(script for presentation)

A/semanticity and plastic constraint: Anthony Braxton's new notations

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name and title

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Anthony Braxton's 1977 tour-de-force, Composition 76 (for three multi-instrumentalists), drew together the wide array of musical influences and compositional paradigms both technological and spiritual which had characterized his work so far.

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album cover

Its relative fame, however, owes as much to the visually-arresting notation on the cover of its debut album as it does to the work's own musical merit.

This evocative image, actually two of the work's modular cards placed side-by-side, was until the 2010s the only excerpt widely accessible to scholars, whose speculations about the work were thus inevitably under-informed. Thanks to the efforts of the Tri-Centric Foundation, we now have access to a full edition of 76's performance score—an artifact which seems to raise as many

questions as it answers.

Thankfully, 76 is also one of only a small number of Braxton's works to have received a thorough write-up in a popular theory journal. Paul Steinbeck, in his 2018 submission to JMT, performs an exemplary close listening to 76's two performances on *For Trio*, addressing the unique way its modular construction impacts moment-to-moment performer creativity; detailing several key facets of players' interactions with the notation and with each other.

One thing it lacks, however, is sufficient focus on the underlying mechanics of Braxton's evocative notation scheme; a system complex and perhaps unintuitive enough to require delicate unpacking.

In short, Composition 76, and its notation in particular, pose several questions which current analytic tools seem insufficient to address:

- What does it mean to "read" a score when its notation moves freely between "fixed" and "open" directives in the course of a single phrase?
- Or when "fixed" and "open" only imprecisely describe the notation's mechanism of action?
- Or when we're not quite sure if we're even looking at notation at all?

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Ligeti's essay

Using these questions as a sort of polestar, much of my work over the past two years has spiralled outward from a single essay on the mechanics of new notations.

Following a sudden influx of unconventionally-notated scores at

Darmstadt in the late fifties and early sixties, several authors attempted to grapple with this sea change to varying degrees of success.

By far, the most convincing of these efforts was György Ligeti's still-untranslated 1965 essay "New Notation: Means of Communication or End in Itself" on which I spoke at last year's session. Here, Ligeti develops a novel typology dividing notation proper—encoded directives for music-making—from what he calls "musical graphics"—drawings which may superficially *resemble* notation but which differ entirely in use and function.

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LIGETI'S TYPOLOGY

Specifically, Ligeti differentiates three distinct varieties of notation proper: "Result" notation, encoding musical *products* (typically sounds); "recipe" notation, encoding musical *processes* (often parameters of physical movement); and "action" notation, encoding sound or action specifically using *visual metaphor*.

It is worth noting that for Ligeti, function takes precedence over form: Rather than distinguish new notations by the extent to which they differ from our familiar staves, stems, and beams, Ligeti opts to center notation's semanticity: how (and to what degree) it bears encoded meaning, either provided by convention or by the composer directly.

As such, what Ligeti describes as "musical graphics" are in fact a category unto themselves, a sort of *anti-notation* which, to function as intended, must remain provocatively codeless—demanding an entirely distinct form of player engagement that has little to do with traditional musical literacy.

This mode of engagement I shorten to "ekphrasis," a term which describes a necessarily imperfect "translation" from one medium

to another—a painting of a poem; a poem of a dance; or a dance of a film. As in these examples, musical graphics compel performers to imperfectly translate inscription into sound and action via a mechanism entirely distinct from "reading" as we typically understand it.

These four "Ligetian" forms of musical inscription, I argue, provide us with the basic tools to describe late-century neonotations with much greater clarity.

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76 INTRODUCTION

Composition 76, perhaps more than any work preceding it, demands such a typology in that it so thoroughly combines these forms, radically altering the familiar act of "reading" and the ways improvising musicians typically interact on the bandstand.

The work comprises 41 "sub-modules" {A1}–{T2}, grouped into pairs or triples, which may be performed in any order decided in advance by the trio. Within these modules, Braxton creates sequences which he describes as either "fixed" or "open," with stark visual distinctions between the two apparent at first glance.

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H1–H2

Let's listen to the first page of Version I from the album, just to get the sound in our ears:

| ▶ ··· VERSION I: H1–H2 |

For a given player, each submodule, {A1}, {A2}, etc., is posed as either "fixed" or "open" with very little overlap.

"Fixed" sub-modules seen here on the right are distinguished by five-line staves featuring traditional treble and bass clefs, one of Braxton's original "diamond" or "X" clefs, or no clef at all.

Phrases lack time or key signatures, but are fitted with dynamic markings and any number of unfamiliar symbols, and may be copied in black or in a variety of colored inks.

"Open" material is another animal entirely. Each "open" submodule, two of which are seen here on the left contains three clefless fragments on five-line staves and one staffless fragment linking two staves. Each five-line staff is assigned shorthand for "dominate," "support," or "open."

Attached to three of the four fragments are geometric shapes, each of which features a tripartite numeric code near the shape's perimeter. Both shapes and staff appear in full color, each receiving red, orange, green, blue, cyan, violet, or brown ink, though staffless fragments are always given in black.

Fragments and shapes, including the "combinatory" shapes starting with submodule {M1}, appear rotated and/or pivoted in space, yielding what Braxton dubs "three-dimensional notation". Finally, a larger numeric code made up of four signed values from negative 3/4 to positive 2 are provided at the top or bottom of each "open" submodule.

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FIXED INSTRUCTIONS

Hoping to unravel the way players were meant to interact with these complex directives, my first task was to assess 76's performance instructions in view of Ligeti's typology.

Here on the left is each novel glyph found in Braxton's fixed material along with the instructions he gives for their interpretation. On the right, I have identified each according to where it sits among Ligeti's four major categories.

Further, I've identified glyphs as either "inducements," direct

calls to action, or "modifiers," glyphs which change the way these inducements are executed.

Where, for example, this arrow glyph indicating a period of rest is both an inducement and an example of Ligeti's "result notation," the hourglass glyph below is a modifier and an example of "recipe notation" in that it serves to modify another gesture by way of a procedural instruction.

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OPEN INSTRUCTIONS

Instructions provided with respect to open material are considerably more sparse.

Each shape serves to induce a series of improvisatory "bursts," given form by the accompanying numeric code. Each code acts as a recipe, directing players to perform a certain number of phrases, to change instrument, or to employ one of several "little instruments"—percussion instruments, slide whistles, horns, bells, and others. Players may also be directed optionally or mandatorily to improvise using their voices.

The shorthand for "dominate," "support," and "open" are *relational* modifiers restricting phrases to particular roles in the aggregate texture.

Though considerably more open, content-wise, than Braxton's "fixed" material, these signs have so far constituted well-defined notation.

Other elements are less straightforward. Players are instructed, for example, to interpret color according to their "emotional subjective interpretation," though Braxton later divulged that this subjectivity was meant to be tempered by "astrological correspondences" which would be shared with the ensemble prior

to performance.

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THREE-DIMENSIONAL NOTATION

Conspicuously *unaddressed* is perhaps 76's most striking feature: its open material's three-dimensionality.

Certain submodules like {B2} are fairly graphically reserved, each shape appearing parallel to the plane of the page and with its melodic fragments only gently skewed. Others like {M1} are highly-distorted—the square appearing as a rhombus, the triangle obtuse and scalene, and the open red fragment practically leaping off the page.

Indeed, there is little to indicate that this extra dimension serves as anything other than "excess" graphicality, as a strategically codeless engine for player ekphrasis.

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UNDEFINEDS

Likewise, though the triangle, circle and square would go on to play a clearer role in Braxton's later *Ghost Trance Music* system, I find no reference to the role played here by the shapes' form, nor to the role of the larger signed numerals, which may equally have served as vestigial precompositional material or as codeless numerological "sigils."

It should be clear by now that given the notation's sheer complexity and the granularity of the constraints imposed, conventional notions of "fixed" and "open," of "recitation" and "improvisation" do not suffice to describe how the work functions or how players relate to the marks on the page.

Parameters from pitch and duration to choice of instrument and quality of expressivity are all subject to tighter or looser

constraint as players advance through the cellular composition, often fluctuating drastically from module to module.

Amid this complex topography of shifting constraints, I identify two "emergent" composition strategies that cry out for further inquiry.

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FIXITY TRAVERSAL INTRO

The first occurs wherever players are tasked with "traversing" a region of tighter notational fixity to a looser one, or vice-versa.

For instance, in reaching a measure marked "cadenza ad libitum", a classical pianist traverses fixed to open when they are suddenly confronted with marked creative latitude compared to the preceding material.

Likewise, a jazz musician interpreting a lead sheet traverses open to fixed when concluding their comparatively unrestricted solo over the changes and returning to the head, where notation is more tightly-coupled to the resultant music.

Traversal in Composition 76 functions in a similar, if considerably more granular fashion.

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SIMPLE TRAVERSAL - C2 TO D1

A simple case occurs in Version I when players transition from submodule {C2} to {D1}.

| ▶ ··· VERSION I : C2–D1 |

Players begin {C2} by matching instruments (indicated by the boxed "M"), then executing a conventionally-notated unison gesture. Pitch, rhythm, dynamic, and instrument choice are all determined in advance—the former, in essence, "globally" and

the latter relationally.

Transitioning to {D1}, though, constraints shift significantly.

Since synchrony is no longer required, rhythmic and durational constraints are relaxed and the player may opt to perform the passage more quickly and unevenly.

Further, Braxton's diamond clef relaxes pitch constraint by permitting the use of any clef or transposition, as do the star accidentals which may each be performed as sharp or flat.

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g2 to e1

Likewise, we have the following moment in Version II, where player 2 becomes more constrained with regard to pitch, but duration and choice of instrument suddenly open up.

| ▶ ··· Version II : G2–E1 |

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traversal table braxton

Of course these are only two of the dozens of such traversals throughout the work.

This table illustrates traversal at a fuller scale, examining a seven-minute excerpt of Version II from Braxton's perspective as player 2 on the recording.

The rightmost columns tally which constraints are added and which are removed over the course of play so as to more robustly quantify fixity's ebb and flow.

For instance: Beginning with a fixed structural sequence, {G2} suddenly permits free transposition, but for only nine seconds. Pitch is fixed again at {E1}, but Braxton is permitted to desynchronize from the ensemble. Then, gradually, constraints are

added back in: duration first, then dynamic.

From the nearly unconstrained open module {P1}, fixity rises again first with the X clef at {P2}, then by way of specific accidentals and absolute dynamics at {B1}.

And so on.

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Braxton's traversal graph

If we tally point values for each tightening or relaxation of constraint and graph the results, we get at least a general sense of the frequency and amplitude of these traversals throughout the excerpt.

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Full group traversal graph

The situation becomes even clearer when we adopt the same approach for each of the three players across the entire work.

Each step upward or downward here represents a shift, subtle or drastic, in not only the musical parameters presented to players, but in players' phenomenal experience of balancing recitation and improvisation.

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Traversal in Workers Union

To put a fine point on it, we might consider the lesser extent to which such shifts occur in other open scores.

Andriessen's *Workers Union*, well-known for making extensive use of indeterminate pitch contour, demonstrates traversal each time it shifts from unison to divisi or back, permitting or restricting players' ability to choose their preferred contour.

Each shift, however, corresponds only to a single musical parameter, and though there many such shifts throughout the work, their phenomenal impact on the performer will be minimal following the first rehearsal.

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Traversal in Brown

We might also consider one of the most infamous "graphic scores": Earle Brown's *December 1952*; a work which lends itself to many potential modes of player engagement.

For most, though, to perform "December" is to develop a single heuristic approach, then see it through to its conclusion. That approach may be strict, as pianist David Tudor's was at the piece's premiere, or it might be quite loose and ekphrastic, but it will tend towards invariance and thus a lack of traversal.

In short, what distinguishes Braxton's work from these examples is the nuance with which notation is used to directly mediate performers' experience of reading, interpretation, and interplay—tantamount to the grace with which most composers approach harmony or rhythm in more traditional works.

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Hybridity

I'd like to return now to 76's "open" material in order to unpack the work's second major "emergent" strategy—what I've called "a/semantic hybridity."

Let's first listen to a couple of open modules before considering the act of interpretation involved.

| ▶ ··· Version I: M1–M2 (9:56–10:44) |

It's granted that we may "enter" and "leave" open material in any direction, and that we may pick and choose the material that

best suits the moment's composite texture. Melodic fragments serve as mutable "raw material" for player manipulation and the shapes and their codes cue us up for guided improvisational bursts on any of a number of instruments.

While undoubtedly less constrained than earlier fixed material, each of these components is nevertheless semantically rich and may be interpreted using our "reading" skills in the conventional sense.

Color is somewhat trickier in that even armed with Braxton's astrological correspondences, players must still develop personal heuristics for their musical application. Even bracketing this issue, we are still bombarded by the "excess graphicality" of shape and three-dimensionality, for which we receive no clear guidance. "Reading" as such seems to no longer suffice.

As such, we seem to have two choices: Either we take the David Tudor approach, meticulously assigning each shape and tilt and skew a specific role ahead of performance, thereby lending each component a sort of transient semanticity, or, more likely, we simply allow this semantically-empty excess wash over us, allowing it to act on our playing in more inscrutable ways; inconsistently and in reaction to moment-to-moment changes in the musical surface.

In either case, we are forced to contend simultaneously with notation containing meaning passed on by the composer and by convention, and notation which we were forced to define ourselves.

This subsystem thus comprises a hybrid form; one Ligeti hypothesized in his 1965 essay. Under this a/semantic hybridity, well-defined symbols are themselves mediated by ekphrastic musical graphics. The "translation" by which these graphics are inter-

preted bleeds over into the act of reading, creating unresolvable dissonance between the semantically rich and the semantically empty, giving rise to unpredictable results.

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conclusions

Far from an incidental "glitch" in the system, though, this tension, realized as a sort of paradoxical "sanctioned rule-breaking," becomes a central organizing principle not only for Composition 76, but in Braxton's massive body of work moving forward.

Using the techniques I've dubbed "traversal" and "hybridity," Braxton maps new potential for two distinct forms of notational openness, which recur to great effect in the secondary material of *Ghost Trance Music*...

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GTM secondary material

...in the "pulse track" notation of Composition 108...

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Comp 108 pulse track

...in the expressive painted scores of *Falling River Music*...

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Falling River Music

...through to the recent, tantalizingly complex *ZIM Music* scores.

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ZIM Music

With Braxton's "traversal," in essence a more nuanced form of lead sheet or figured-bass interpretation, play is open but the boundaries constraining musical creativity are well-defined (improvise for *this* long; play over *these* changes; switch instruments

here). Here the composer cedes a measure of creative agency to his players, sanctioning their influence over the musical surface of the work.

With his hybridized notation, though, the transfer of agency is more radical, to the extent that players are encouraged to shape the very rules by which symbols are interpreted.

That is to say: Implicit in Braxton's ekphrastic directive invoking "emotional subjective interpretation" as well as in his many undefined modifiers is the desire that players not only improvise sound and action, but to simultaneously inscribe the very nature of their improvisation in real time.

In 1965, Ligeti recognized new notation and musical graphics as having been born out of the desire to upset the long-entrenched composer-performer hierarchy by ceding creative ground to the ones holding the instruments.

Braxton's new notations, however, communicate a somewhat different desire.

Specifically, Braxton directly and repeatedly articulates the need to further explore notation's creative potential for improvising musicians, particularly as informed by notation's multiple roles in Black improvised music as "stabilizing" and "generating" factors (to use his terms), and as a tool to facilitate creative ritual.

It is clear that for Braxton, notation as "generating factor" must do more than generically create an indeterminate musical surface texture; it must also reach deeper into the mechanics of the work itself by presenting players with the semantic space to collaboratively develop unanticipated musical meaning.

Crucially, though, we should not let Braxton's commitment to difficult, sometimes ineffable forms of musical inscription lead us

toward reductive assessments of the mechanics of his work.

Rather, a clear-eyed appraisal requires close attention to his systems' rich systematicity and inner logic—elements expressly informed by the European and American neonotations that motivated Ligeti's contemporary assessment.

Working toward a more refined Ligetian theory of notation, therefore, may provide us not only greater insight into the complexity of Composition 76, buy into the hundreds of subsequent compositions which flowed forth from the new technology it introduced, and further, into the yet-unwritten works situated at this creative frontier.

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WORKS REFERENCED