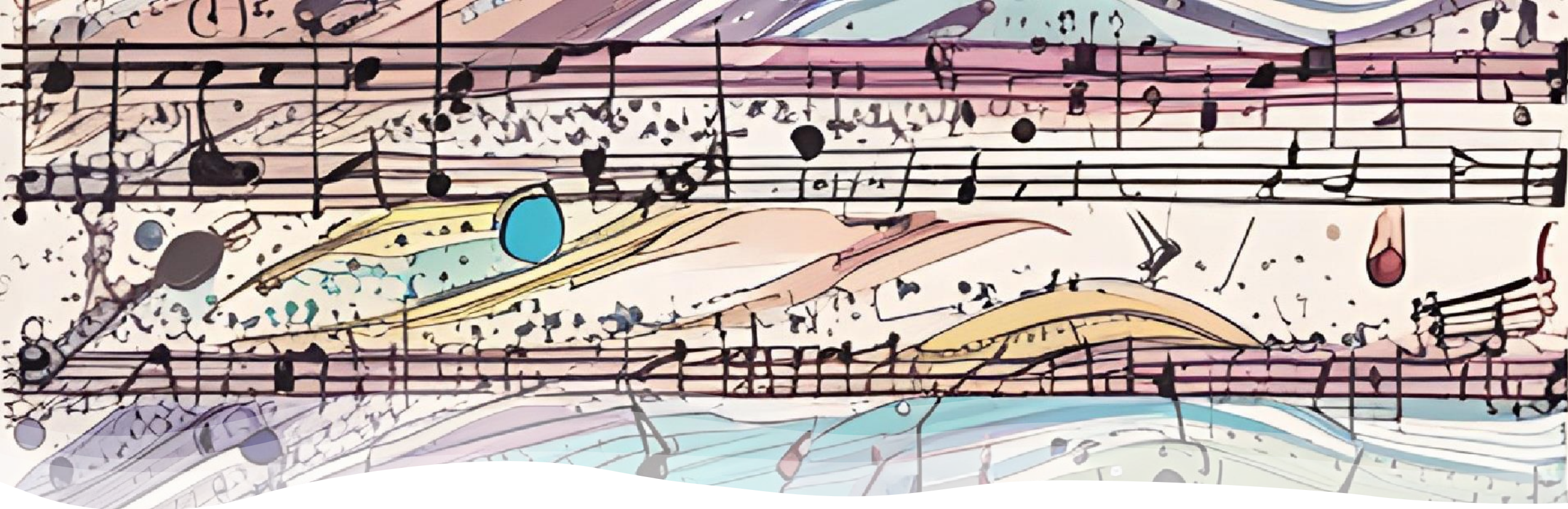


Musicalization:

*Analyses and interventions
on the relationship of systems and aesthetics*



How can music, paradoxically mediated and immediate, combining abstract structure and intense feeling, guide our thinking about other systems in our lives? This course will sustain this inquiry through the notion of music as a “protocol” which can be analyzed, practiced, and transferred across disciplines. It is set up as an interdisciplinary series of seminars, discussions, and workshops intended not only for musicians, but anyone interested in refining the creative dimensions and conceptual ramifications of their practice.

Why this course?

- Towards a conception of protocol not (only) rooted in technology
 - Formal modeling perspective for the mathematically challenged
 - Another take on 'protocol art'
- An alternative approach to introducing concepts of music creation
 - Working around preconceptions, notions, biases attached to music theory & composition
 - Making higher-order considerations and interdisciplinary analogues explicit
- Art and aesthetics as a "testing ground" for systems & experiences
 - "a kind of tinkering with the coordinates of our experience"
(J.-P. Caron, "On Generative Aesthetics, 2017)

Course outline

- I. From Scores To Scoring

- Seminar

- Scores as systems
 - Tensions/tradeoffs in notation
 - Language vs symbolic processes

- Workshop

- Renotations -- "hacking" established systems
 - Text scores, part I

- II. Performance Practice As Protocol

- Seminar

- Loci of expectations of creators, interpreters, audiences
 - "Sufficient" protocols and creative experiences
 - Lore & scenes as social forms of sufficiency
 - Improvisation as sandbox & lab

- Workshop

- Text scores, part II
 - "Bad" performances

- III. The Aesthetic Experience Of Systems & Protocols

- Seminar

- Phenomenology of protocols
 - Sonic protocols
 - Aesthetic excess
 - Rhythmanalysis – timescales of experience
 - Embodiment and habituation
 - Breaking down "vibe" into qualifier and parameters
 - "Musicality" as a condition of experience
 - Duration, flow, consonance

- Workshop

- Art and/as life

- IV. Aesthetic Foundations For Protocols

- Seminar

- "Musical" frames for systems
 - Efficiency vs. thoroughness vs. aesthetics
 - Mapping – putting x parameters on y
 - Constitutive dissonances (Henry Flynt, J.P. Caron)
 - Composing "Everyday aesthetics"

- Workshop

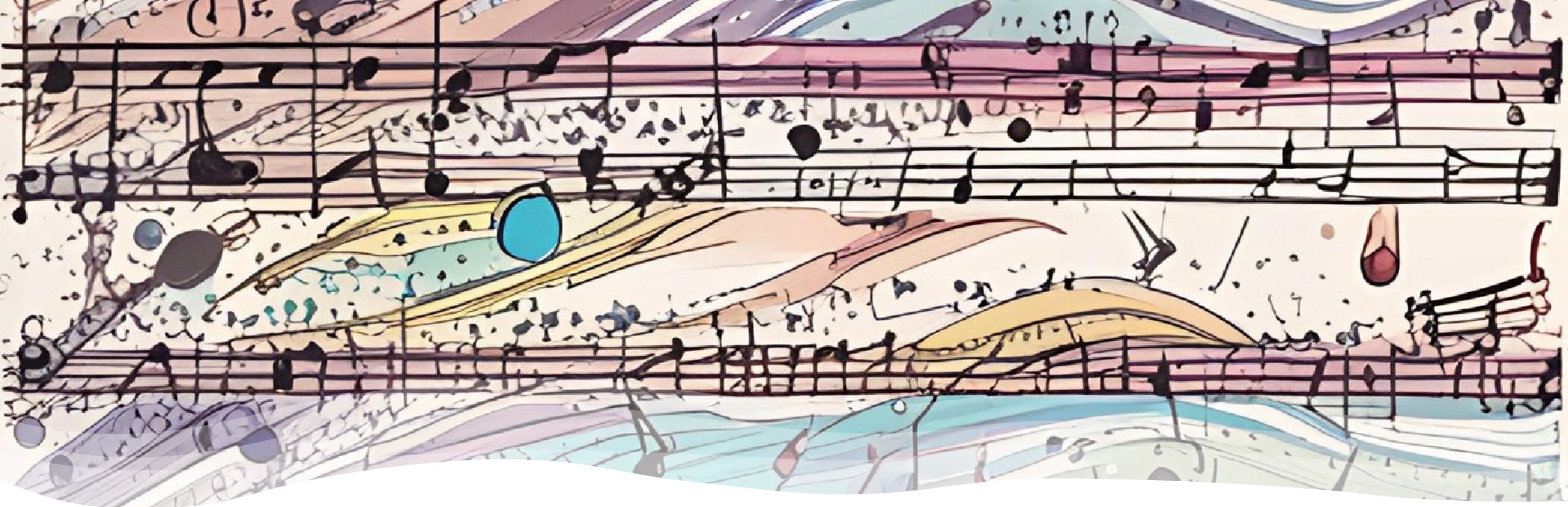
- Participant-driven creations and interventions



Personal background

- Studies in music composition (jazz, sound art, Western art music), critical theory, theater, & program management across the US and Europe.
- Creative output and scholarly research on systems combining composition and improvisation
- Current activities include freelance composition and performance in multiple genres; nonprofit administration; college teaching to music majors and general student audiences.
- SoP 2024 participant: Renotations





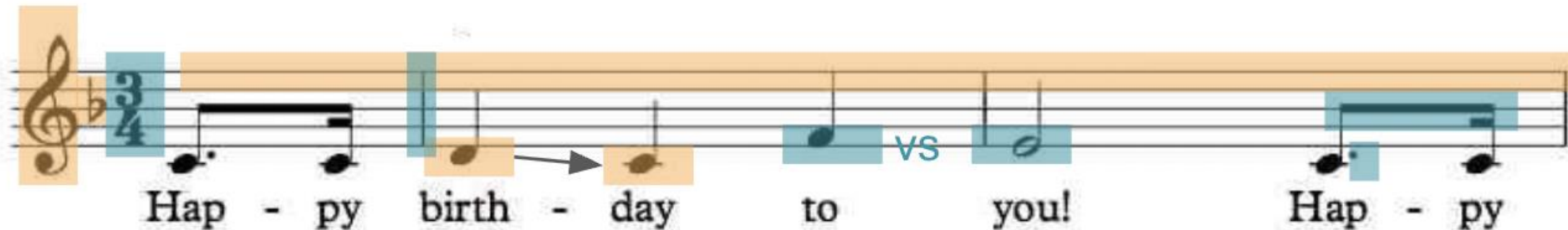
From Scores To Scoring

Notation As Protocol & Symbolic Loci

- *A protocol is a behavior designed for reliable repeatability.*
(Venkatesh Rao, SoP Discord, 2025)
- *A musical score is a statement about organization; it is a set of devices for organizing behaviour toward producing sounds.*
(Brian Eno, "Generating and Organizing Variety in the Arts", 1976)
- *Scores are symbolizations of processes which extend over time. The most familiar kind of "score" is a musical one, but I have extended this meaning to include "scores" in all fields of human endeavor. Even a grocery list or a calendar, for example, are scores.*
(Lawrence Halprin, "RSVP Cycles", 1964)

Happy Birthday

Traditional



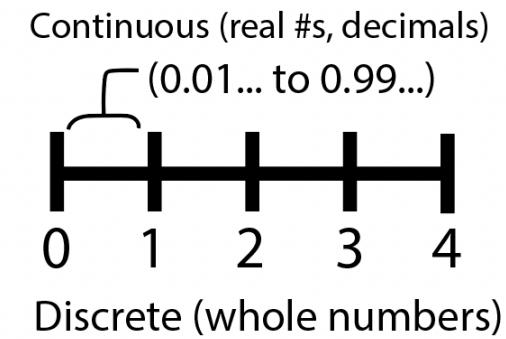
What? Notation: a set of symbols which indicate particular parameters of sound or sound-making activity.
A particular notation ("score") establishes a **protocol** to ensure reliable repeat enactments ("realizations")

Why? 1. Preservation/memory aid: compiling & transmitting instructions for a particular structure of sounds.
2. Coordination: unified interpretation standards enable larger and more precise ensemble (e.g. orchestras)
3. "Notation as an instrument of thought" — symbols allow for new ideas to be efficiently expressed

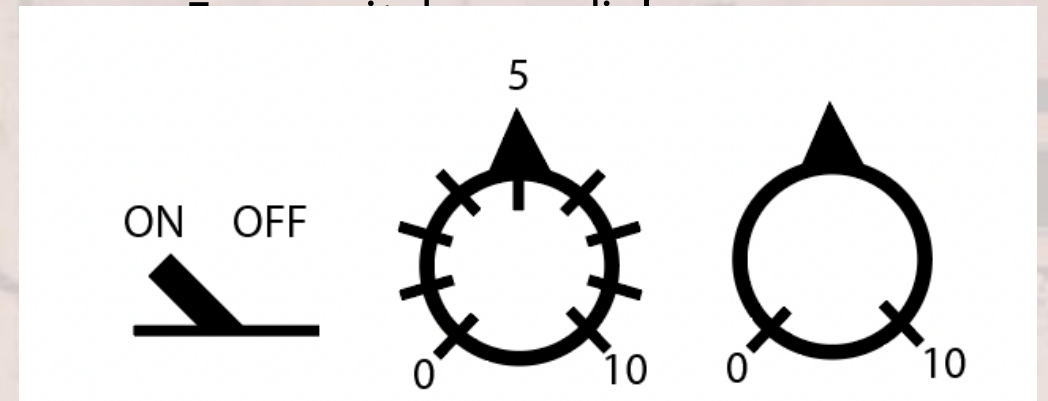
How? Musical training: learning to associate the symbols with particular actions to produce sounds, whether for interpretation (performance) or novel ordering (composition)

Basic conditions for notational schemes (from Nelson Goodman's *Languages Of Art*, 1968)

- Differentiation of symbols to create **perceivable** relationships to elements/parameters of the medium
 - Differentiation = symbols should be distinct and articulate
- Could a reasonably acclimated observer make the connection?



- Distinct: one symbol, one corresponding "thing"
 - Ex: Numbers are a particular quantity, cannot be interchanged without changing meaning
- Articulate: the "things" have a bound, **discrete** range of qualities by which they match the symbol



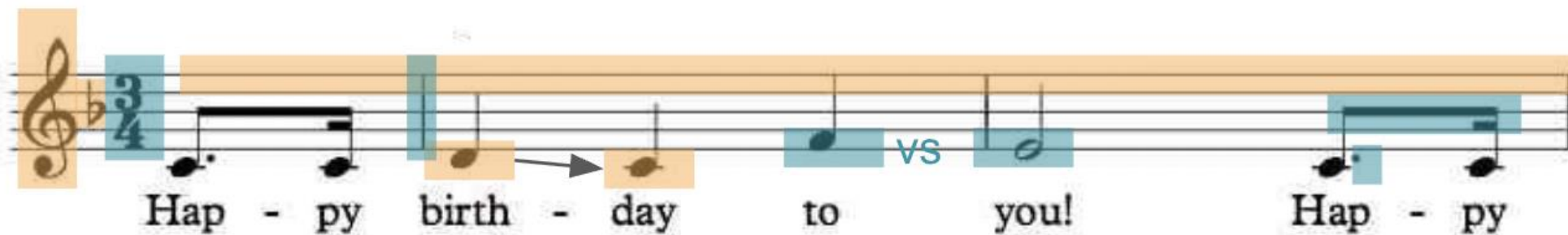
Notation communicates, but it also transforms

- Certain details get prioritized, other get subordinated
- Abstract symbols will get combined differently than the things they represent
 - Novel combinations
 - Suggestions of other applications/cases

“For a good notation has a subtlety and suggestiveness which at times make it seem almost like a live teacher.” (Bertrand Russell)

Happy Birthday

Traditional



Prioritized relationships of Western notation:

- Orange, vertical: pitch/frequency – range of values mapped to lines, clef, 'accidentals' symbols
- Teal, horizontal: duration – note color, dots, "bars" create discrete divisions of time
- Parameters of sound left non-distinct, non-discrete:
 - Volume/amplitude (music doesn't use decibel measures for loudness)
 - Timbre/"color" (i.e. characteristics of different singers or instruments)
 - Contextual qualifications (location, situation, physicality, many others)

Thinking notation as a protocol

(quotes from *The Unreasonable Sufficiency Of Protocols*)

“A protocol is a relatively simple and codified set of behaviors that, when adopted by a sufficient number of participants (human and/or artificial) in a situation, reliably leads to **good-enough outcomes** for all.”

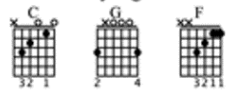
“Good protocols are usually hard-edged, parsimonious, compact, legible, and slow-changing. Surprisingly often, however, the emergent layers of coordination they induce are fluid, profligate, expansive, illegible, and in a state of constant flux.”

“In the best cases, successful protocols work so well, they go beyond solving the nominal problem to catalyzing generative flourishing around the activities they codify.”

Can you think of applications of the above quotes to music notation a “good protocol”?

Happy Birthday

© Start-Playing-Guitar.com



Standard tuning

Moderate ♩ = 90

A Plurality Of Notation Systems:

DODEKA

My sheets Library Log out

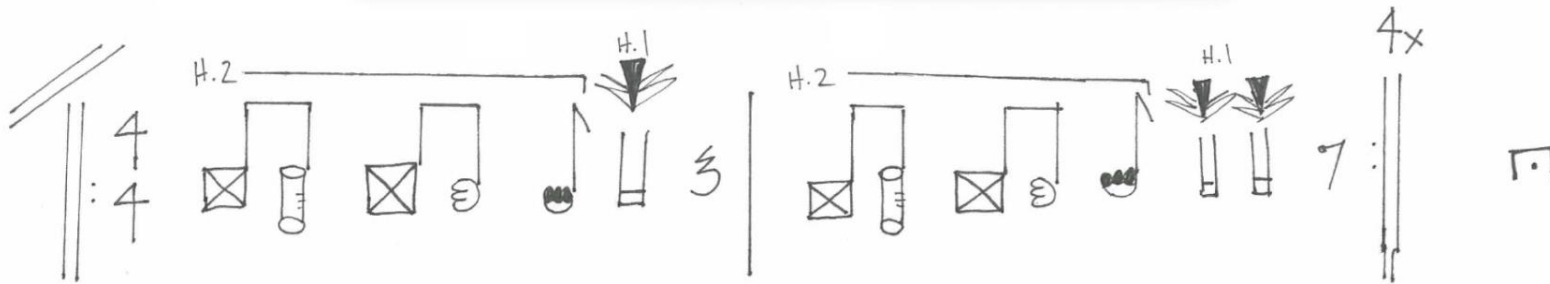
Jessie
Marino



Natacha
Diels

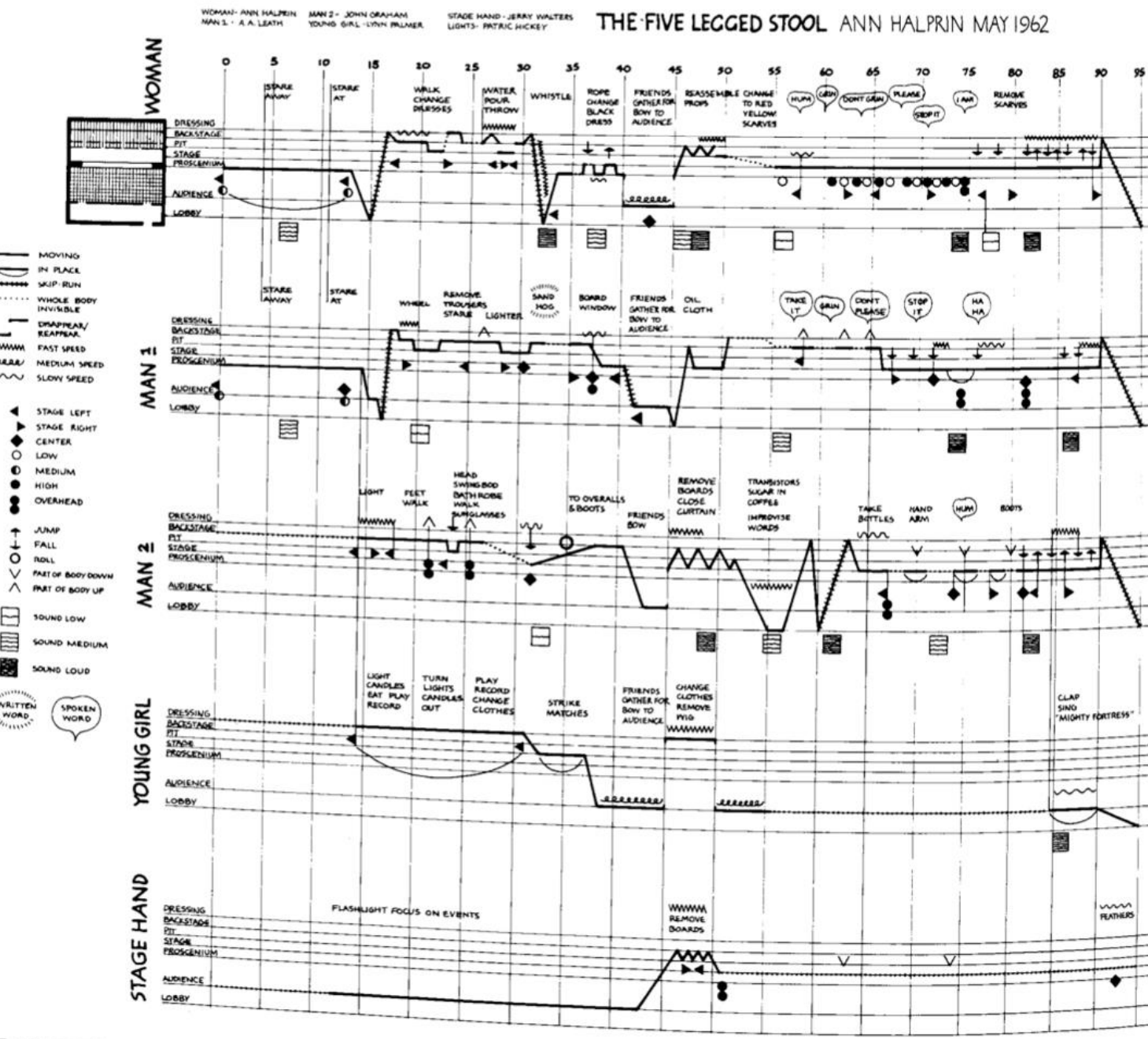
Jessie Marino/ Natacha Diels: "Rot Blau"

**Combination of
conventional rhythmic
notation plus invented and
recurring symbols for
physical action.**



- Scaffolding of familiar elements allows for focus on novel symbols
- Begins with a "key" further describing actions connecting symbol to gesture

Ann Halprin, "The Five-Legged Stool"



Diagramming movement in time
through writing and symbols

Text re-emphasizes scores as representation of *processes*

—XVI—

Begin simultaneously with the others. Sing any pitch. The maximum length of the pitch is determined by the breath. Listen to the group. Locate the center of the group sound spectrum. Sing your pitch again and make a tiny adjustment upward or downward, but tuning toward the center of the sound spectrum. Continue to tune slowly, in tiny increments toward the center of the spectrum. Each time sing a long tone with a complete breath until the whole group is singing the same pitch. Continue to drone on that central pitch for about the same length of time it took to reach the unison. Then begin adjusting or tuning away from the center pitch as the original beginning pitch was.

Variation: Follow the same instructions but return to the original beginning pitch.

From Pauline Oliveros' *Sonic Meditations* (1974)

- Duration is no longer tied to discrete units of time, instead, tied to following a procedure.
 - (I.e. breath-length notes = biological/physical tempo, less abstract)
 - "Correct" pitch becomes interpersonally relative, based on listening.
 - Fewer conditions for sufficiency than symbolic notation,
 - but still enabling "good-enough" interpretation for the piece to be recognized.

Allegro (♩ = 112) J. S. Bach

1

legato

3

cresc.

6

p

9

pp

cresc.

12

dimin.

1st page (of 3) of Prelude in C Major by J.S. Bach (Well-Tempered Clavier Book 1, 1723), typeset original notation

For Western classical pieces such as this, sufficient realization (recognition of the piece as such) is most dependent on the quantitative values (pitch, duration).

Lower-hierarchy values may be qualitatively described:

- Volume is *relatively* indicated by dynamics
 - (Ps and Fs in score)
- Instrumentation is defined in title, but:
 - different pianos/*klaviers* will sound different
 - (typically done with one piano & pianist, but you could have several pianos or pianists)
- Additional language offers further clarifications on playing techniques:
 - *Legato*, *cresc.* – words, not symbols

Prelude with notation condensed into one page via text instruction

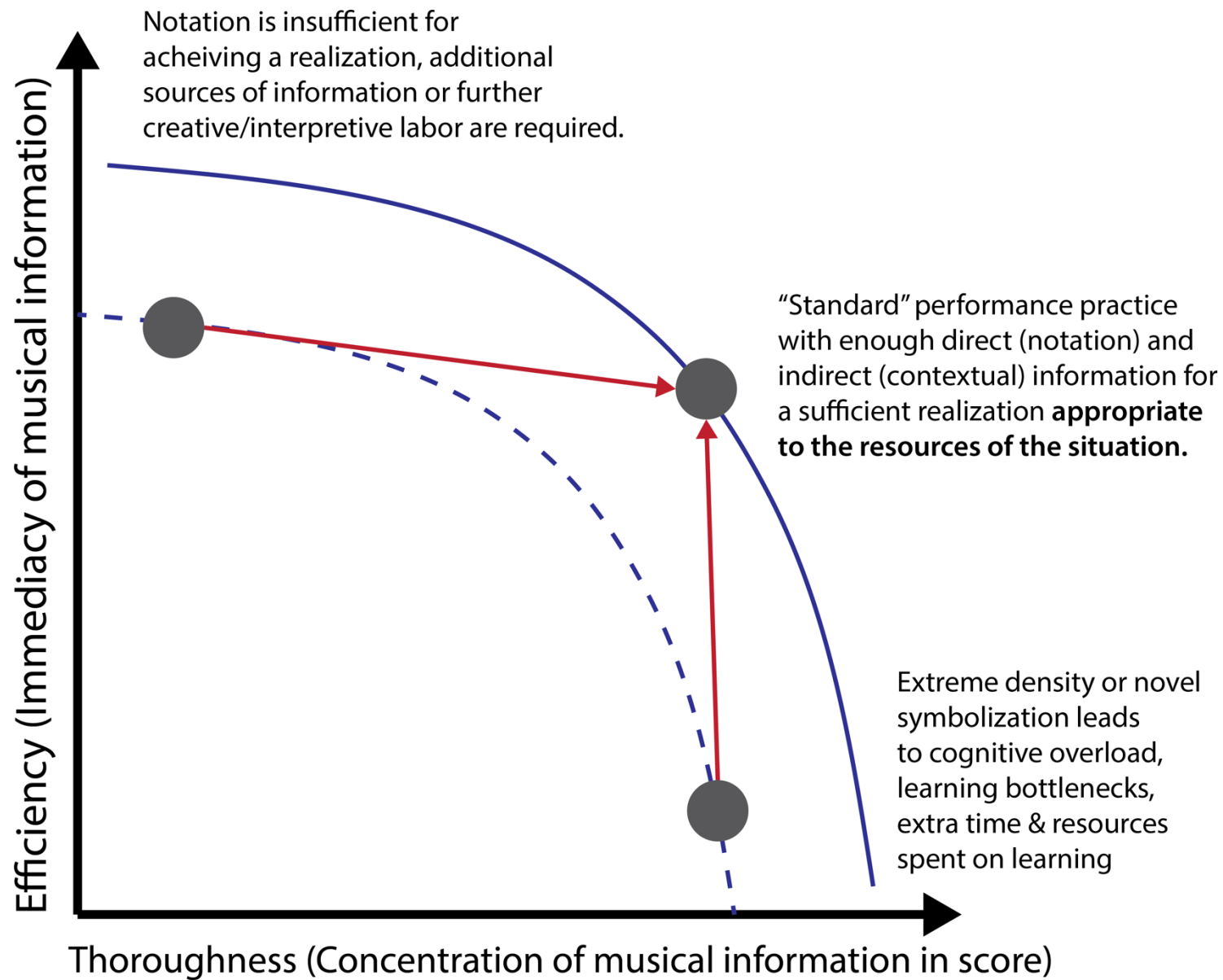
- "Play these chords in the same pattern as the first two bars"
 - Pattern recognition and extrapolation required—
a different skill set and performance practice (ex. More familiar to jazz/pop/vernacular practitioners) than just reading (Western classical/art music practitioners)
 - Fewer pages, but forecloses possibility of variation/ornamentation
- If the instructions are followed correctly, the sounding result should be the same.

Play these chords in the same pattern as the first two bars.

Perform only with "Ave Maria"

rit.

Tensions & tradeoffs managed by notation protocols



Range of acceptable efficiency and thoroughness is context-dependent:

- Skills and training of interpreters
- “Lore”: historical/social points of reference & **expectations**
 - The two above categories typically fill in lack of information consciously or subconsciously

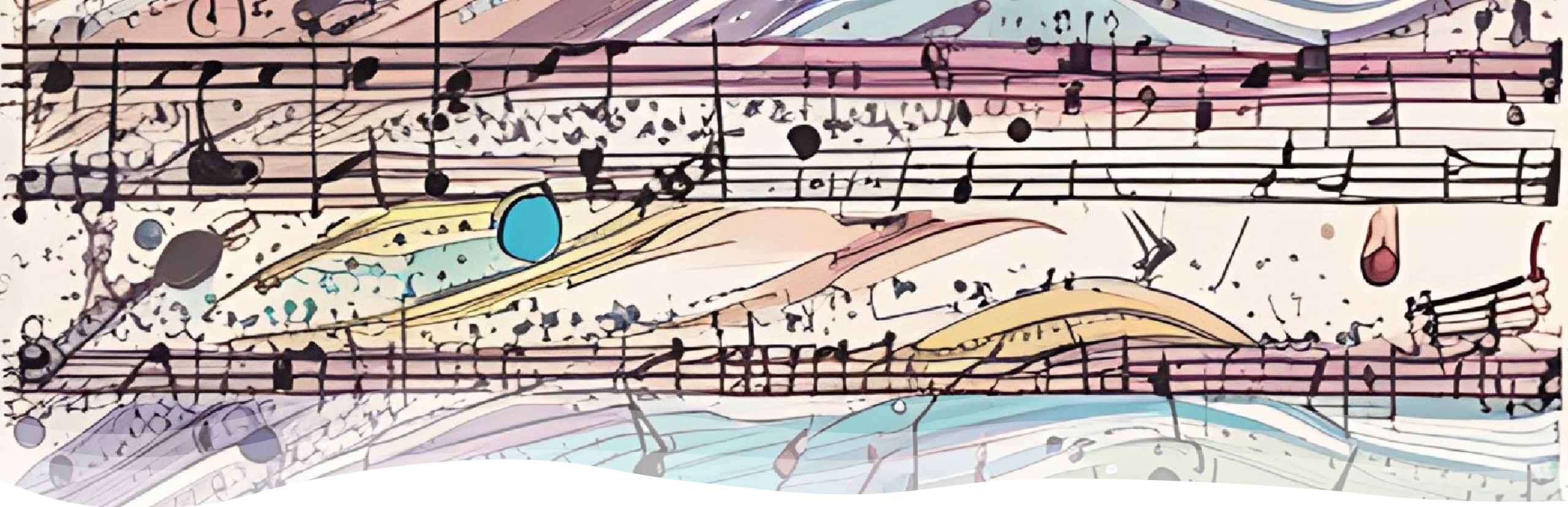
Explicit and implicit parameters of scores & protocols

In music	Parameter-suggesting questions	Outside of music
Ensemble	Who (& how many) is doing what? Are there roles or hierarchies?	Team, "figure and ground"
Instrumentation	What is being used to do it?	Tools
Rhythm	What is the duration of the things being done?	Schedule
Texture	Are the range of things being done homogenous or heterogenous in appearance?	Scope
Volume	How noticeable is the thing when it is being done?	Transparency
Expression, indeterminacy	How much room for variation is there per parameter? What is predetermined and what is improvised?	Agency, punk
Aesthetics	Are the qualities of the outcome more important than the qualities of the procedures?	Practicality

- Can these answers be rendered as discrete values?
 - (imagine a spectrum, a dial, or a set of steps)
- If you have an answer to a question and it's not explicitly stated, where is it coming from?
 - Not all scores or protocols have the same amount of conditions for sufficiency
 - "Thick" or "thin" works in music ontology – protocol equivalent?

ACTIVITY SHIFT – Scoring a handshake

- You will be put into pairs -- see if you can create notation system for handshakes. Consider things such:
 - What are the goals?
 - Literally: physical contact; implicitly: affirmation of connection?
 - What are the parameters? (Of the action? Of the results?)
 - Which parameters are most important?
 - If context or information is not indicated in the score, where does it come from?
 - Could you use this system to do things besides handshakes?
- Consider trying out several kinds of handshakes before going into design
- Or make some descriptions, and work 'down' from there to condensed symbols.
- Let's give it 10 minutes for experimentation, and 10 minutes to reflect.



Aesthetics Of Protocols

What is a “musical” system?

Sound as starting point

“Literary scholar Jennifer Lynn Stoeber describes sonic protocols as “culturally specific and socially constructive conventions that shape how sound is indexed, valued, and interpreted in any given moment.” Those sonic conventions also intone how we index, value, interpret and execute myriad practices within our social and cultural worlds—from labor to leisure, war to worship.”

-Shannon Mattern, “Sonic Protocols”
(in *As For Protocols*, pub. Vera List Center, 2025)

"Protocols reveal and create worlds."

"They tell stories about the contexts they operate in and the people who partake in them. Codifying something in a protocol directs attention to a particular area, thus in some circumstances bringing it into existence for protocol participants. In setting the narrative for a world to a participant, protocols also make the world. One's capacity to achieve flourishing is directly linked to the way in which one perceives the world, of which protocols play a constitutive part. Consequently, this characteristic can also influence how the other characteristics are perceived."

-Janna Tay, "A Phenomenology Of Protocols"
(in [The Protocol Reader](#))

From phenomenology to aesthetics

- Tay's four characteristics of protocol experience include Stability, Constraint, Legitimacy, Narrativity, oriented around catalyzing "flourishing": heightened agency and wisdom
- However, "Exercising autonomy in a protocol system is not as simple as raising your levels of awareness or insight. Even if Pip is at the highest level of both, they may still *feel* unable or *be* physically unable to make a change to their situation...The protocols of protocol systems come with a signal of desirable behavior and a consequence for not engaging in it." (Angela Walch, "The Protocol Systems Experience", also in *The Protocol Reader*)
- What we perceive (phenomenology) is filtered through how we judge those perceptions (aesthetics), which leads us to act in the world in a way creating further perceptions and reinforcing certain attentions.

*Towards a definition of "musicality"
and aesthetics for protocols --
Some provocations towards parameters*

- **Legitimacy** of (multi)sensory input (sound, also forms of sight, touch, etc.)
- Distinction and discrete parameters
- What is the role of embodiment?
- Expressivity/variation/**constraint** within a procedure
- Rhythm, tempo, periodicity, **stability**: scales and divisions of time utilized
- Priority **narrative** of outcome (pragmatics) vs. feeling (aesthetics)

Considerations of musicality on the SoP Discord...



Timber | UTC-5 8/2/25, 11:40 AM

The musicality of protocols has been on my mind a *lot* the last couple of weeks. Part of the reason I think is because it's drawing parallels that I normally wouldn't think about. For example, would a dance choreographer be able to tinker with and improve the layout of a TSA checkpoint? How do diplomatic protocols establish a rhythm of correspondence? Similarly, Ethereum block time is like a metronome



@Timber | UTC-5 The musicality of protocols has been on my mind a *lot* the last couple of weeks. Part of the reason I think is because it's drawing parallels that I normally wouldn't...



Venkatesh Rao | UTC-7 | → 🧠 📅 8/2/25, 2:08 PM

Disneyland queues!



@Timber | UTC-5 The musicality of protocols has been on my mind a *lot* the last couple of weeks. Part of the reason I think is because it's drawing parallels that I normally wouldn't...



Jenna Dixon | UTC-5 8/2/25, 2:29 PM

Ice hockey warmups!



Ben Zucker | UTC-6 8/2/25, 6:26 PM

Are these examples or possible applications? 😂

Obviously I'm gonna do my best to get towards this in my class, but the Protocol School alone probably won't cut it.

The unusual parallels is exactly the angle I'm aiming for. As concise as I can get so far is that musicality activates a different set of embodied structures and priorities than most conventional systems--I've been trying to highlight musicality as an "aesthetic" approach in the sense of art's "uselessness" -- musicality/aesthetics for a protocol don't make it more efficient, but **that's exactly what makes it so important and possibly effective**. TSA lines and crypto are tied to 'needs' that presuppose a kind of immediacy, but what if they don't need to be?

Musicality, I think, leads to the bigger question of "what if we prioritized feeling over result?" -- and then, "what protocols already do that?"



Venkatesh Rao | UTC-7 | → 🧠 📅 8/2/25, 6:38 PM

When they put live piano keys on staircases, people don't just climb the steps in a boring do-re-mi order but skip around picking out melodies, delaying their journeys. There's a tension between exploring the musicality of a protocol and utilizing its function.

Time and real-time decision making; shaping the spontaneous

- *One day I saw him coming out of a bar on Via dei Genovesi. I took out the Philips microcassette recorder I had just bought and asked, "Steve, in 15 seconds, what is the difference between composition and improvisation?" Without hesitation he answered, "In 15 seconds, the difference between composition and improvisation is that in composition you have all the time you want to think about what to say in 15 seconds, while in improvisation you have only 15 seconds." Back at home I timed his answer. It took exactly 15 seconds.*

Frederic Rzewski, quoted in Derek Bailey, *Improvisation: Its Nature and Practice In Music*

Time and the body as frame of reference

TABLE 1
Musical Correlates to Bodily Motions

Body Motion	Musical Correlate	Approximate Frequency Range (Hz)
Breathing, moderate arm gesture, body sway	Musical phrase	0.1–1
Heartbeat, sucking, chewing, walking, sexual intercourse, head nod	Musical pulse (<i>tactus</i>)	1–3
Speech/lingual motion, hand gesture, digital motion	Smallest musically salient subdivisions of musical pulse; fast notated rhythms	3–10
Phoneme, rapid flam between fingers or limbs	Grace notes, deviations, asynchronies, microtiming	10–60

(From " Embodied Mind, Situated Cognition, and Expressive Microtiming in African-American Music" by pianist, compo

The everyday as a frame of reference

Henri LeFebvre, *Rhythmanalysis*

"Does musical time coincide with lived time? Or with imaginary time (duration)? Metaphorical?"

"The rhythmmed organisation of everyday time is in one sense what is most personal, most internal. And it is also what is most external...It pertains neither to an ideology, nor to reality. Acquired rhythms are simultaneously internal and social."

Yuriko Saito, *Aesthetics of the Familiar*:

"One could imagine a spectrum with two contrasting extremes, one end indicating those rare occurrences most of which involve intentional inclusion of aesthetic planning and expectation, as well as those daily activities that are predominated by aesthetic considerations (as in choosing the clothes), and the other end occupied by other objects and activities, such as household chores and preparing work-related documents, toward which we normally take a non-aesthetic attitude for pragmatic purposes."

What to do with frames of reference?

- These serve as the foundations for our mental models, decision patterns, and the conceptual metaphors which extend them.
 - Conceptual metaphors = referring to one idea, or “domain” with the qualities of another (ex. “Turn up the volume” -> quantity as direction, subsequently manifested in embodiment or design, ex. faders on a mixer)
- How would an action change if moved around on Saito’s spectrum of aesthetic/non-aesthetic, or into another frame of reference?
- Musicalization: what attentions and considerations around music (performing or listening) are shared by other activities, or would change how those activities function? (Does dancing your PhD change how they think about the research?)
- Proto-provocation: ***what makes a ‘groovy’ life?***

Protocols mediating life and art: (with reference to the 1960s NY avant-garde; emphases mine)

*"I find a principle running through these cases which I call constitutive dissociation. **Constitutive dissociation presupposes a genre with a standard protocol.** In the genre, situations are established by ordainments. (A reality exists because of somebody's rule.) Moreover, it is customary in the genre for situations to have certain aims. A constitutively dissociated situation comes about because **the instigator of the situation alters the aims of the genre from the customary aims, without declaring so.** Since the traditional aims are foregone, the instigator can evade or replace standard protocol with an inscrutable protocol (a contrived enigma)."*

[\(Henry Flynt, "Concept Art"\)](#)

*"...the main thrust of constitutive dissociations is methodological- it is a logical tool for the reconfiguration of contents both in the conceptual and the sensible order in the sense that Flynt himself puts forward when he suggests it as an "epistemological laboratory". **Constitutive dissociations are to be understood as a meta-protocol** for constructing practices and worldviews to be further tested against one another."*

[\(J. P. Caron, "On Constitutive Dissociations as means of world-unmaking: Henry Flynt and generative aesthetics redefined" via E-Flux\)](#)

ACTIVITY SHIFT – Beginning to Constitutively Dissociate

- A space for discussing, diagramming, or composing an intervention in one of your protocols.
- Breakout rooms for 1-3 participants each.
- Begin with a protocol/system in your field or zone of interest. Describe it, discuss it, maybe diagram or notate it, in terms of the following:
 - Tempo, rhythm, timing, on the big and small scales
 - Predictability
 - Feeling (in your mind and/or body, or others')
 - Constraints
- What is one change you could make to one of these categories?
- How would this change make it less useful but more interesting? Is there a way to strike a balance between these qualities?

Moving further outward

"Sometimes, just reframing the way we look at a common practice opens up new questions and insights and enables different decisions. I think this framing of protocol systems has resonance both for self-reflection and for system-level analysis, as it asks us to consider the effects of protocol systems on the individuals within them."

(Walch, "The Protocol Systems Experience")

"Brushing my teeth attentively for two weeks...An unremarkable picture of myself was beginning to surface, and image I'd created but never examined. It colored the images I made of the world and influenced how I dealt with my images of others. I saw this little by little."

(Allen Kaprow, "Art Which Can't Be Art", in *Essays On The Blurring Of Art & Life*)