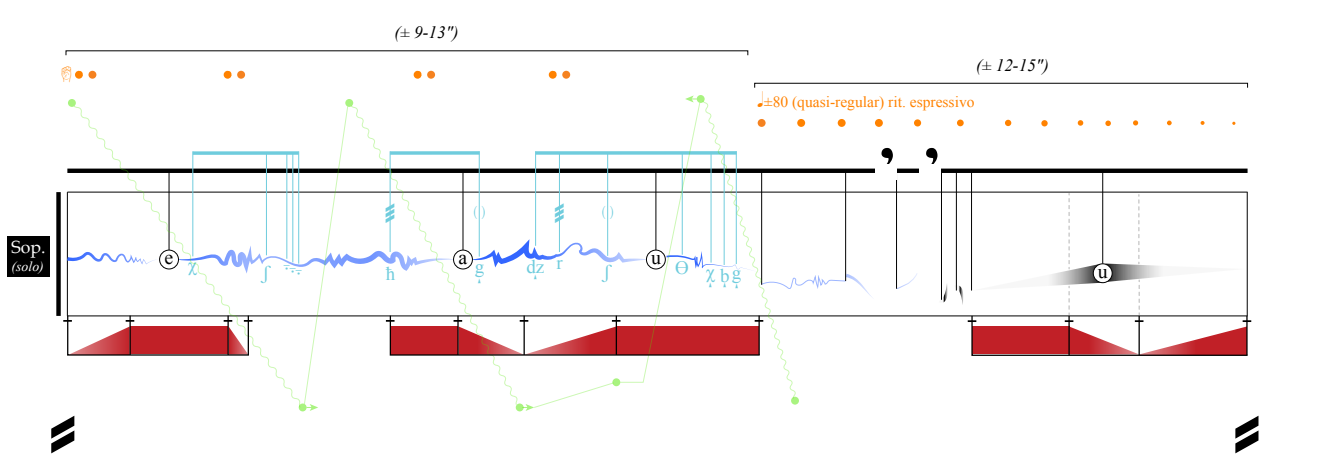
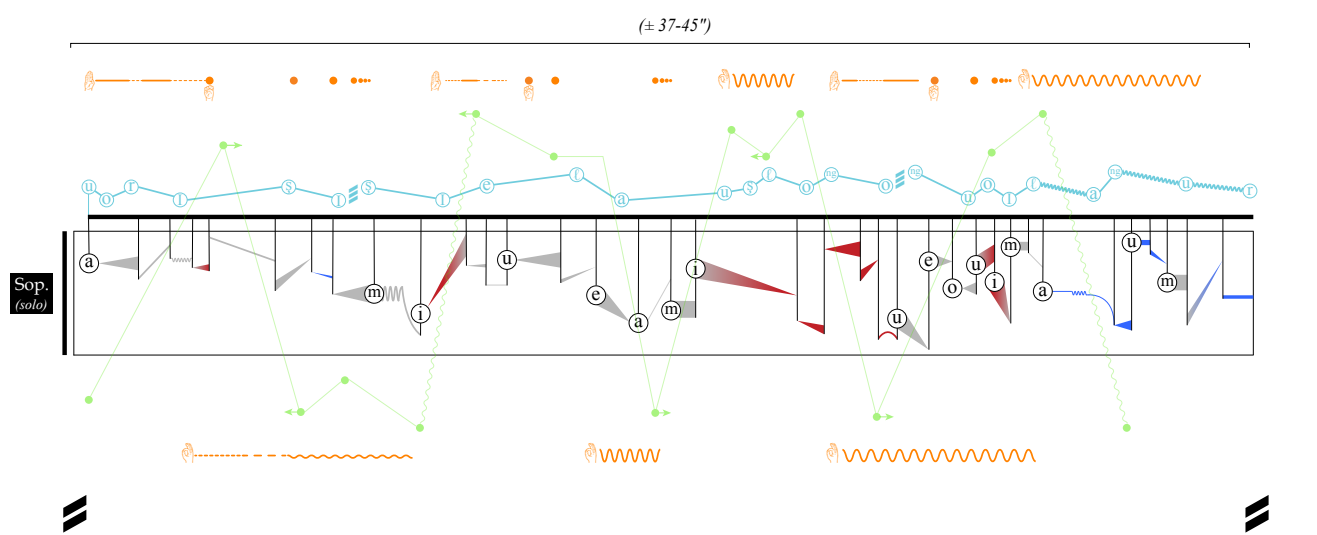
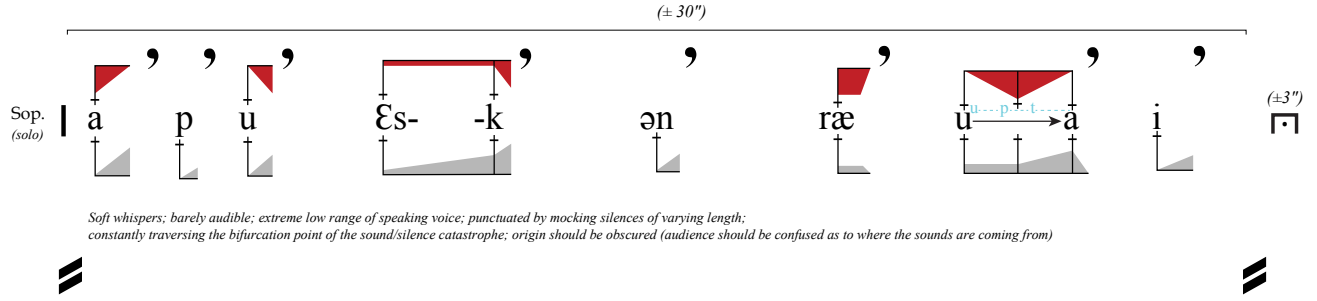
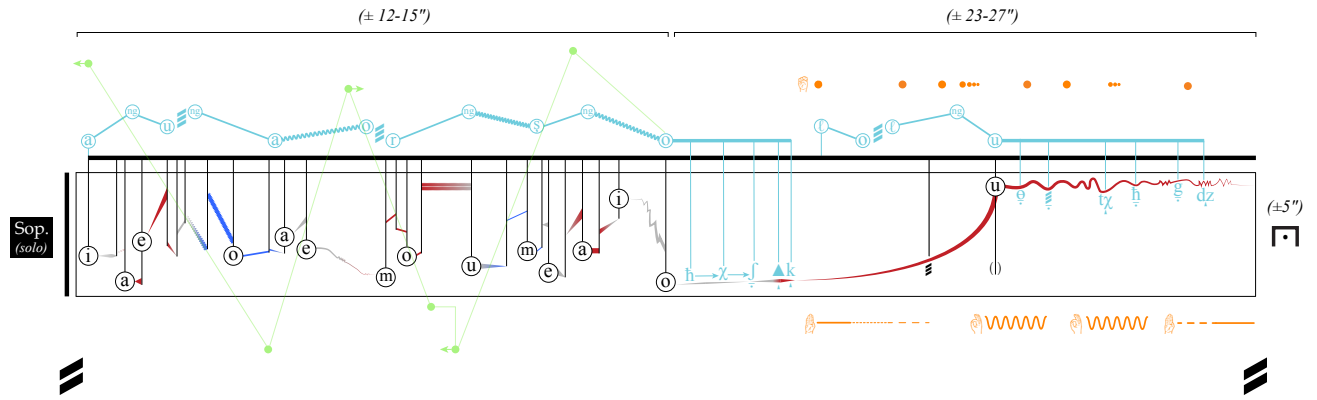


A

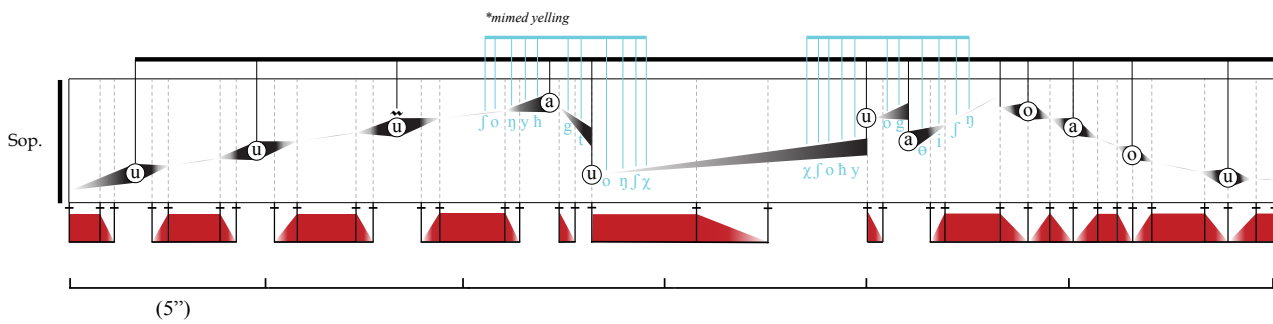
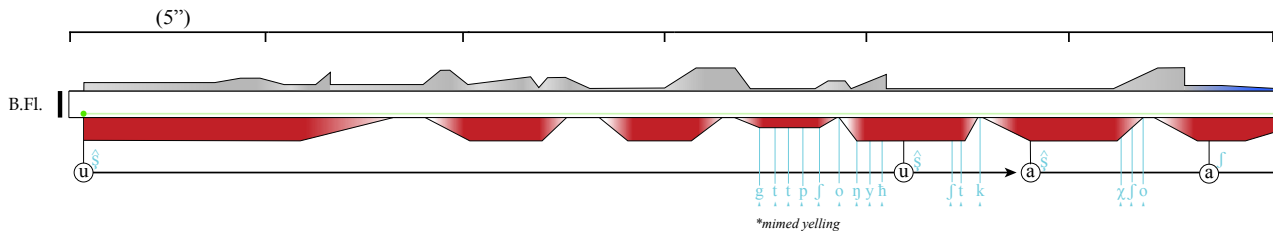


Warring factions; Physical conflict; Pushing against massive resistance; Festering; Yearning for/fearful of sonic manifestation; existing in the catastrophic no-man's land between sound and silence.

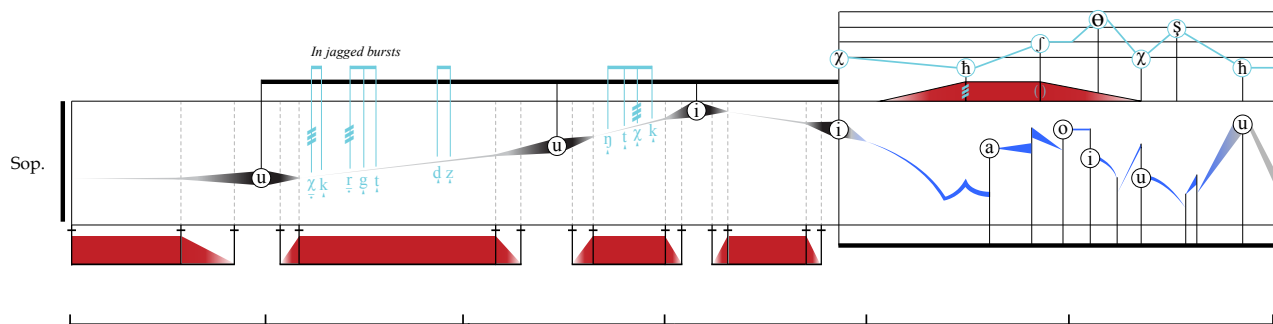
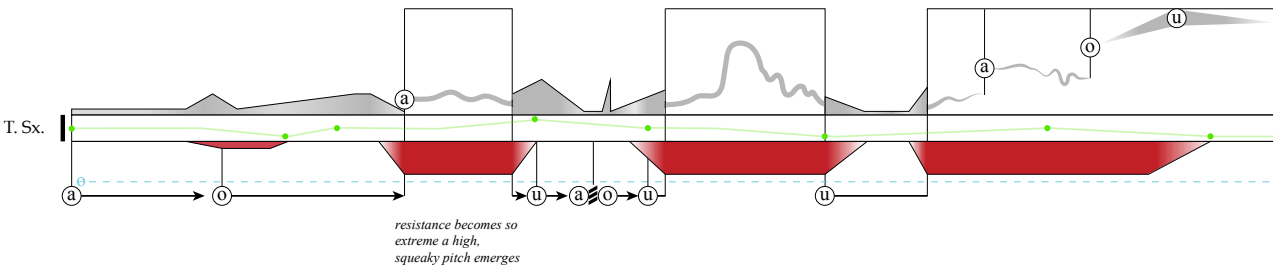
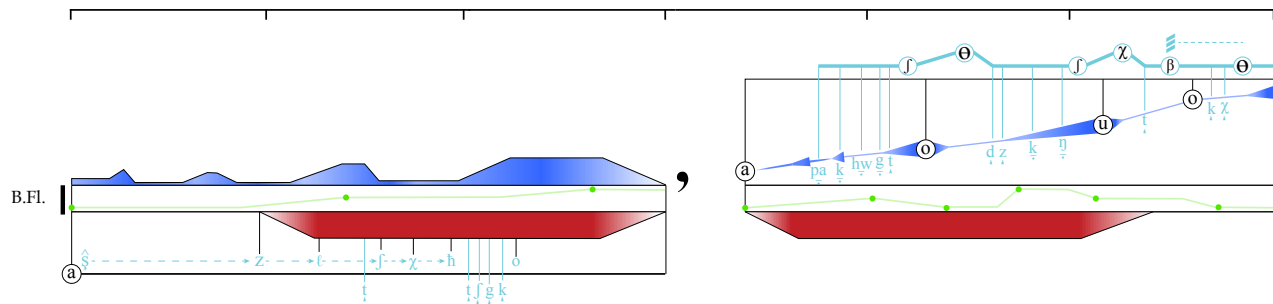




C *pppp dynamic attractor*; marred by extreme resistance which often overpowers physical sound production and results in silence; airy; pulmonary; anxious; overwhelming, self-imposed glossophobia



*mimed yelling: act as if you were yelling/shouting the indicated phonemes as loud as possible while attempting to be silent; physical goal rather than sonic goal; imagine watching a movie actor yell in an intense scene but you have the volume off



D Negative dynamic spectrum; soprano freely moving between negative and pppp attractors; communal stress; unintentional expression; reflexive; glued shut; attempting to conceal; embrace physical subterfuge; physical mimis with intention of silence ending in futile, physically driven catastrophes

B.Fl.

**embouchure hole completely covered; allow for variations of degree of cover due to change of mouth shape*

T. Sax.

**mouthpiece completely covered; allow for variations of degree of cover due to change of mouth shape*

Sop.

pppp attractor

(pppp) → normal; follow contour; soloistic

ffff attractor abrupt cut-off

(3") (7") (4") (3")

B.Fl.

pppp attractor; muffled; sub-dermal; underwater

T. Sax.

pppp attractor; muffled; sub-dermal; underwater

ffff attractor; soloistic; obnoxious

pppp attractor

Sop.

pppp attractor

Fully voiced; surprisingly operatic; suddenly emerging; becoming as loud as possible

cartoonish vibrato; abrupt cut-off

(± 3")

(± 3-5")

2x total; 2nd time solo

(6")

(± 2")

B.Fl. *air* *air* → *pitch*
lip.

Obrusively sudden; unexpected; gestural

T. Sx. *(ap)* *air* → *pitch*
lip. *mp* *lip.*

E *Sudden instance of community; interdependent, yet at odds; unsure of communicative roles*

(± 5")

Sop. *(full voice as before); vibrato becoming unwieldy & wide*

(± 10")

Sudden primal communication; ritualistic; standoffish; guttural; percussive

Vla. *Sudden, staggered overpressure crushes; grating; aggressive*

Vc. *Begins as distant whisper; cresc.; grating; aggressive*

The diagram illustrates a musical score with several layers of information:

- Vocal Parts:**
 - B.Fl. (Baritone/Falsetto):** Shows a melodic line with 'air' and 'pitch' annotations. A vowel chart shows a transition from [u] to [i].
 - T. Sx. (Tenor Saxophone):** Shows a melodic line with 'air' and 'pitch' annotations. A vowel chart shows a transition from [u] to [i].
 - Sop. (Soprano):** Shows a vibrato line that becomes 'unwieldy & wide'. It includes percussive markings for 'h', 'k', 'tx', 'g', 'b'.
- Instrumental Parts:**
 - Vla. (Viola):** Shows a section with 'Sudden, staggered overpressure crushes; grating; aggressive'.
 - Vc. (Violin):** Shows a section that 'Begins as distant whisper; cresc.; grating; aggressive'.
- Annotations and Markers:**
 - Time markers: (± 2"), (± 5"), (± 10").
 - Dynamic markings: *mp*.
 - Performance instructions: *Obrusively sudden; unexpected; gestural*, *Sudden instance of community; interdependent, yet at odds; unsure of communicative roles*, *Sudden primal communication; ritualistic; standoffish; guttural; percussive*.
 - Color-coded arrows: Red arrows point from the Soprano and Viola sections to the Soprano and Viola parts respectively. Blue arrows point from the Soprano and Viola parts to the Soprano and Viola sections respectively.

Sop.

(± 5'')

(± 3'')

(± 2'')

(± 5'')

winding down; regaining/imposing control

fast; conflicted; interrupting; urgent

rushed; fluid; overwhelmed; small smooth gliss.

You behead an un-subtle image of what Beauty is and fry it in lard and consume and digest and excrete it?

You gesture, you sell out the squeak of your own head's blood.

F Extremely confused; manic oscillation; between two worlds; relentlessly abstract whilst evoking empathy; bestowed with communicative faculties for the first time; attempting to recite the entire Oxford English Dictionary in a single breath

(± 1')

You live only as long as the last person who remembers you; The purpose of a mask is to increase your circulation.

-Furiously/freely progress to/from, combine, deconstruct, these events.
-The goal should be to perform everything simultaneously.
-No one texture should be given dominance.

Conditions:

-Constant sound: sound stream should not stop, exhale and inhale while performing

-Hands are very active (check manipulation, lip vibrato, chest percussion and/or mouth cover)
Experiment with right/left combinations/conflicts

-Experiment with density; moments of frantic jumping; moments of sustained texture/pitch

-Full dynamic range; extremely loud; extremely soft

-Experiment with character/inflection**

We're bored animals. Even the naive ones know that. Bored numb with the sound of bells, the taste of meat. But ring meat, and you can bet your life you'll eat a bell and like it.

* mimed yelling; perform the intense physical actions of yelling/shouting the text but with the intention of remaining silent. The text can be performed linearly, out of order, in full or in part. Allow for a word to be "sounded" at least once

** Applying inflections/characters like "nasal", "stuttering", "scholarly", "whisper", "anxiety", "robotic" etc; moments of blatant, overzealous, unwarranted theatrics.

Exit. Repeat ad hoc. Becoming less regular; last one ends with drawn out rit. Cue sax. transition right to "H"

G Suddenly regular; unison; driving; ceremonial; guttural; lockstep; clingy

$\text{♩} = 60$

T. Sx.

Sop.

sfz *sfz* *sim.*

u h k tʃ g b u h k u tʃ g u h k tʃ u g u h h k u u tʃ g u b h u u k tʃ

Attempted communication;
always in danger of disintegration



(+) *sempre*;
lingering punctuation;
distant; trapped

B.Fl.

$(\pm 2'')$ $(\pm 5'')$

cor pe

T. Sx.

Sop.

Abrupt stop

Abrupt stop



(extremely slow)

B.Fl.

sa kwe sol p ar ka ræk jvøl ku a f

Sop.

sør Æsk søn zi øn køv kwe ir

one full breath

(± 30")

Sop. | *Soft, frantic, chiding whispers; large moments of silence; starting sparse; gradually becoming dense*

H Beginning together; dialogue; becoming totally independent; *pppp* attractor

B.Fl. | *pppp* attractor → *accel.*

Sop. | *Più agitato* *rit.*

B.Fl. | *As fast as possible* *As fast as possible*

Sop. | *As slow as possible*
dolce; lament; molto legato; confident; preening; as continuous as possible; senza vib. pppp attractor

B.Fl. | *Molto rit.* *fff* *pppp* *Right into "I"*

Sop. | *inc. air*

I *Negative dynamic spectrum (strings):*
Soprano, flute and sax move between negative dynamics and a pppp attractor;
hesitant; quiet and disturbed; writhing beneath the surface; absolute independence

(5")

B.Fl.

T. Sax.

Sop.

The score for B.Fl., T. Sax., and Sop. is presented with dynamic spectrum diagrams above each staff. The diagrams use red areas to represent dynamic levels and green lines for pitch contours. The Soprano part includes various performance markings such as 'lip.', 'h', 's', and 'j'. The T. Sax. part is marked 'extremely fragile'.

(5")

Vla.

Vc.

The score for Vla. and Vc. is presented with dynamic spectrum diagrams above each staff. The diagrams use red lines and boxes to represent dynamic levels and green lines for pitch contours. The Vc. part includes performance markings such as 'h' and 's'.

B.Fl.

Diagram showing vocal formants (u, a, e, o) and lip contact points for the Bass Flute. The score includes a staff with notes and rests, and a waveform diagram above it. Red arrows indicate lip contact points, and blue arrows indicate breath flow. A green line tracks the formant frequencies.

T. Sx.

Diagram showing vocal formants (u, a, e, o) and lip contact points for the Tenor Saxophone. The score includes a staff with notes and rests, and a waveform diagram above it. Red arrows indicate lip contact points, and blue arrows indicate breath flow. A green line tracks the formant frequencies.

Sop.

Diagram showing vocal formants (s, f, h, e, s, z, c, f, h, s, e, f, z, c, h, z) and lip contact points for the Soprano. The score includes a staff with notes and rests, and a waveform diagram above it. Red arrows indicate lip contact points, and blue arrows indicate breath flow. A green line tracks the formant frequencies.

Vla.

Diagram showing fingering patterns (I, II, III, IV) and performance instructions for the Viola. The score includes a staff with notes and rests, and a waveform diagram above it. Red and blue lines indicate fingering patterns. A green line tracks the performance path.

pppp attractor; muffled; sub-dermal; on the cusp of sound

Vc.

Diagram showing fingering patterns (I, II, III, IV) and performance instructions for the Violin. The score includes a staff with notes and rests, and a waveform diagram above it. Red and blue lines indicate fingering patterns. A green line tracks the performance path.

pppp attractor; muffled; sub-dermal

The score is divided into six measures with durations: (13''), (8''), (5''), (3''), (2''), and (3'').

B.F.I. (Baritone/Falsetto): Includes a vowel chart at the top with 'u', 'a', 'o', 'e', 'i', 'y', 'h', 'k' marked. The vocal line shows a crescendo in the first measure, followed by abrupt cut-offs. The piano accompaniment features a tremolo (tr) and dynamic markings like *mf* and *sf*.

T. Sx. (Tenor Saxophone): Similar to B.F.I., with a crescendo in the first measure and subsequent cut-offs. The piano accompaniment includes a tremolo (tr) and dynamic markings like *mf* and *sf*.

Sop. (Soprano): Includes a vowel chart with 'β', 'z', 'θ', 'χ', 'e', 'a', 'u' marked. The vocal line is described as 'frantic; possessed' and shows a crescendo in the first measure, followed by cut-offs. The piano accompaniment includes a tremolo (tr) and dynamic markings like *mf* and *sf*. A note in the final measure is described as 'Fully voiced; pure; hopeful; brimming'.

Vla. (Viola): Shows a complex rhythmic pattern with red markings and dynamic markings like *mf* and *sf*.

Vc. (Violin): Shows a complex rhythmic pattern with red markings and dynamic markings like *mf* and *sf*. The word 'pizz.' (pizzicato) is marked in several measures.

Vertical blue arrows indicate 'abrupt cut-off' points. Green horizontal lines are present at the bottom of the vocal staves. A scale of notes is shown at the bottom of the score.

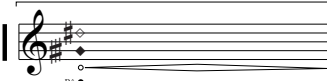
The score is divided into two columns of performance examples. Each instrument part includes a dynamic curve (U for up, L for down) and a musical staff with notes and articulation marks. The first column is labeled with a duration of $(\pm 4'')$ and the second with $(\pm 2'')$. The instruments and their respective durations are: B.F.I. ($\pm 4''$ and $\pm 2''$), T. Sx. ($\pm 5''$), Sop. ($\pm 5''$), Vla. ($\pm 5''$), and Vc. ($\pm 4''$ and $\pm 2''$). The B.F.I. part includes the instruction *tr(s → vf)*. The Vc. part includes a duration of $(\pm 3'')$ for a specific section.

K *Cautious; whispering; forlorn; hiding; extremely prudent; molto rubato; espressivo*

This section shows detailed dynamic curves for the Vla. and Vc. parts. The Vla. part has a duration of $(\pm 10'')$ and the Vc. part has a duration of $(\pm 10'')$. The curves show the dynamic range and performance style, with annotations for fingerings and articulation. The Vc. part also includes a duration of $(\pm 3'')$ for a specific section.

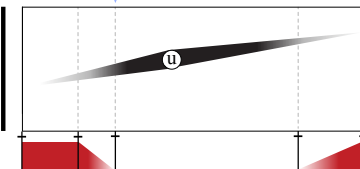
Crossfade with cello; emerging; fragile; a rare moment of stasis and reflection; extremely soft; intimate; lyrical

(± 10")

B.Fl.  (± 9")

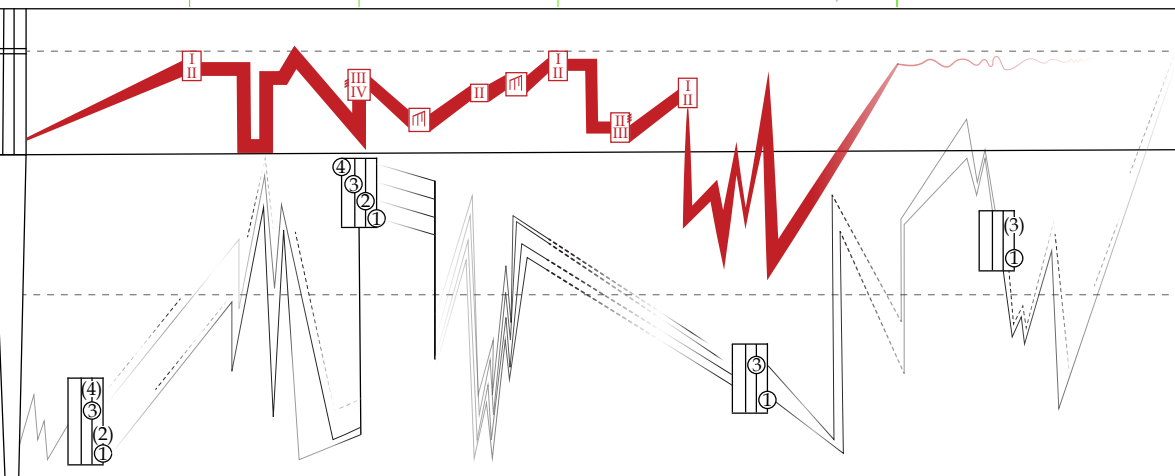
T. Sx.  (± 9")

(N.B. soprano cues the beginning of each multiphonic section)

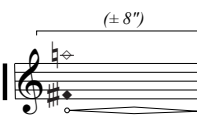
Sop.  (± 9")

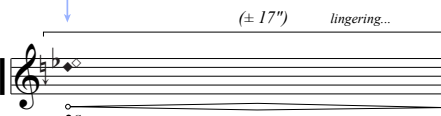
Building in intensity... (± 3")
 Over-the-top; excessive force; grating; disturbing; abrupt shifting between LH positions extremely loud and violent; unsettling; relentless; as loud as possible (± 10-12")

Becoming imperceptible; wispy; voice-like; light; airy; white noise

Vc.  (± 9")

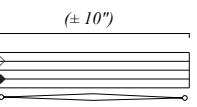


B.Fl.  (± 8")

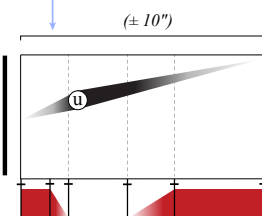
T. Sx.  (± 17") lingering...

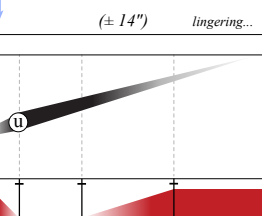
(N.B. after saxophone has finished, this pause applies to full ensemble)

(± 5")

B.Fl.  (± 10")

T. Sx.  (± 14") lingering...

Sop.  (± 10")

Sop.  (± 14") lingering... (± 4")

(± 8")

Molto rubato; alone; ends with urgency

B.Fl. (solo)

1 breath

(± 5")

♩=60

5:4

accel. →

5:4

5:4

5:4

5:4

g p f o r k h

Abrupt cut-off

1 breath

Soft; confused; irregular; lingering

accel. →

♩ = ca. 89 as fast as possible

lip

6:4

3:2

3

5:4

f z z p p t s f m j k z Pa P o dt m j k s b d k G Pa k hw G t

Neurotic; frantic; unstable; obscene; manic

Hum gliss. low to high

3

3

7:4

lip

5:4

5:4

s θ d z k ŋ j t t p! u → θ hw G vor i p G (Low & guttural)

M Interdependent; paying close attention to one another; dense; clustered; flustered; remains manic; obscene; neurotic

5:4

5:4

s.v → m.v

air → pitch

lip

5:4

p hw a g mk b za p g

T. Sx.

5:6

3

z a k

*N.B. all phonemic events on the bottom staff are to be performed with a sharp, urgent articulation, if an event is to be sustained it will be indicated graphically

** "gliss." when used in reference to an interval larger than a step, implies a fast, more or less, stepwise run between the indicated pitches while maintaining rhythmic structure

B.Fl.

r u ha g z du k piŋ b vør ŝ g ya k p

T. Sx.

(tongue flub)

f u z p a ŋ g ugh v ŋ a f ki t

B.Fl.

er k e → β f g p ku v hw f f ku χ p

T. Sx.

(random keys)

tu h f ku u → χ u i tχ dz

B.Fl.

(overblown)

hw b pt i → u dz qa f

T. Sx.

s.v → wide vib.

gliss.

ta kr tχ g h ŋ

N More argumentative; division and discontent festering;
 as if everyone in a crowded library was engaged in intense dialogue but
 continuing to observe the "quiet" rule*

B.Fl.

Lyrics: *γg f η u → a → i va na say no t s p b v g*

Annotations: *lip*, *5:4*, *7:6*, *7:4*, *5:3*

The score shows a complex melodic line with various intervals and a dynamic contour below the staff.

T. Sx.

Lyrics: *g va f u → i i p bk f gzt ugh*

Annotations: *lip*, *3*, *gliss.*, *(high falsetto yelling)*, *5:4*

The score features a melodic line with glissandos and a dynamic contour below the staff.

Completely independent; no attempt at conversation or rendezvous;
 occurring within the same time frame as flute and sax but oblivious to their events;
 corporeal; gestural; imperfect; brash; jagged; distorted; percussive; forceful;
 full dynamic spectrum available

(± 5.5")

Vla.

The graphic notation consists of a large rectangular frame containing various symbols: red rectangles, circles, lines, and hand icons. A red line traces a path through the symbols. A black bar is present at the bottom left.

*N.B. due to the independent nature of sections "N" and "O" physical, spatial relationships
 between events and any perceived order of events is null and void. Therefore, in the very likely situation
 that the flute and saxophone finish their material before the strings, the performers should **continue at their own pace**,
 even if this leads to being on completely different pages and straying from the graphic spatial relations. However, it is paramount
 that the ensemble restores interdependence when section "P" is attained

B.Fl.

3 3 5:4 4:3 5:4 5:4

p tu k ir εsk j β ε gt hw

Detailed description: This block contains the musical score for the Bass Flute (B.Fl.). It features a treble clef and a 3/4 time signature. The melody is marked with various rhythmic groupings: a triplet of eighth notes, another triplet of eighth notes, a 5:4 ratio, a 4:3 ratio, and two 5:4 ratios. The lyrics are 'p tu k ir εsk j β ε gt hw'. Below the staff, there are performance markings consisting of grey trapezoidal shapes indicating dynamics or articulation.

T. Sx.

7:4 7:6 7:4

p hw g hεk gε

Detailed description: This block contains the musical score for the Tenor Saxophone (T. Sx.). It features a treble clef and a 3/4 time signature. The melody is marked with 7:4, 7:6, and 7:4 ratios. The lyrics are 'p hw g hεk gε'. Below the staff, there are performance markings consisting of grey trapezoidal shapes.

Awkwardly kinetic; evasive; incoherent

(± 5")

Vla.

Detailed description: This block is a performance diagram for the Viola (Vla.). It shows a series of red square pulses at the top, likely representing a metronome or a specific rhythmic pattern. Below this, there are two staves. The upper staff contains various annotations including red boxes with Roman numerals (II, III, IV), red lines, and red circles. The lower staff contains black rectangular blocks, wavy lines, and other graphical symbols. The diagram is annotated with the text 'Awkwardly kinetic; evasive; incoherent' and '(± 5")'.

Delicate; espressivo; whispering oscillations; conflicted; woody; broken

Vc.

Detailed description: This block is a performance diagram for the Violin (Vc.). It shows a series of red square pulses at the top. Below this, there are two staves. The upper staff contains various annotations including red boxes with Roman numerals (I, II, III, IV), red lines, and red circles. The lower staff contains black rectangular blocks, wavy lines, and other graphical symbols. The diagram is annotated with the text 'Delicate; espressivo; whispering oscillations; conflicted; woody; broken'.

Breaking apart: retreating to respective minds; solipsistic: becoming sequestered:
disintegration of communication; bitter disagreement leading to passive aggressive jousts

(± 7")

B.Fl.

5:4 (overblown) 5:4 3 5:4 5:4 5:4 5:4

liv n̩ ɒ f k twɛ u ʃ d za h g z to ʃ f hw k pə ʃ vər g

Diagrammatic representation of the flute's physical state over time, showing a series of peaks and troughs corresponding to the notes.

T. Sx.

lip Completely independent, senza misura

Diagrammatic representation of the saxophone's physical state over time, showing a series of peaks and troughs corresponding to the notes.

(± 7")

Vla.

Diagrammatic representation of the Viola's physical state over time, showing a series of peaks and troughs corresponding to the notes.

Vc.

Diagrammatic representation of the Violin's physical state over time, showing a series of peaks and troughs corresponding to the notes.

○ Oblivious; solipsistic; yelling into a void; lost on deaf ears;
maximum independence; dissolution of detente; wild; frenetic;
overwhelmed; strained; fed up with just trying to get by

(3'')

B.Fl.

Musical score for B.Fl. (Bass Flute) showing a melodic line with green and red waveforms above it. The notation includes notes, rests, and dynamic markings such as *lip.* (lip). A chord diagram for Bb/B and C#C is shown below the staff.

T. Sx.

Musical score for T. Sx. (Trombone) showing a melodic line with green and red waveforms above it. The notation includes notes, rests, and dynamic markings such as *lip.* (lip). A chord diagram for Bb is shown below the staff.

(3'')

Vla.

Musical score for Vla. (Viola) showing a complex rhythmic and melodic line with blue and red waveforms above it. The notation includes notes, rests, and dynamic markings such as *pizz.* (pizzicato). Roman numerals (III, IV, V) are used to indicate fingerings or positions. A hand icon is visible at the bottom right.

Vc.

Musical score for Vc. (Violin) showing a complex rhythmic and melodic line with blue and red waveforms above it. The notation includes notes, rests, and dynamic markings such as *pizz.* (pizzicato). Roman numerals (III, IV) are used to indicate fingerings or positions. A hand icon is visible at the bottom right.

(3'')

(3rd)

B.Fl.

Musical score for Bass Flute (B.Fl.). The staff shows a melodic line with various articulations and dynamics. A red shaded area highlights a specific section of the score. The word "lip." is written below the staff at two points.

T. Sax.

Musical score for Tenor Saxophone (T. Sax.). The staff shows a melodic line with various articulations and dynamics. A red shaded area highlights a specific section of the score. The word "lip." is written below the staff at two points.

(3rd)

Vla.

Musical score for Viola (Vla.). The score is written on two staves. The upper staff contains red markings, including vertical lines and boxes labeled with Roman numerals (II, III, IV). The lower staff shows a melodic line with various articulations and dynamics. The word "pizz." is written above the upper staff and below the lower staff.

Vc.

Musical score for Violin (Vc.). The score is written on two staves. The upper staff contains red markings, including vertical lines and boxes labeled with Roman numerals (II, III, IV). The lower staff shows a melodic line with various articulations and dynamics. The word "pizz." is written above the upper staff and below the lower staff.

(3rd)

(3'') (5'')

B.Fl.

lip. *lip.* *Serene; coming together; as soft as possible* *Fades to nothing; take your time*

T. Sx.

lip. *Serene; coming together; as soft as possible* *Fades to nothing; take your time*

Sop.

Unstable; spasmodic; catastrophic; mouth open as wide as possible; relinquish control; crossfading/emerging out of multiphonics; freely

Detailed description: This section contains three staves. The top staff is for B.Fl. (Bass Flute), the middle for T. Sx. (Tenor Saxophone), and the bottom for Sop. (Soprano). Each staff has a green line above it indicating dynamics or articulation. The B.Fl. and T. Sx. staves include musical notation with notes and rests, and the instruction "lip." is written above the first few notes. The Sop. staff is mostly empty, with a small blue waveform and a circled 'a' at the beginning. Performance instructions are written below each staff. A red line with a circled 'ts' connects the B.Fl. and T. Sx. staves. A diagram at the bottom shows a red line with a circled 'a' and a blue waveform.

(3'') (5'')

Vla.

Winding down *High; phantasmagoric; hypnotic in its fragility; becomes an environment; in and out of audibility; micro-fluctuations in pitch*

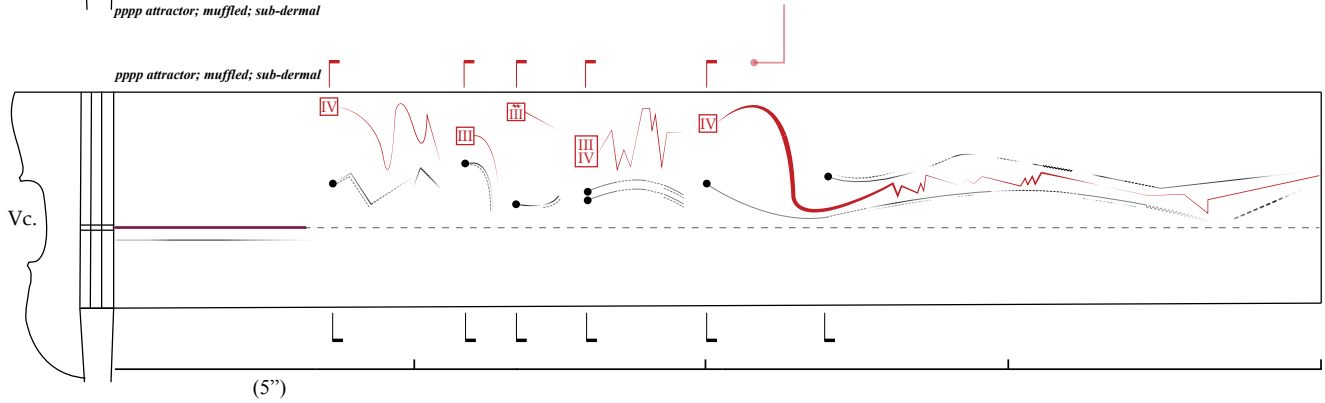
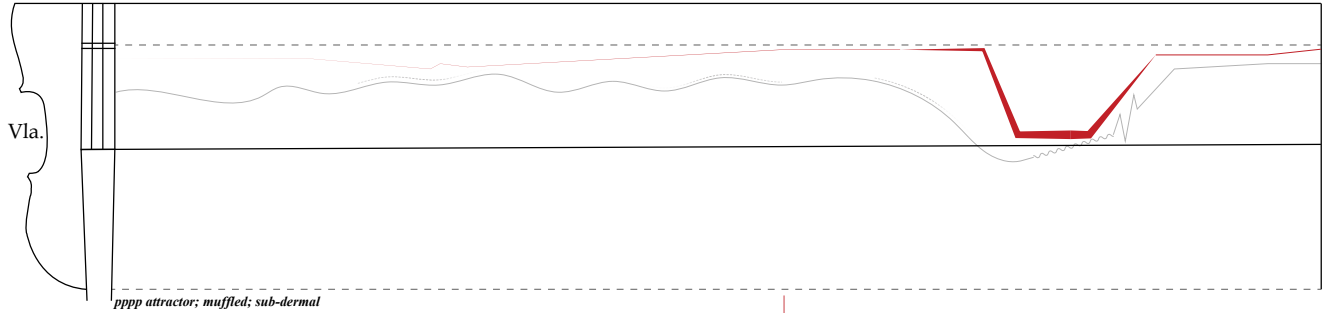
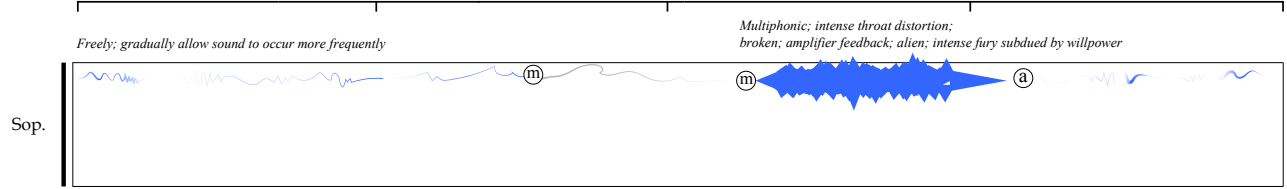
Vc.

Brownian; muffled kinetic drive; microscopic vibrancy; fragile flux

(3'') (5'')

Detailed description: This section contains two staves. The top staff is for Vla. (Viola) and the bottom for Vc. (Violin). The Vla. staff has a red line above it with a circled 'II' and a circled 'IV'. The Vc. staff has a red line above it with a circled 'IV' and a circled 'III'. Performance instructions are written above and below the staves. A diagram at the bottom shows a red line with a circled 'IV' and a blue waveform.

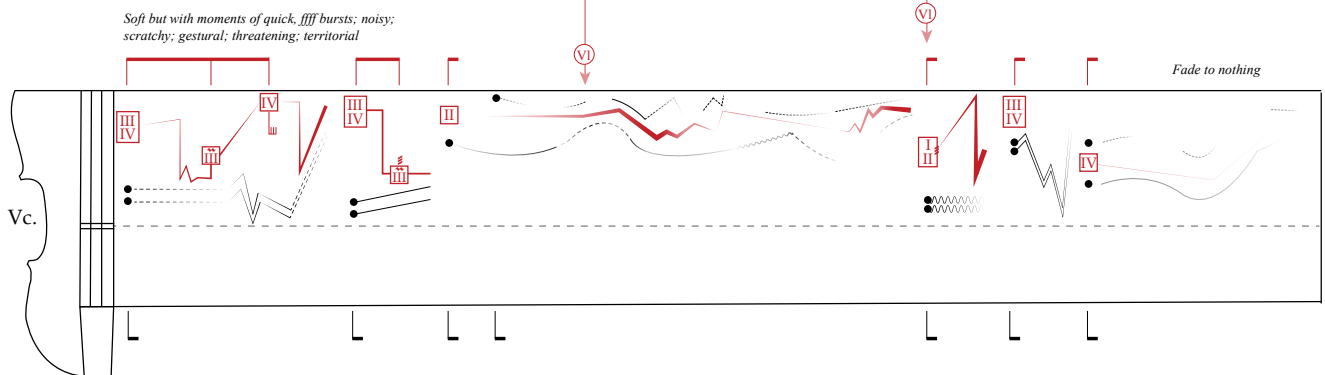
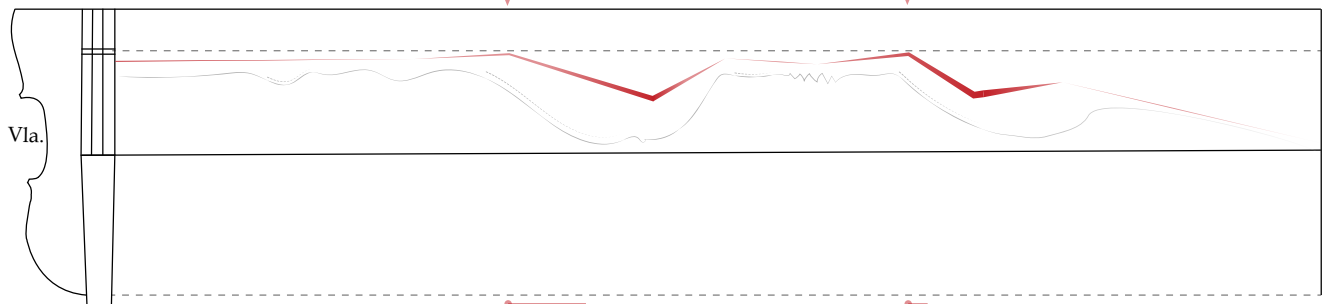
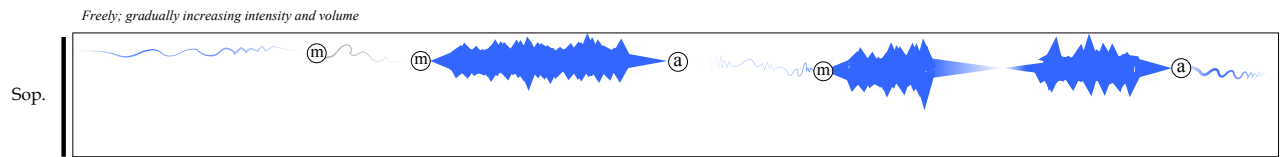
(5'')



(5'')

(45'')

(10'')



(± 10") (± 7") as long as possible

Sop. (solo)

1 breath

Extreme; overzealous; a muzzled, passionate sermon; intense frustration

Mouth open cartoonishly wide; continue until it is no longer possible to produce pitch; visibly/audibly strained



(± 8")

B.Fl. air only lip. accel. Abrupt cut off

T. Sx. air only lip. accel. Abrupt cut off

(± 2") (± 5")

Sop.

Abrupt cut off

fully voiced; free for the first time in a long while

(± 25")

Interactive; responsive; goal-oriented

Extremely small, long, low, gliss.; microtonal; droning; lethargic; lingering; deflating

Unheard; hiding; imperceptibly soft

Uncovered; faint whisper; lingering phantom-esque; going in and out of audibility

Vla. IV

Vc. II Intense; grating Abrupt cut off

As if what you were looking for was in front of your face the entire time but you were incapable of noticing it due to its mellow simplicity

(± 23") (± 2")

B.Fl. (± 2")

pppp attractor
 Long; drawn out; ruminative; fragile; puckering;
 lethargic recoil; circular breath if possible

Abrupt
cut off

T. Sx. (± 2")

pppp attractor
 Long; drawn out; ruminative; fragile; puckering;
 lethargic recoil; circular breath if possible

Abrupt
cut off

Vla. (± 2")

R Nervous/playful dialogue between flute and sax;
 react to one another; vary reaction time; sparse; hesitant;
 extremely impulsive; knee-jerk reflex; use of awkward space

(± 35")

B.Fl. (± 2")

pppp attractor; sempre staccato;
reactive; percussive; aerated; impulsive

T. Sx. (± 2")

pppp attractor; sempre staccato;
reactive; percussive; aerated; impulsive

Negative dynamic spectrum; independent from flute and sax;
 trying to curtail & contain vast amounts of activity and energy;
 something on the tip of your tongue but it must be kept secret;
 futilely denying manifestation; you observe someone, through thick glass, yelling and gesticulating wildly,
 clearly loud, clearly directing energy your way but you hear nothing

Sop. (± 2")

pppp attractor

(± 7")

B.Fl. *Mostly air & key noise; little to no pitch; irregular, spasmodic key movements; no regularity or patterns*

$f \beta \rightarrow i \rightarrow z i (a \beta u) \rightarrow f (i \beta o) \rightarrow \chi \rightarrow \theta \rightarrow f \beta \theta$

T. Sx. *Becoming mostly air*

lip.

Mostly air & key noise; little to no pitch; irregular, spasmodic key movements; no regularity or patterns

$f \rightarrow (i \beta a) \rightarrow z \rightarrow i$



Sop.

pppp attractor



(± 9'')

B.Fl.

$f \rightarrow va \rightarrow vi: \rightarrow \theta \beta \S \rightarrow h i (f \beta z)$

Begin soft and sparse; in and out of audibility; cresc. to loud and dense

T. Sx.

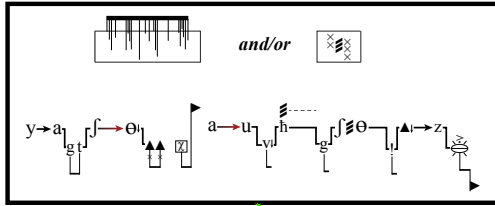
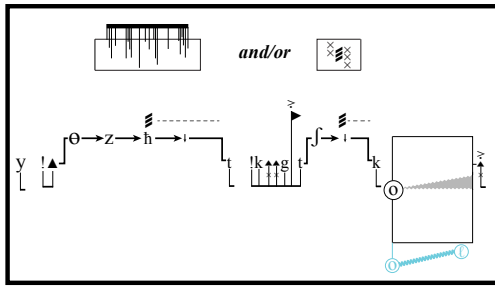
$\theta \beta \S \rightarrow f \rightarrow r \rightarrow \chi \rightarrow ku$



Flamboyant; soloistic; taking a last stand; being pulled between a pppp attractor and a ffff attractor; vicious; chiding; condescending; unhinged

Sop.





S

Improvised, kinetic, dense, fast bursts using the material presented as improvisational material (material can be played in any order, you can use as much or as little as you desire); all following a pppp - ffff dynamic curve; bursts start out short and widely spaced in time; become longer and closer together; all cued by flute; always start and end tutti

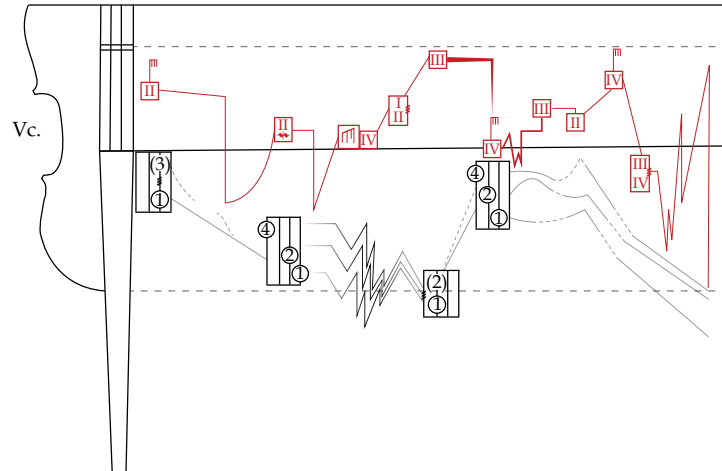
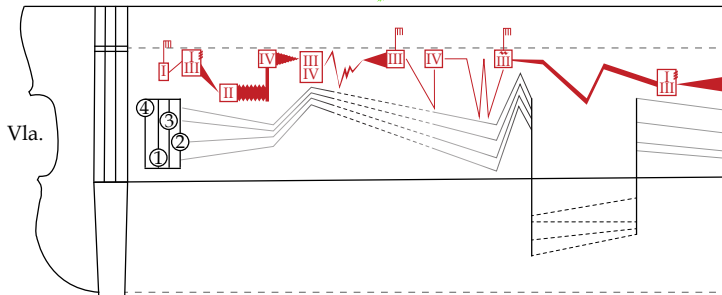
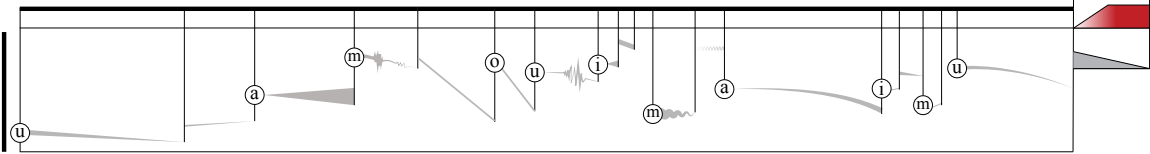
Abrupt stop; tutti

Long; soft; dolce; existing in a vacuum; clear; espressivo

(± 55")

(± 1")

Sop.



(3⁷)

B.F.I.
 f (iʒa) → zi → h → g → k → s → zi → ai → f (iʒy) → vi → t → g → k → hi

T. Sx.
 f β → i → zi (aʒu) → dent. → u → θ → z → h → i → k → g → v → hi (ʒz)

Sop.
 High; fragile; squeaky
 guttural hum; strangely song-like

Phonetic annotations include: (iʒa), zi, h, g, k, s, ai, (iʒy), vi, t, g, k, hi, β, i, zi (aʒu), dent., u, θ, z, h, i, k, g, v, hi (ʒz).
 Spectrograms show frequency contours for vowels and consonants. Red and blue shaded areas indicate specific timbral qualities. Vertical red arrows connect phonetic elements across staves.

(3⁷)

Vla.

Score for Violin with fingerings (I-IV) and bowings (up/down) indicated by red and blue lines. Vertical green lines mark specific rhythmic or articulation points.

Vc.

Score for Violoncello with fingerings (I-IV) and bowings (up/down) indicated by red and blue lines. Vertical green lines mark specific rhythmic or articulation points.

(3⁷)

(3'')

B.Fl.

T. Sax.

Sop.

Vla.

Vc.

(3'')

This musical score page, numbered 28, is titled "Like a malfunctioning, disobedient, rusty iron lung". It features a complex arrangement of vocal and instrumental parts with extensive performance annotations. The vocal parts include Bass (B.Fl.), Tenor Saxophone (T. Sax.), and Soprano (Sop.). The instrumental parts include Viola (Vla.) and Violoncello (Vc.). The score is divided into two systems, each marked with a rehearsal cue "(3'')". The vocal lines are heavily annotated with phonetic symbols such as "f", "z", "θ", "h", "i", "a", "u", "a", "i", "o", "k", "g", "dent", and "χ", along with dynamic markings like "f" and "z". The instrumental parts, particularly the strings, are annotated with Roman numerals (I-IV) and circled numbers (1-4) indicating fingerings. A prominent feature is the use of red and blue shaded areas under the vocal lines, likely representing breath or pitch contours. Vertical red lines connect these annotations across the different parts, indicating precise performance instructions. The notation includes various rhythmic values, rests, and articulation marks, all presented in a clear, professional layout.

(3⁷)

Regular becoming irregular

B.Fl.

T. Sx.

Sop.

This section of the score includes three staves: B.Fl., T. Sx., and Sop. Each staff has a musical line with notes and rests. Below the musical lines are various performance annotations:

- B.Fl.:** Includes a large red 'a' in a box, a 'V→Z→X' transition, and a 'dent.' (dentato) marking. A red 'ts' (staccato) marking is placed below the staff.
- T. Sx.:** Includes a 'dent.' marking and a sequence of notes: f, kh, zi, f, f, zi, (i#a), zi, a, a, a, a, dent.
- Sop.:** Includes a 'dent.' marking and notes: a, j, h, c, z, u.

 Vertical red lines connect these annotations across the staves. A red 'S' (staccato) marking is placed below the Sop. staff. A green horizontal line is drawn below the Sop. staff.

(3⁷)

Vla.

This section of the score is for the Viola (Vla.). It features a musical staff with notes and rests. Below the staff are performance annotations:

- Red lines indicate fingerings (1-4) and bowing patterns.
- Red boxes labeled I, II, III, IV, V indicate specific performance techniques or articulations.
- Red 'ts' (staccato) and 'S' (staccato) markings are placed below the staff.
- Vertical green lines connect this staff to the Sop. staff above.

 A green horizontal line is drawn above the staff.

Vc.

This section of the score is for the Violin (Vc.). It features a musical staff with notes and rests. Below the staff are performance annotations:

- Red lines indicate fingerings (1-4) and bowing patterns.
- Red boxes labeled I, II, III, IV, V indicate specific performance techniques or articulations.
- Red 'ts' (staccato) and 'S' (staccato) markings are placed below the staff.
- Vertical green lines connect this staff to the Sop. staff above.

 A green horizontal line is drawn above the staff.

(3⁷)

B.Fl.

ffff

z → v(i → a) → j

T. Sax.

Sop.

ffff

(3⁷)

The upper system contains three staves: B.Fl., T. Sax., and Sop. The vocal line is written in blue with various vowel markings (u, o, e, i, a, h, z, j, s) and dynamic markings like 'ffff'. The B.Fl. staff has a green box around the vocal line and a red box around the instrumental line. The T. Sax. staff has a red box around a specific passage. The Sop. staff has a red box around a passage and a green box around the end. Dynamics include 'ffff' and 'ff'. The section is marked '(3⁷)' at the beginning and end.

Vla.

The Viola staff shows a complex melodic line with red and grey lines. It includes fingering diagrams (circles with numbers 1-4) and dynamic markings (II, III, IV). A green line above the staff indicates a specific melodic path.

Vc.

The Violoncello staff shows a complex melodic line with red and grey lines. It includes fingering diagrams (circles with numbers 1-4) and dynamic markings (II, III, IV). A green line above the staff indicates a specific melodic path.

(3⁷)

B.Fl.

T. Sax.

Sop.

fff attractor; wild; manical; crazed

decreasing to *pppp* attractor

(3⁷)

Vla.

fff attractor

Vc.

fff attractor

(3⁷)

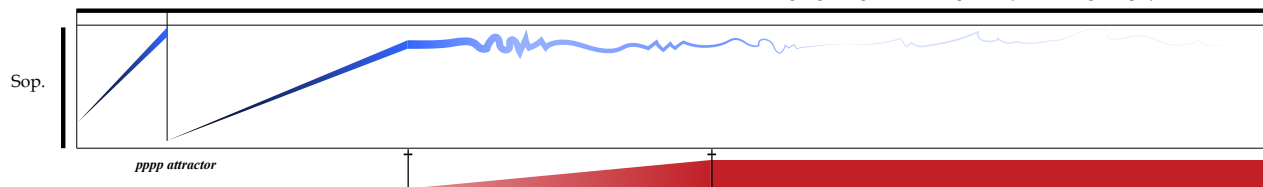
B.Fl.

Phonetic transcription: a-g-h-p-f-l-i-a-z-z-i, s-z-i-t-k, a-t-dent-S-k, f(i#a)-ka

T. Sx.

Phonetic transcription: i-t-s, j-h, z-i-f, z-v(i#a)-f, f-i-z-θ-t, f(i#a)-ka

Succumbing to growing resistance; implosion; faint; lethargic; imperfect



(3⁷)

Vla.

decreasing to pppp attractor

Vc.

decreasing to pppp attractor

pppp attractor

Growing inaudible; whispy; immaterial

(3")

B.Fl.

Growing independent; reclusive; winding down to an intense ppp

T. Sx.

Becoming improvised key noise and vocal shaping of air; key improv continues

(± 4" each)

Growing independent; reclusive; winding down to an intense ppp

Vla.

Growing inaudible; wispy; immaterial; expressive; dramatic

Vc.

Becoming nothing

V Cyclical; ritualistic; Ouroboros-esque; generally quiet and vocal; collapsing in on itself; free control of dynamic contour; like a whispered alteration; high stakes/low volume

(± 5" each)

B.Fl. x3
Becoming improvised key noise and vocal shaping of air; key improv continues; independent

(± 3.5" each)

T. Sx. x4
Independent

(± 4" each) (± 3" each)

B.Fl. x2 x5

(± 2.5" each)

T. Sx. x5

(± 1.5" each) (± 1" each)

B.Fl. x5 x10

(± 1.5" each) (± 1" each) Fast; irregular

T. Sx. x5 x10

(± 15" total)

B.Fl.

Coming together but out of phase; no pulse

Hint at and progress to a pulse; becoming more and more regular; cue sax to start unison

Regular pulse

Maintain pulse; fade to nothing; reach silence at the same time

T. Sx.

Once flute has joined out of phase, after a few seconds, gradually hint at and progress to a steady, strict pulse

Regular pulse

Sop.

Crossfade with flute and sax; emergence of primal backbeat

Repeating solo; gradually becoming less regular; silences between utterances get longer and longer; achieve maximum silence of 5" between utterances; end by unceremoniously looking up at the audience

Unpitched; low and guttural; primal; from the chest; like a heave; begin at no volume, just movement; gradually becomes louder; becomes a backbeat; gets louder as flute and sax fade.

(Freely; at least ± 35")

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