

Mark Applebaum
Handbook for The Metaphysics of Notation

The Metaphysics of Notation (2008) is a 72-foot wide, hand-drawn pictographic score divided into twelve continuous panels.¹ It is accompanied by no instruction regarding its interpretation. The work aspires to elicit a musical response from a performer, but despite its profusion of concrete, detailed glyphs it advocates nothing specific about the nature of their aural realization. Furthermore, I heard no sound in my head while composing the piece. This is a radical departure from the conventional approach to composition, the responsible one I was taught in which the composer's job is to imagine—preferably with exacting resolution—a sound object and then, through the deft application of the most relevant notation (whether traditional or invented—but if the latter, surely a defined one) produce a specification from which a performer (burdened or invigorated by a marginal or essential role as interpreter) can realize this imagined sound.

The score has inspired over one hundred radically diverse musical interpretations and remains the locus of a larger social project that invites questions about musical ontology, the meaning of notation, the roles of composer and performer, the boundaries of interpretation, the impact of context on musical enterprise (it first appeared in a museum), and so forth. This paper focuses on some of the musical attributes of the score's notation. At its core, the piece is a singular artifact narrowly defined by its frozen, circumscribed visual makeup, however elaborate. It is a work that is self-consciously concerned with form above all else—its particular shapes, geometries, and contours. While these shapes may at first seem unfamiliar or even exotic to most performers, I will show that they can function in ways that are analogous to fundamental compositional conventions.

Although it is worthy of discussion, in this context I will evade a deliberate examination of my aesthetic motivation for such reckless creative enterprise. I wish to point out, however, that it runs parallel—it has not replaced—an abiding interest in composing music in which I first pre-hear the result, as well as the manufacture of scores whose symbols are assiduously defined (by me or through communion with a common practice, both ancient and recent). Instead, my point here is that, although the premise for *The Metaphysics of Notation* is arguably unconventional (or at least not mainstream), it has qualities that are common to all music. To wit, my determinate, non-pictographic pieces, and most music for that matter, are also concerned with form—their shapes, geometries, and contours. Roger Reynolds used to extol the idea of musical “profile” considered in various parameters. In lessons he would note the blandness of a particular amplitude profile, or the iconicity of a noteworthy rhythmic profile. The word “profile” immediately conjures visual imagery and ideas about shape. Pinocchio has an especially memorable profile. By extension, one might consider the “silhouette” of Mickey Mouse. It is not

¹ Robert Arnold's documentary film about the project, *There Is No Sound in My Head*, appears on Vimeo.com and the Mark Applebaum DVD *The Metaphysics of Notation* (Innova 787, 2010).

only well-known as a successful commercial meme; it is arguably a shape of intrinsic distinction, and this gives it the kind of memorable quality that is often desirable to the composer of musical material. Reynolds' use of visual analogy is telling but not new. One recalls the now esoteric *Schillinger System of Musical Composition* that allows a city skyline to be employed as a melodic template. And pictographic notation goes back at least to the *Ars subtilior* composers of the 14th century.

Although I chose not to hear sound when composing the *Metaphysics*, I was often conscious of the deliberate analogy between notational shape and musical discourse. There are two corresponding concerns that I will explore. First is the idea of devices used for rhetorical development. Second is the idea of large-scale formal connectivity.

Devices Used for Rhetorical Development

Consider Panel 4 (Figure 1). At its left side a shield appears. (For ease of expression I'm calling it a "shield"; but I think of it equally as "a shield-looking thing that, to the broad-minded interpreter, may or may not evoke *shieldness*." The point is that an interpreter should not be limited by my verbal descriptions.) Although partially obscured behind the first shield, a hook or letter J appears to rotate from one shield to the next thus implying (or again, more accurately, "potentially inviting an inference of") inversion (Figure 2). The incremental clocklike advance—as opposed to a sudden 180-degree flip—may intimate either some kind of slow motion melodic inversion, or the inversion of a chord from root position to first inversion to second inversion, etc. Meanwhile, the shields descend in the vertical dimension, thereby suggesting transposition or sequence. Their descent by equal quanta evokes a chromatic-like field as opposed to a diatonic one. That the shields' patterns are each unique—a display of autonomous, unrepeatable vocabulary—implies a kind of serial approach to class, or perhaps the succession of timbres heard in kangfarbenmelodie.

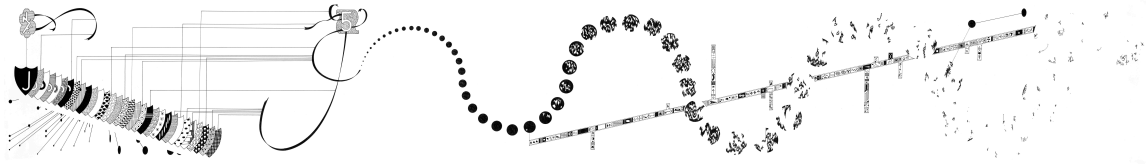


Figure 1. *The Metaphysics of Notation* Panel 4

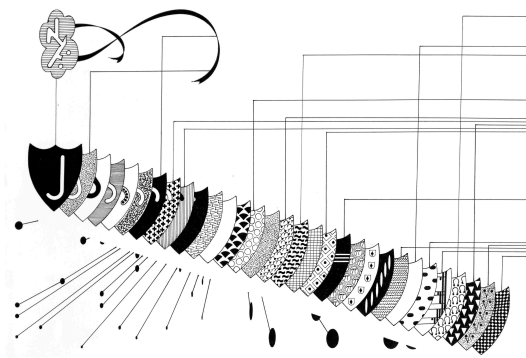


Figure 2. *The Metaphysics of Notation* Panel 4 close-up: descending “shields”

Later, circles appear in a sinusoidal curve, potentially arguing for a consonant timbre (Figure 3). The circles grow in size, thus indicating the occurrence of augmentation. They become distorted, perhaps inviting an enrichment of timbral character. Or perhaps it is not distortion, but rather dematerialization, elimination, or fragmentation—like Beethovenian atomization or what Messiaen called skeletonization.

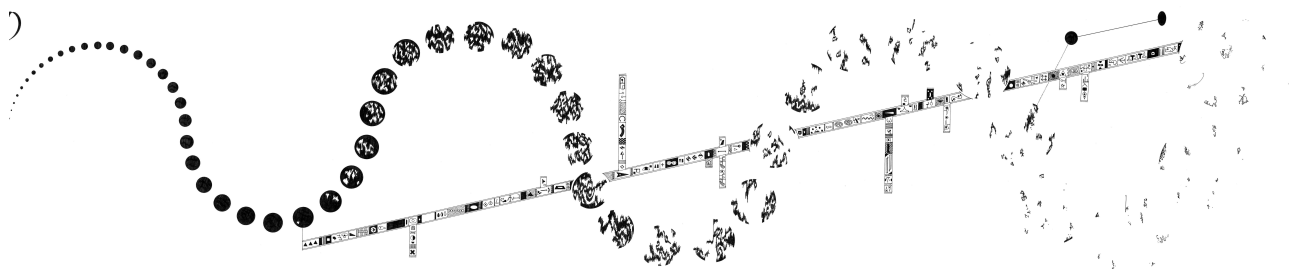


Figure 3. *The Metaphysics of Notation* Panel 4 close-up: sinusoidal curve

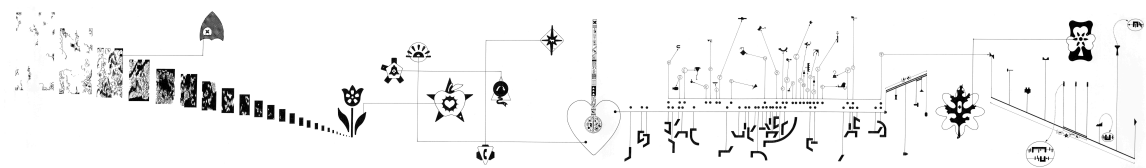


Figure 4. *The Metaphysics of Notation* Panel 5

As we continue to the beginning of Panel 5 we find the faint detritus accreting, materializing in retrograde fashion back into something concrete and complete (Figure 4). It reminds me of the ethereal, vaporous beginning of Mahler’s *First Symphony* out of which eventually grows identifiable material of chiseled suasion. But in contrast to Panel 4, the opening material in Panel 5 no longer repeats along the path of a sinusoidal waveform; instead it merely diminishes in descending glissando fashion (Figure 5). More noteworthy, its materialization is not a strict

retrograde return to circular forms. Instead it employs orthogonal, rectilinear shapes as if a mode change has occurred, be it from major to minor, or mean to just intonation; or perhaps a modification in some other dimension altogether, say meter (e.g., duple to triple), dynamics (e.g., soft to loud), personnel (solo to ensemble), poetics (e.g., aquarian to existential), etc. The point is that some kind of modality seems to have changed valence.

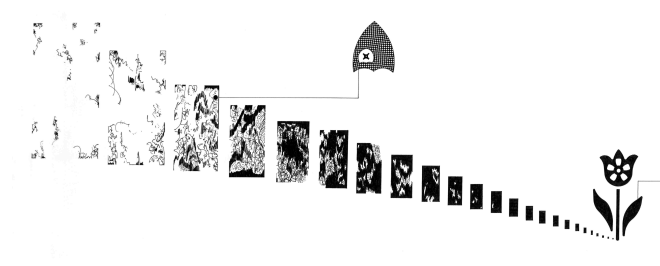


Figure 5. *The Metaphysics of Notation* Panel 5 close-up: materialization of rectilinear forms

Returning to Panel 4's wave of circles (see Figure 3), a counterpoint emerges underneath in the form of the upward sloping diagonal (potentially a portamento) comprised of many small details (reminiscent of ornamentation, decoration). Unexpected, irregular (syncopated) bits of varying length extend above or dangle below the slope, thus suggesting accents, chordal congruencies, or multiphonics. This slope feels fundamentally independent of the circles (it is both contrasting and non-accompanimental), thus establishing polyphony: an expansion of voices and a richer texture. And the languages of the two voices are so dissimilar in personality that one envisions Ivesian simultaneity or the character patterns of Carter.

Just before the slope disappears two new glyphs appear above it: a small circle and a small oval, both black. The circle echoes the genesis of the sinusoidal wave of circles that have since evolved to their mature state of augmentation and dematerialization. The oval is its squashed permutation, a kind of thematic metamorphosis or, in its simplest sense, a variation. The circle and the oval are far enough apart that they might appear atomic, isolated. Or, to use Cage's language, *unimpeded*. But, because they are connected by slender lines, we are compelled to see mutual belonging, a molecular constellation. Cage would call them *interpenetrated*, and their connection affects how we understand them and, presumably, how we might play them.

The downward glissando of materializing rectangles in Panel 5 seems to terminate in a point, a seed that grows into a flower (Figure 6). This constitutes a striking change, the sudden presentation of a contrasting material soon followed by more idiosyncratic ones (e.g., a bell, an apple, a telephone). Arguably, these materials possess stronger, more concrete cultural associations than their more geometrically platonic neighbors. This might parallel an act of musical quotation, or perhaps

natural mimesis like birdcall in Beethoven or Messiaen. I'm at a loss to suggest additional meaning for these icons. But by now the reader is probably able to play this game without my help.

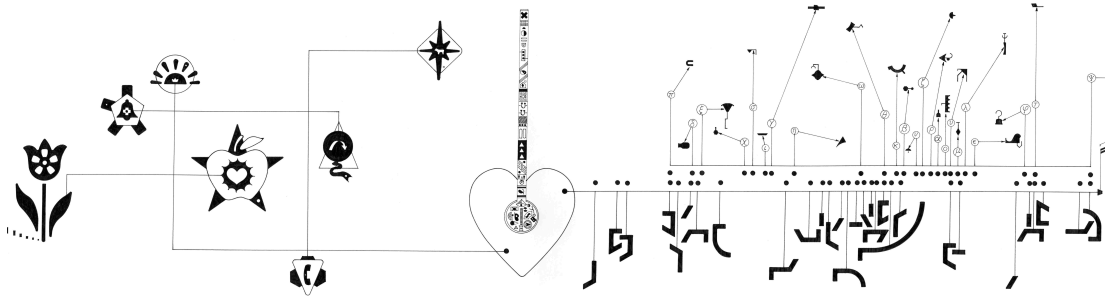


Figure 6. *The Metaphysics of Notation* Panel 5: close-up: contrasting materials, “heart guitar”, and canonic dots

A vertical stripe of decorative embellishments appears next. If it seems familiar it is because it constitutes a reappearance of the irregular, syncopated bits that extended above or dangled below the slope in Panel 4. As such, it represents motivic recurrence, something that could arouse an emotional affect: after the appearance of many contrasting novelties the return to the familiar could be felt as a welcome tonic, economical relief, or perhaps even wistful nostalgia. At the same time, the stripe has changed: it is elaborated by a bulbous bottom and contextualized by a heart shape. Taken together my daughter instantly identified a “heart guitar.” So perhaps a lyric song and instrumentation change is in order at this point.

To the right of the heart extends a series of dots arranged in two horizontal, parallel rows. The dots embody syncopated repetition. If you look carefully you will notice that the rows contain identical proportions, they are just temporally displaced as in imitation or canon. I chose dots as a deliberate homage to Conlon Nancarrow’s temporal canons for player piano, their rolls methodically punched with holes just so.

Above these piano roll holes appear odd stalagmites crowned with unique figuration. They contrast the limited vocabulary found in the dangling mobiles underneath whose sundry angles (one looks like a hockey stick) are simply axial inversions, retrogrades, and retrograde inversions of one another.

Having commented on most of two panels I will end my analogic exegesis here. A more thorough evaluation is certainly possible, but this will suffice as an introduction to the manner in which visual data can be considered analogous to traditional musical devices. If we continued to probe this terrain we would find a plethora of additional devices on other panels: ostinato, sound mass, phase shifting, pedal point, microtonality, isorhythm, clusters, elongation, rotation, melisma, cadence, drone, non-retrogradable rhythm, metric modulation, and stochastic

textures generated by aleatoric procedures. Climax can be found nearly everywhere: the highest point, the blackest field, the wiggliest line, and so on. One can also observe that the work is graphically teeming with comparably generic concerns that musicians and visual artists alike consider: symmetry and asymmetry, juxtaposition and superimposition, consonance and dissonance, resolution, interruption, and the predictable satisfaction of propensity versus the inhibition of tendency, to name a few. There are even a variety of musical techniques whose linguistic genesis resides in visual art, such as the mobile form and pointillistic texture.²

I'm not insensitive to the fact that, despite my elucidatory examination, the score will still appear foreign to most musicians. Many will find its provocation an insult to their years of tireless devotion to common practice approaches. The composition is not, however, intended for these "professionals." Its fanciful, idiosyncratic curiosities are directed to more "abnormal" players, often ones who have overcome their conservatory training. This breed is game for such creative enterprise, a collective of musicians who, while indeed a minority, form a remarkably expansive and extraordinarily enthusiastic community.³

But for both the inclined and the averse, my purpose here is simply to recognize the kinship that this kind of artistic adventure has with traditional compositional devices. Josquin, Bach, and Schönberg use retrograde; so do I. Counterpoint can be heard in the music of Palestrina, Brahms, and Ferneyhough; and while it may or may not be *heard* in *Metaphysics* (its sounds are left to each interpreter), it can be seen clearly there. My score and those of Frescobaldi, Beethoven, and Messiaen employ augmentation. Palestrina, Haydn, Wagner, and I are concerned with cadences. Sequence is common to Du Fay, Mozart, Chopin, and my score. *The Metaphysics of Notation* didn't invent the canon; it is found in Ockeghem, Monteverdi, and Nancarrow. My point is that it is worthwhile to note the commonality among our compositional tools, not only the obvious contrasts in notational vocabulary. And there is another contention here: in all contexts these compositional tools imply and embody shape.

At the same time, I cannot stress enough that the aforementioned observations need not direct an interpreter. The project of the *Metaphysics* includes the hope—abundantly fulfilled—that I would experience utterly novel and unexpected interpretative solutions to the work's peculiar challenges. These wide-ranging outcomes were mainly the consequence of the breathtaking scope of the players' imaginations. But I believe that they were also aided by my cautious avoidance of providing hints. (It is a piece that I have vowed never to perform, precisely in hopes

² A more exhaustive discussion might consider everything from music in Kandinsky's art to a survey of today's young visual artists for whom the employment of sound in their work is more typical than atypical.

³ They even gather for scholarly conferences on the topic, such as *Time Stands Still: Notation in Music Practice* at Wesleyan University, 2013.

of not suggesting authorial precedent.) For example, the best performers do not assume that the score must be read from left to right (even if my aforementioned description of, say retrograde, relies on such a conception), or top to bottom, or even in a single direction. For that matter it doesn't have to be read linearly at all; some have chosen to interpret entire panels as a single gestalt—much like how an eighth note is not read up or down or side to side but is simply grasped wholly as an indivisible symbol. The score needn't be considered in its entirety; some players have set up fixed instrumentation in front of a single panel as opposed to taking a peripatetic tour of all of them. A realization can be improvised or carefully predetermined.⁴ And the score could stimulate responses that are not even conventionally musical (e.g., it has been interpreted by spoken word poets and dancers).

So I write this with a degree of wariness, one alleviated mainly by an understanding that the intellectually intrepid, curious, creative musicians who are attracted to *Metaphysics* will likely read this paper and simply ignore it, they will accept the challenge of inventing their own solutions that are beyond my limited conception. Cardew's *Treatise Handbook* undertakes a seemingly similar project, but it is markedly different: it collects competing solutions for the interpretation of his non-standard notation; that is, it is a postmortem account of diverse sonic production. Whereas my comments merely observe the way in which my non-standard notation is compositionally analogous to traditional compositional technique; that is, it retroactively imagines how its shapes came to be on the page for a musical purpose.

Large-Scale Formal Connectivity

It should be evident that shapes move in a logical manner in the horizontal plane, a visual rhetoric that suggests continuity. (Again, I'm not insisting that an interpreter abide or even consider this.) Logical congruence is present both within a given panel as well as across the interstices between successive panels. So the logic of the right edge of Panel 4 continues on the left edge of Panel 5 and so forth. Moreover, the glyph at the end of Panel 12 is the same glyph that appears at the beginning of Panel 1, so the entire work forms a circle in the horizontal plane. As such, there is no implied beginning or ending point; in fact, my very use of panel numbers is only for ease of discussion.

But the logic also works in the vertical plane. That is, visual continuities appear when Panel 4 is stacked on top of Panel 5. So the score can be read up and down, as well as left and right. And it also forms a loop in the vertical dimension: Panel 12 can be placed above Panel 1. Thus large-scale formal connectivity is a deliberate design attribute of *The Metaphysics of Notation*. This kind of interlocking, overly wrought, hyper-idealized formal plan is featured in much of my conventionally

⁴ This is a particular pet peeve of mine: why must non-standard notation *always* stimulate an improvised response? Can't a performer work out its assignation system of notational signs to musical sounds and actions in advance?

notated, determinate modernist music. But in pieces that are about sound (which is to say, virtually all music), any given moment exists only for an instant after which it can persist only in memory. In contrast, the plastic, permanent surface of the page is not limited to sound's fleeting temporal essence and thereby affords the composer new structural opportunities, such as the *Metaphysics*' torus-like formulation.⁵

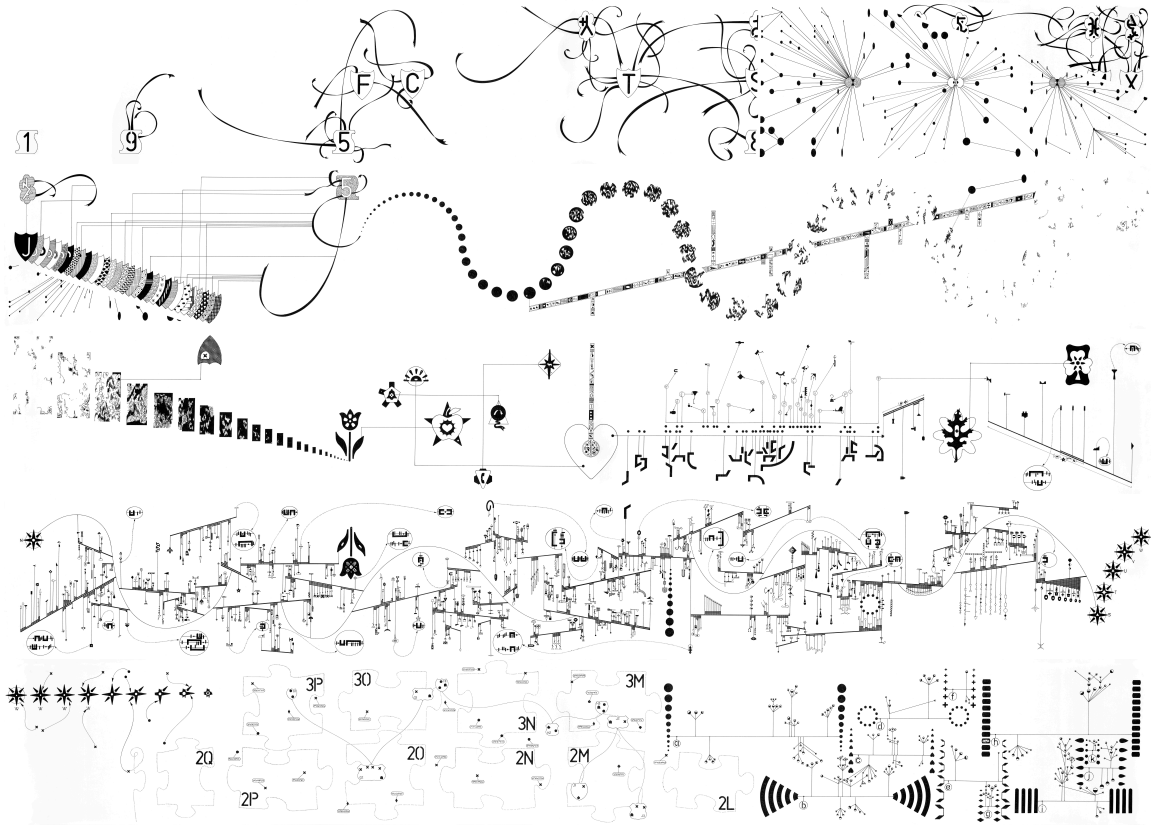


Figure 7. *The Metaphysics of Notation* Panels 3, 4, 5, 6, & 7 in stacked arrangement

In Figure 7 we see Panels 3, 4, 5, 6, and 7 in a stacked arrangement. From this view one can track some of the mechanisms by which formal connectivity appears in the vertical domain. First, let us to reconsider the interpenetrated circle and oval described in Panel 4. We see that, from a horizontal perspective, not only is the oval a local, adjacent permutation of the circle, the two together comprise a distant motivic echo of the similar circles and ovals sprayed on the preceding panel. But when read in the vertical plane they appear immediately as the inversion of one particular corresponding circle and oval pair at the bottom of the preceding panel (Figure 8).

⁵ A three-dimensional score would afford countless other possibilities.

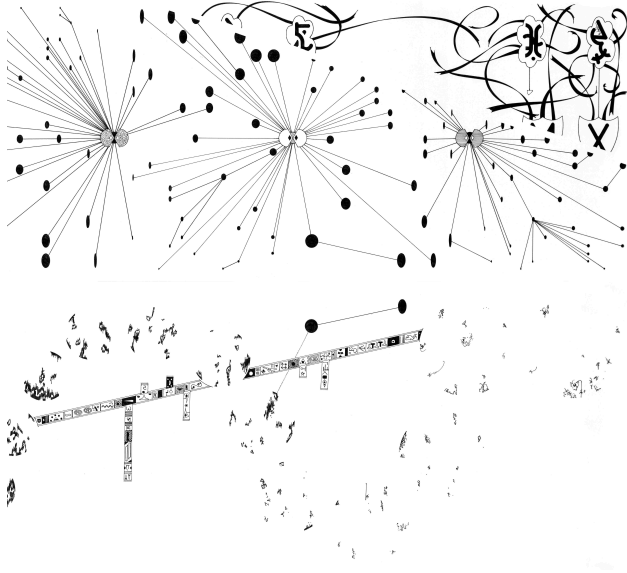


Figure 8. *The Metaphysics of Notation* close-up: circle and oval pair inverted across Panels 3 & 4

Inversion can also be seen earlier in Panel 3 at the bottom where a kind of scroll shape adorned with the number five is inverted onto the upper part of Panel 4 (Figure 9). The shading of the latter scroll is altered, thereby suggesting a kind of mode change. Such mutation anticipates other variances: first, the scroll outline inverts but the number five within it repeats without alteration; but more significant, eight “ribbons” extend from the Panel 3 scroll and five appear in the Panel 4 scroll, only three of which are in common as inverted reverberations of one another.

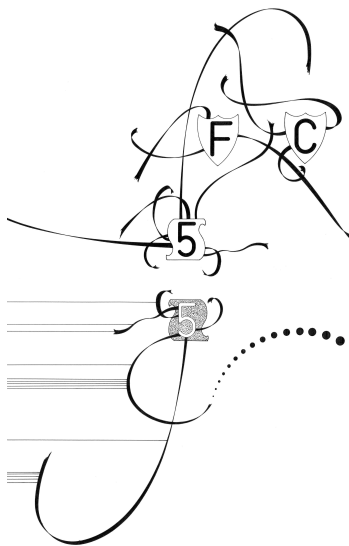


Figure 9. *The Metaphysics of Notation* close-up: “scroll” with number five inverted across Panels 3 & 4

The logic continues across Panel 4 to Panel 5, first by way of two inverted shields, and then by the aforementioned “heart guitar” which lines up precisely with the first bit of dangling embellishment in Panel 4 (Figure 10).

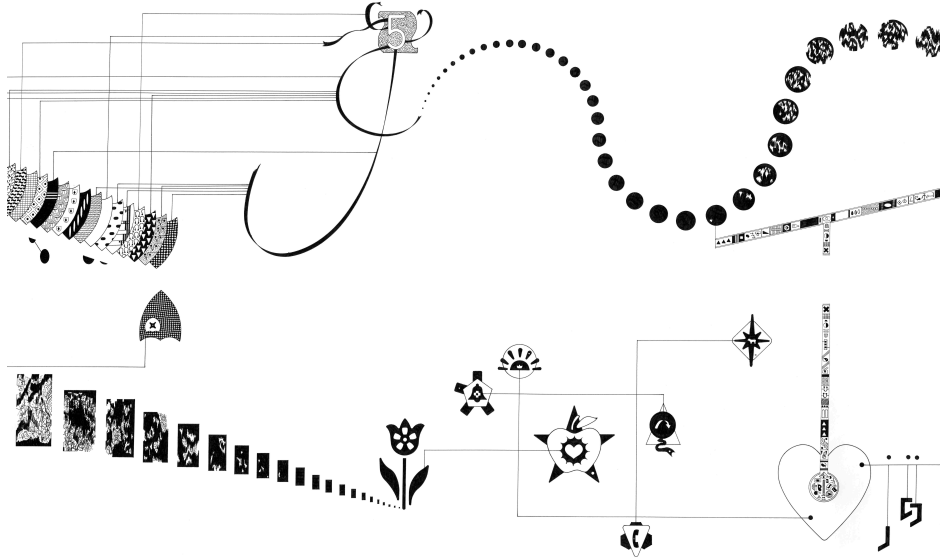


Figure 10. *The Metaphysics of Notation* close-up: Panels 4 & 5 inverted shields, connection to the “heart guitar”

Then Panels 5 & 6 are conjoined in the vertical plane by one of the dangling angles—a hockey stick looking doodle—that points directly to its double mirror image (it is flipped both horizontally and vertically) (Figure 11).

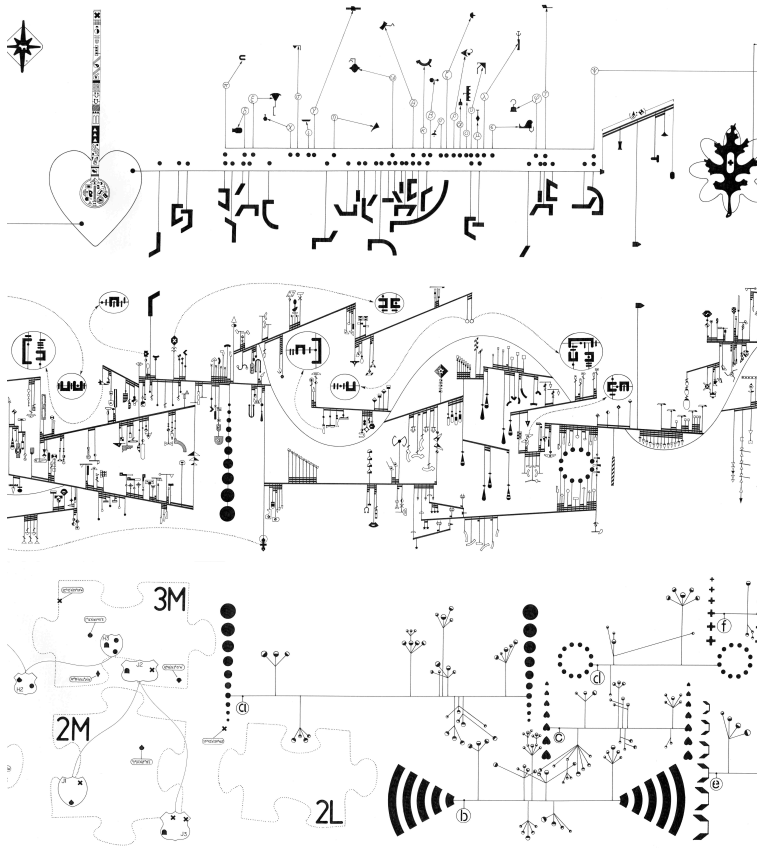


Figure 11. *The Metaphysics of Notation* close-up: Panels 5, 6, & 7 dangling angles, chain of circles, dot clock

Continuing downward, Panels 6 and 7 are linked by two pathways (Figure 11). First, a vertical chain of circles, themselves sequentially augmented in size, is seen in flipped form on the other side of the divide. And later in Panel 6 there appear twelve equal-sized dots arranged in a ring, like points on a clock. This “clock” is directly adjacent to an identical clock (one of two) in Panel 6, a kind of reflection through the looking glass.

Let us reconsider one of the vertical linkages between Panels 4 and 5 in order to reflect on its meaning (see Figure 10). As already mentioned, the “heart guitar” in Panel 5 lines up precisely with the first bit of dangling embellishment in Panel 4. The heart guitar appears in Panel 5, but it is as if it is hanging from—belonging to—the slope in Panel 4. As such, its direct connection to the prior panel would seem to eliminate its identity as a distant motivic recurrence. If its ancestry is of the present instead of the past it should erase our ability to feel things like nostalgia. In other words, if materials in Panel 5 occur simultaneously with those of Panel 4, they cannot be considered part of Panel 4’s future. So the vertical logic confounds the horizontal one and vice versa. This structural superfluity purposefully forces the interpreter to choose among temporal constructs, or to ignore them entirely in favor

of a different strategy for harmonizing the inherent temporality of sound with the intrinsic stasis of the drawn image.

Similarly a strange temporal puzzle occurs across Panels 9 and 10 (Figure 12). Starting in the second half of Panel 9, a series of tiny repeating dots curls from the bottom of the page, loops counterclockwise, and straightens into a horizontal compartment where it grows in size, diminishes, and finally vanishes off the right edge of the page. Continuing horizontally onto Panel 10, it is evident that these dots are the genealogical progenitors of those that begin on the panel's left side; after all, they line up in the horizontal plane with Panel 9. The Panel 10 dots grow in size, multiply into three larger circles, and lead to a series of waves constituted by various polygons and simple shapes. Eventually a curl of small shapes emerges near the middle of the panel. It arcs around clockwise, counterclockwise, and then disappears off the top of Panel 10. But this trail connects—one could say begets—the aforementioned series of dots on Panel 9. So where is the origin of this infinite, recursive visual rhetoric? It is a paradox of chronology that is evident in the visual domain but cannot be rationally represented in the time—and one could say *shape*—of musical sound.

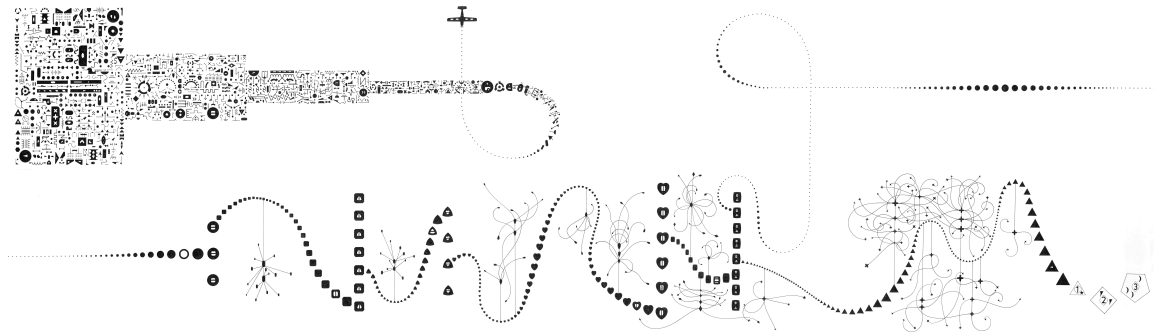


Figure 12. *The Metaphysics of Notation* Panels 9 & 10 in stacked arrangement

Coda: Recent Works

It is worth mentioning that shape has continued to inform my compositional agenda since *The Metaphysics of Notation*. This includes a recent preoccupation with musical choreography, the shape of the body on stage. In *Aphasia* a performer executes dozens of gestures—a kind of nonsense sign language—in precise mimetic synchrony with a pre-recorded tape of mercurial, hyperactive sounds. Meticulous description of the gestures in the score aspires to stimulate a precise realization. But while the gestures bear evocative names to assist the performer's memory (e.g., *saw board*, *row boat*, *throw dart*) the lone expressive concern is to convey the shape of the body in space, not to project cultural associations. For example, an action that I call *smelling salts* is meant to present a small, crisp, snapping motion of the wrists as if breaking a small vial; it is not intended as an evocation of or commentary on medical practice.

Rabbit Hole is a mixed octet in which the performers are constantly relocating among three stage locations. Furthermore, they are asked to perform a plethora of ancillary musical actions—preparing an up bow, down bow, or pizzicato articulation, putting on mutes, changing among flutes, oiling a trumpet valve, picking up percussion instruments, changing mallets, turning pages, etc. However, they seldom make sound: events are prepared but rarely articulated. It is a near silent piece, save for the quiet profusion of prescribed motions associated with musical production. In *Rabbit Hole* shape is the consequence of deliberately choreographed paramusical activity.

In the fourth movement of *Straitjacket* five players draw on amplified easels. They draw in precise rhythmic unison, their synchronized lines, dots, and shadings thus producing a monophonic sound. But the pictures they draw on their easels are not the same. At the end of the piece they will have produced five entirely different drawings. But whereas *The Metaphysics of Notation* began with a pictographic score intended to elicit indeterminate sonic responses, *Straitjacket* produces a particular pictographic score as the result of determinate musical articulations.

At the time of this writing *Composition Machine #1* is a work in progress for solo performer. It begins at stage right where the performer unfurls a scroll of pictographic notation and plays it according to a personal but predetermined interpretation system. The scroll is then ingloriously compacted and dropped onto an amplified table covered in paper at center stage. A miscellaneous bevy of prescribed objects are successively placed on the table and moved in given rhythmic fashion. At the conclusion of this ritual the outlines of the objects are traced on the paper in marker. This paper—a new scroll—is then taken to a stage left position where it is performed on different instruments but according to the same fastidious interpretation system. The piece concludes after the player has rolled up the scroll and deposited it at the original stage right position, conceptually preparing for a subsequent performance. What I like about this project is its combined attention to notational shape, choreographic shape, and the virtual, conceptual looping shape that describes a piece that produces its own score.