Tactile paths : on and through notation for improvisers
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Tactile Paths:
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Abstract

Tactile Paths: on and through Notation for Improvisers is an artistic research project that articulates and expands the nexus of notation and improvisation in contemporary and experimental music. The project interweaves direct artistic experience with insights from improvisation studies, the social sciences, philosophy, and various scholarship in the arts to reveal methodological connections among diverse artists such as Richard Barrett, Cornelius Cardew, Malcolm Goldstein, Lawrence Halprin, Bob Ostertag, Ben Patterson, and the author. By focusing on how notation is used, rather than on what it represents in an abstract sense, the author shows how written scores emerge from and feed back on ongoing improvisational processes. Thus, it is argued, they are not fixed texts whose primary purpose is to prescribe and preserve, but rather tactile paths in the improviser's ever-crescent musical and social environment. This practice-based approach aims to lay the conceptual groundwork for theorizing and broadening the creative relevance of work whose importance to practitioners belies its marginal presence in academia and institutions.

Curriculum Vitae

Christopher Williams (1981, San Diego) is a wayfarer on the body-mind continuum. His medium is music. He holds a B.A. from the University of California San Diego, where he studied under Charles Curtis, Chaya Czernowin, and Bertram Turetzky.

As a composer and contrabassist, Williams's work runs the gamut from chamber music, improvisation, and radio art to collaborations with dancers, sound artists, and visual artists. Performances and collaborations with Derek Bailey, Compagnie Ouie/Dire, Charles Curtis, LaMonte Young's Theatre of Eternal Music, Ferran Fages, Barbara Held, Robin Hayward (as Reidemeister Move), Hans W. Koch, filmmaker Zachary Kerschberg, Christina Kubisch, Maulwerker, Charlie Morrow, Mary Oliver and Rozemarie Heggen, Ben Patterson, Tanja Smit, and Martin Sonderkamp. In addition to appearing in various North American and European experimental music circuits, this work has been presented by VPRO Radio 6 (Holland), Deutschlandradio Kultur, the Museum of Contemporary Art Barcelona, and the American Documentary Film Festival.

Williams' artistic research on improvisation, notation, and his body-mind continuum has been published in *Open Space Magazine*, *The Improvisor*, and *Critical Studies in Improvisation*, and has been presented at major universities and international conferences in North America, Europe, and India. A book chapter co-written with Mathias Maschat is forthcoming in *Experiencing Live* (Routledge), edited by Matthew Reason and and Anja Lindelof. Williams has received scholarships, grants, and prizes from the University of California, the Darmstadt Summer Courses, the Arts Council of Catalunya, Goethe Institut, Hauptstadtkulturfonds Berlin, the Festival Acanthes, and the American Documentary Film Festival.

He also co-curates the Berlin concert series KONTRAKLANG, and works with sound experience designer Charles Morrow Productions.

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Chapter 0: The Ground

A Personal Beginning

In 2007, violist Mary Oliver and contrabassist Rozemarie Heggen invited me to write a piece for their duo incorporating improvisation. Despite my diverse experience writing chamber music, free improvising, interpreting, and working in a host of interdisciplinary formats, the request seemed odd. "Why do they want a notated piece if they are going to improvise?" I asked myself naively. "And what can my written intervention offer these perfectly self-sufficient *virtuose* other than needless complication?" Nonetheless I accepted the offer and worked through my prejudice, producing *Apples Are Basic* (Williams 2008). Questions lingering after working on this piece constitute the beginning of my journey with notation for improvisers. I would thus like to unpack them as an introduction to this dissertation, in order to highlight the transformation of my understanding of and creative approach to the field.

Like a child's *papier-mâché* volcano filled with vinegar and baking soda, *Apples* was built to erupt through the combination of two oppositional forces – notation and improvisation. To this end, the score juxtaposes two types of sections: color images containing texts that correspond to "free" improvised sections, and black and white through-composed postludes in conventional notation. The images – reproductions of silkscreens by visual artist and Catholic nun Corita Kent[1] – contain no literal instructions or predetermined semantic value; their role is only obliquely addressed in the legend. Performers are encouraged "not [to] think too hard about them in performance. Real improvisation is primary, and anything demonstrative or 'composed'-sounding should generally be avoided" ("General Instructions"). Although no methods for realizing the images as notation are given, the graphic material itself is generous, transparent, and immediate. Art critic Paul M. Laporte has written of Kent's silkscreens that "[s]ince Matisse nothing equally unproblematic and cheerful has been created" (Kent 1966, inside cover), and precisely for these qualities I included them. Bright colors, verbal imperatives ("Go Slo!", "Do not enter"), and unmistakable icons such as arrows and stop signs on the one hand, and softer colors, reflective text (sometimes hidden within images such as "In" and "Tender"), and counterintuitive angles and proportions on the other, are all meant to appeal to the improviser's sharp, sponta-

1. For more information on Kent's life and work, see http://www.corita.org.

neous reactivity, so bypassing the necessity of semantic clarification. (*Apples* thus takes advantage of the blatancy that made Corita's work so apt for commercial advertising in the 1960s and 1970s – if to rather different ends.)

The score's use of extended Western notation (henceforth "conventional notation") in through-composed sections is somewhat more obscure. The material consists mostly of noisy, carefully choreographed "extended" techniques in constant movement. To articulate them every marking is essential, and therefore exhaustively explained in the legend. But despite this instructional clarity, physical parameters such as bow- and left-hand position and pressure, in combination with extreme tempi and rhythms, often "smear" the notated details or stretch apart visually continuous phrases to render gestures and audible phrases unclear. This confluence at times creates unstable and amorphous sonic results that seem to defy the specificity of the written information; it raises questions about its functionality *vis à vis* the apparent self-evidence of the improvised sections.

To complicate this scenario, bracketed improvisations varying in duration from 1.2″ to 18″ are "dropped in" the conventional notation as foreign elements, much in the same way the postludes themselves are dropped in the larger improvised fabric. Their often brief durations render any kind of flow or development within the bracketed windows practically impossible. They are nearly always preceded or followed by a rest of eight beats, which effectively relegates the improvisations to function as beginnings or endings of a written phrase. Such limitations are intensified by the fact that the bracketed sections of one player usually appear in counterpoint with the other player's through-composed material.

My pitting the two types of notation against each other in this way was not merely a consequence of preconceptions about the general incompatibility of notation and improvisation. It was also strategic. The intention was, as suggested in my metaphor of the experiment with vinegar and baking soda, to create a situation in which the figured friction between notation and improvisation could have an unpredictable impact on both modes of performing. The impact of the friction would audibly emerge in choices made by the performers that effect the overall shape of the piece – what kind of material they play in the improvisations, how they deal with transitions, how literally they adhere to the notated material, and so on. While I had no clear idea of how this would actually sound, I hoped that this "eruption" would consist in something qualitatively different from the sum of its parts, like the volcano is from its ingredients – a new and surprising (and therefore unpredictable) musical "substance".

What I got, however, was rather smoother. The performers' unusually broad backgrounds in both interpretation and improvisation were partly responsible; they handily defused the tension I had attempted to build into the score. Certainly there were mo-

ments of verbal discomfort during rehearsals that stemmed from the confrontational nature of the notations. What to play during a 1.2″ improvisation? How should aspects of the images like color or proportion concretely affect the improvised sections? Why does the conventional notation so relentlessly tie the players in knots? However, in performance, the intended opposition of notation to improvisation tended to melt away. Hard edges between graphic and conventional notation were performed more often than not as smooth logical transitions. Paper boundaries were thus rarely audible, allowing larger temporal continuities over several pages and unexpected moments within single pages to emerge into the foreground instead. They sailed through both types of sections with equal aplomb, occasionally alluding to written fragments in improvisations, scrupulously but not slavishly adhering to the conventional notation, and supporting each other throughout. Whatever inner tension the performers experienced was either exceedingly well suppressed or never of great importance.

Despite not fulfilling my wish for eruption, Oliver and Heggen's performance was dynamic and satisfying in many ways. In fact, it brought more out of the piece than an oppositional approach probably would have. After experiencing their "neutralizing" influence on the intended notational conflict, I began to wonder: was there ever any real potential for this dialectic of the written and the improvised to explode, or to manifest at all outside my own compositional fantasy? Eight years after writing *Apples*, a few reflections suggest the volcano itself was dormant.

First and foremost, as suggested above, my vinegar and baking soda were never inherently or essentially incompatible; the relationship between notation and improvisation was and is not by nature conflictual. Contrasting *Apples* to musics in which notation and improvisation share a perfectly fruitful, even foundational, coexistence – e.g. baroque *basso continuo*, Duke Ellington's big band music, or the Chinese *guqin* tradition – one sees that merely juxtaposing them is not enough to create the desired reaction.

In order to develop or exacerbate points of "real" friction, I might have interrogated what is meant by "real improvisation" in the legend, or at least attempted to articulate it. The goal was to empower the players to decide for themselves what improvisation means in *Apples* by doing it, but I have come to feel the strategy was misplaced. How could they possibly, even as veterans of the "improvised music" scene, work with this indication? The legend encourages them *not* to play anything "demonstrative or 'composed'-sounding" ("General Instructions"), but of course this is less a performance instruction than a useless tautology. As ethnomusicologist Bruno Nettl has pointed out, "while we feel that we know intuitively what improvisation is, we find that there is confusion regarding its essence" (1974, 4) – even practitioners within the same tradition can have widely varying understandings of the term. In my score-based context where improvisation is negatively

defined, Nettl's observation is especially acute.

Moreover, I overlooked a cornerstone of my collaborators' musical world view: for the improviser, who happily, skillfully, and often makes her own spontaneous music without notation, scores are simply one more artifact in the musical environment – something *on* or *through* which to improvise. To borrow from anthropologist Tim Ingold, in whose writings much of this dissertation is anchored, "there is no script for social and cultural life. But there are certainly scripts *within* it" (2007, 12). Improvising, for players such and Oliver and Heggen, is not an on/off switch, but rather a way of life within which other activities are nested. In positioning interpretation and improvisation dialectically, I made a category error which unwittingly emphasized the ubiquity of improvisation throughout the piece, even at the microlevel[2] where it is not explicitly called for. This, in essence, strengthened points of continuity between the free and through-composed sections, undoing the opposition I attempted to construct. Had the piece been meant for repertoire-based performers, the player-notation dynamic would likely have been different – but then of course I would not have written the same piece to begin with.

Research Questions

Despite these nominal failures, the exercise of writing *Apples* produced a number of new, more nuanced questions from which creative possibilities, collaborations, and extended reflections have emerged ever since:

- What aspects of improvising can be fruitfully addressed through notation?
- If, for the improviser, music is fundamentally unscripted – or unscriptable – why would she compose or perform with notation at all? What kind of scripts fit in her environment?
- How does notation construct, deconstruct, or reconstruct improvisers' relationships to each other? How do performers listen to each other differently with and without a score?
- In what ways and to what extent can notation incorporate improvisers' unique and embodied performance practices into the compositional process?
- How can composer-improvisers use notation to share, challenge, or transform their own ways of improvising? How does this affect and transform my practice?
- How does music involving notation for improvisers encourage us to rethink the way we conceptualize and talk about musical labor?

These questions have led me over the last several years to explore a substantial, if under-documented, body of music by other artists grappling with similar issues. That work runs the gamut

2. "Microlevel" improvisation is homologous with what philosopher Bruce Ellis Benson calls "*Improvisation*$_1$: This sort of improvisation is the most 'minimalistic.' It consists of 'filling-in' certain details that are not notated in the score. Such details include (but are not limited to) tempi, timbre, attack, dynamics, and (to some degree) instrumentation. No matter how detailed the score may be, some – and often much – improvisation of this sort is necessary simply in order to perform the piece." (2003, 26) Negotiating notated and "filled-in" details in *Apples* can be particularly problematic because of the large gap between highly specific notation and unruly instrumental techniques. Not surprisingly (and to the benefit of the piece), Oliver and Heggen generally favored technical unruliness over written structure and on several occasions allowed such "indeterminacy" to continue and form part of the bracketed improvisations (see Mary Oliver's section IV solo at 4:55, or the duo's transition from section V to VI at 7:00). These moments constitute windows on the ineluctible continuity between the notated/improvised poles I had attempted to construct.

from Cornelius Cardew's flagship graphic score *Treatise* (1970), Bob Ostertag's posthuman funhouse *Say No More* (1993a; 1993b; 1996), Richard Barrett's complex track notation in the *fOKT* series (2005), and Malcolm Goldstein's meditative calligraphical tablature in *Jade Mountain Soundings* (1988, 63-67), to Ben Patterson's deceptively simple event score *Variations for Double-Bass* (1999). The aesthetic and historical diversity here is extreme. The scores look different, different kinds of players perform them, and the music inhabits different sound worlds. Some pieces are written by non-performing composers, some by seasoned composer-performers, and some by performers who moonlight as composers. Some are formally published, some informally distributed, and some barely survived the context in which they were produced. Nonetheless from a practitioner's standpoint they share a variety of methods and problems.

The character of these methods and problems, as well as a flavor of my own artistic and discursive approach, can be gleaned from a brief discussion of the title and subtitle of the dissertation.

On and through a Name: Tactile Paths

Tactile

The word *tactile*, meaning literally "of or connected with the sense of touch"[3], shifts the emphasis off the visual aspect of notation – the score as object – and onto its use – what performers and composers (can) do with it hands-on in the context of realtime music-making. Two closely related but nonidentical concepts are attached to the notion of tactility: materiality and mobility. Materiality, beyond the optical or sonic matter in and of the score itself, is that quality of notation that arouses performers' "material consciousness", a term coined by sociologist Richard Sennett in his book *The Craftsman* (2008). Sennett offers "a simple proposal about this engaged material consciousness: people [craftsmen, CW] are interested in things they can change" (2008, 120). Following his proposal, *Tactile Paths* features music for people who use notation to change the way they play; scores give tacit, embodied performance practices plasticity, in order that composers and performers can transform them. Furthermore, I address how the meaning of these notations is often itself subject to change during performance.

Mobility arises from the fact that in order to "touch" notation, to do something with it, one cannot remain stationary. As Cardew has famously noted, "[n]otation is a way of making people move," (1971, 99) but whereas Cardew's statement suggests that people are otherwise static, I would argue that the improviser is *always already* on the move. She does not rely on the score to create dynamism; rather she uses it to modulate ongoing dynamism[4] and changes it in the process. In this sense, *Tactile Paths* de-emphasizes the peremptory aspect of notation underlined by Cardew and instead stresses the exploration of those who work with it, both on

3. Oxford Dictionaries, s.v. "tactile", accessed 12.12.15, `http://www.oxforddictionaries.com/definition/english/tactile?q=tactility#tactile__7`.

4. Richard Barrett: "[M]y involvement with combining notation and improvisation hasn't begun from taking a notated composition as a default position and 'opening up spaces' for improvisation within it, but instead from free improvisation as a starting point, and using notation not to restrict it but to suggest possible directions or possible points of focus for it." (2014, 62)

stage and between performances, through editing or reassembling modular parts of the score.

Both senses of tactility are reflected in the coupling of players and instruments at the center of improvisation. The particular sounds and instrumental techniques represented or set in motion by a score such as those in the through-composed sections of *Apples* as dealt with above tend to be less important to compositional architecture than to tracing the dance of the hands, breath, ears, and instrument which is so fundamental to improvisers' craft of feeling their way forth from moment to moment.

Paths

The metaphor of the path encompasses three overlapping identities of notation for improvisers: maps (printed scores), thoroughfares (invitations to collaborate), and trails (indexes of practice).

Paths are visual representations: situated maps for situated action. Rather than providing a comprehensive, bird's eye view of the musical discourse as a basis for reproducing a preordered audible structure, scores for improvisers tend to communicate features of and within unfinished environments. The graded difference between a contemporary conventionally notated through-composed score and the scores examined in *Tactile Paths* might be likened to the difference between a modern architectural blueprint – completed before and outside the context of building – and the ad hoc plans of Gothic cathedrals – drawn literally on the grounds of construction sites with the aid of string and templates.[5] Like this medieval variant, notation offers improvisers conceptual and material orientation in a sound world or "taskscape"[6] where reading may be a form of preparation or an interface during performance.

Following composer-improviser Barrett, paths are also "invitations to collaborate" (Barrett, personal email to the author, 12 December 2015): thoroughfares of exchange between artists. These spaces for learning and sharing are made available but not contained by the maps; collaboration means traversing the path. Performers explore aspects of the environment such as bodies, instruments, technology, communities, and acoustic space, which are not represented or not representable on the page. They then feed this firsthand knowledge back onto the visual representation. Such collaborative feedback loops take place in real time as performers negotiate the meaning of signs in changing environments, and over time in collective discussion, rehearsal, and revision.

Finally, notation for improvisers may inscribe journeys taken by composers who themselves improvise. Such scores are trails – records of actual movement through a musical field[7] – and not merely speculative representations or propositions. Composer-performers who trace aspects of their practice in written form (either individually or collectively) may do this for their own benefit – to externalize, challenge, and reflect on what they do in perfor-

5. See Turnbull 1993.

6. Tim Ingold's term "taskscape" refers to a "qualitative and heterogeneous [...] array of related activities [...] grounded in the 'rhythms, pulsations and beats of the societies in which they are found'." (2002, 195) Ingold's distinction is useful to understanding the notation of actions which defer to the "ensemble of tasks" (195) in which the improviser is perpetually engaged (rather than construct individual tasks in abstraction), and to her embeddedness in "social time" (195) (rather than an external temporal grid).

7. My use of the word "field" denotes the landscape of improvised musical practices through which the tactile paths of this dissertation are traced. Following Cobussen, Frisk, and Weijland (2010), I consider the "Field of Musical Improvisation" to be a "space of interaction" not only directly "between humans or between musicians and sounds," but also with the past through the medium of notation.

mance. But by notating they also open that practice and those reflections to inhabitation by other performers. In performing such pieces, performers dwell in the memory of composer-performers' past performances and transform the values embedded in their tracks.

Notation

In *Tactile Paths* I adopt an inclusive, practice-based view of "notation"; it is neither my intention to use the term to define a field of practice, nor to use the field of practice to define the term. If definitions play any role at all here, it might be that of scores themselves: to feed back on practice and thus call themselves into question.

However, given the range of material included in the dissertation, a working definition may be helpful. We begin with pianist and artistic researcher Paolo de Assis' formulation: "notation [is] the totality of words, signs, and symbols encountered on the road to a concrete performance of music" (2013b, 5).[8] De Assis' definition is helpful for two reasons. First, it shifts our focus onto what improvisers *do* with written artifacts in the greater whole of their work, and away from what they *represent* in an abstract or absolute sense. It underlines the view of notation as part of an ongoing process of discovery – an active journey rather than a passive reproduction. This view is something of a departure from many contemporary views on notation which converge on the idea that notation's fundamental role is to prescribe and preserve. (More on this below in "Context – Literature Overview".)

Second, de Assis' flexible view of notation admits a variety of paranotational elements (or as analytic philosopher Nelson Goodman would put it "pseudonotational" elements (1968, 128)) such as sketches, post-publication edits, correspondence between composers and performers, and even post-performance reflections. These documents transmit crucial knowledge about aspects of the local improvisational practice(s) in which a given score is embedded: contingencies of personnel, occasion, technology, or instrumental technique on which its very meaning may depend.[9] The extent to which notation for improvisers offloads musical work directly onto local practices without explaining them directly – which indeed for the immediate practical purposes of composers and their collaborators is usually redundant – tends to result in that knowledge being lost or forgotten for subsequent performers and scholars. (There are, of course, plenty of further example of this phenomenon in the history of pre-modern Western music; see Moseley 2013.) Paranotation provides a trace of these practices for those not directly involved in the creation of a given score, who can benefit from this knowledge in order to realize or study a given piece.

8. Although De Assis writes from the perspective of a repertoire pianist rather than that of an improviser per se, his critical view of the notion of "interpretation" and his emphasis on the role of "experimentation" in the performance of through-composed music (2013a) overlap with my emphasis on materiality and dynamism in the performance of notation for improvisers. The fact that a repertoire-based performer and scholar, rather than an improviser, offers the most useful definition of notation for my purposes underlines that the practices I investigate are not, as a class, categorically distinct from "conventional" performance of Western concert music.

9. For example, Cardew's *Treatise Handbook* (1971) and a postlude to Goldstein's *Jade Mountain Soundings* (1988, 68) detail the two composer-performers' empirical discoveries after playing these pieces. Their critical reflections not only serve as supplementary "tips" to prospective performers, but actually expand or change the meaning of information (not) included in the original "core" notation. Likewise, Ben Patterson's handwritten edits and markups in his self-published copy of *Variations for Double-Bass* (1999) open up a world of possibilities for the improvising performer that are difficult to ascertain from the "clean" copy of the score published in his catalog of event scores (Stegmayer 2012).

Improvisation, Improvisers, Notation for Improvisers

Defining "improvisation" – as a brief comparison of any texts that attempt to do so will show, and as Nettl's quote earlier in this text suggested – is a notoriously difficult task. Musicologist Sabine Feisst puts the matter bluntly in her study on the term:

> The term "improvisation" seems at first glance to be succinctly definable; however on closer inspection it reveals itself to be a global, amorphous, and problematic concept into which extremely diverse meanings can be subsumed, particularly since the 1950s (1997, 1, my translation).[10]

In order to bypass this minefield, I approach the word improvisation with pragmatism, humility, and inclusivity, as I did in my definition of notation above. Two writers in particular have shaped my understanding of the term more than others. The first is experimental musician and scholar George E. Lewis, a seminal figure in the field of critical improvisation studies. Although he is loath to define improvisation, Lewis has on occasion made reference to "improvisation's unique 'warp signature', the combination of indeterminacy, agency, choice, and analysis of conditions" (Lewis 2013). Applying the term to practices as diverse as architecture, rice farming, and the behavior of the Mars Rover, Lewis frames improvisation in terms of interactivity and attitudes rather than disciplinary norms. His modular notion of improvisation has encouraged me, as I encourage my readers, to look for the presence of its "warp signature", or its audible trace, in unlikely places – notation foremost among them.

The second figure whose ideas have contributed to the sense of improvisation explored in *Tactile Paths* is anthropologist Tim Ingold. Ingold's notion of the "wayfarer", a kind of traveler, offers a poetic portrait of the "improviser" I have in mind in the subtitle of the dissertation:

> The wayfarer is continually on the move. More strictly, he is his movement [. . .] The traveller and his line are [. . .] one and the same. It is a line that advances from the tip as he presses on in an ongoing process of growth and development, or of self-renewal [. . .] As he proceeds, however, the wayfarer has to sustain himself, both perceptually and materially, through an active engagement with the country that opens along his path [. . .] To outsiders these paths, unless well worn, may be barely perceptible [. . .] Yet however faint or ephemeral their traces on land and water, these trails remain etched in the memories of those who follow them. (Ingold 2007, 75-76)

The improvisers, or wayfarers, of *Tactile Paths* are neither representatives of a particular style or tradition, nor executors of a particular musical discipline, nor even necessarily performers at all. They are, in their most basic form, musicians who embrace the contingency of their environment – "the country that opens along [their] path" – and their participation – or "active engagement" – in

10. "Der Terminus 'Improvisation' scheint sich auf den ersten Blick kurz und bündig zu lassen, doch erweist er sich bei genauerer Betrachtung bald als globaler, amorpher und problematischer Begriff, dem seit den fünfziger Jahren in verstäktem Maße sehr unterschiedliche Bedeutungen subsumiert wurden." (Feisst 1997, 1)

its unfolding.[11] On the surface, this characterization might appear too inclusive to be useful. But there is a temporal dimension to the wayfarer's engagement with the country that brings my distinction into focus. The land is not simply there, to be improvised across at will; rather "it opens along his path" – it comes into being with him, and he with it. This process happens over a lifetime, not only on an afternoon's walk. Likewise, improvisers are not improvisers merely by "making it up as they go" onstage; they continually cultivate and refine their engagement with the changing environment. They practice, listen, and reflect in the service of becoming better improvisers and change themselves and their communities[12] in the process.

The intentional nature of this cultivation echoes my use of the word "embrace": improvisers *choose* contingency as a creative resource.[13] This is a crucial point in the context of notation which is produced by and for them. For although musical activity almost always involves some spontaneous engagement with the unforeseen, and scores are inherently unable to dictate that activity in all its actual detail, the improviser's intentional engagement with contingency is not universally foregrounded in musical texts. Less frequently still does notation explicitly acknowledge or subject *itself* to the changing environment of the improviser in which it is embedded. In *Tactile Paths*, I compare a variety of scores that do; as we will see, the music discussed here all engages in a reflexive dialogue with the wayfarer's prolonged embrace of contingency in some form.

Objectives and Criteria

Although they share many of the above traits, the scores I discuss in *Tactile Paths* are, as I mentioned earlier in the chapter, a motley bunch. They constitute neither a genre nor a tradition of their own. They include diverse forms of conventional, graphic, and verbal notations, in various degrees of formality. Artists range from performers who rarely write down their music, through composers whose work incorporates a highly refined craft of writing. Performance includes everything from seemingly conventional interpretation, to mostly free improvisation and most shades in between.

Any one or two of these facets would have been adaptable to a dissertation on a single artist or closely related group of pieces – e.g. semi-improvised solos by contemporary composer-performers; game scores by Gavin Bryars, Christian Wolff, and John Zorn; or notation as a collaborative tool in Reidemeister Move, my duo with composer-tubist Robin Hayward. So why have I deliberately chosen to examine music that looks and sounds so different, and inhabits such different social spaces?

First, *Tactile Paths* has a curatorial function; I wish to offer a variegated view of a phenomenon that has received relatively little scholarly and critical attention (more on this below in "Context

11. In this sense, many kinds of contemporary musicians and artists could be considered improvisers: not only self-appointed "free improvisers", but also phonographers, rock or jazz musicians, studio producers, designers and takers of sound walks, Fluxus artists, classical musicians, or non-performing composers.

12. See Fischlin and Heble 2004 and Born 2017.

13. This choice can be aligned both with Lewis' notion of improvisation's "warp signature" (2013) mentioned above, and with organizational scholar Erlend Dehlin's notion of "positive (proactive) improvisation" as opposed to "negative (reactive) improvisation" in the workplace (2008, 223). Like Dehlin I consider the practitioner's understanding of improvisation as "an *attitude* or as a *method of practical thinking*", rather than a distinct category of practice, but I do not share his focus on spontaneity and novelty as pillars thereof. My reluctance is based on both personal experience and on the historical connection of spontaneity and novelty to Romantic ideals that is by and large irrelevant to the music of *Tactile Paths*. As a scholar of business organization rather than music, Dehlin, of course, need not contend with this baggage.

and Literature Overview"). While the project by no means offers a systematic survey of notation for improvisers, it does represent a number of rich, interlocking perspectives. Rather than exhaustively covering a better defined corner of the field, I hope to uncover a few critical paths through these perspectives so other researchers may continue to examine and develop aspects of the practices and ideas herein.

Second, the wide spectrum serves to show how certain methodological threads transcend aesthetic and historical boundaries; my intention is to frame the threads in a way that speaks to musicians who may not necessarily identify with particular pieces represented here, or even with the very notion of "notation for improvisers". I have in mind here curious skeptics (especially "straight" composers and interpreters, and hardcore "free" improvisers) who may wish to explore new ways of communicating with fellow musicians; to widen their spectrum of potential collaborators; or to evaluate their own practice within a broader framework than they otherwise might.

The third objective is to expand the concepts of notation and improvisation, and reveal how each might be found in the other where we least expect it. To this end I include both typical and marginal examples from the "extended family" of notation for improvisers, and explore their continuity. Work fitting unproblematically within the designation of notation for improvisers would include pieces by Barrett and Ostertag. These composers are seasoned improvisers, as are the performers who play *fOKT* and *Say No More*, the works of theirs I look at in the chapters "An Invitation to Collaborate – Répondez s'il vous plaît!" and "Say No Score". Likewise, their scores satisfy most conventional definitions of notation.

However, I also include chapters on music by Goldstein ("Seeing the Full Sounding") and Cardew ("A Treatise Remix Handbook") that push conventional notions of notation and/or improvisation. Goldstein is also a seasoned improviser, but in *Jade Mountain Soundings*, he employs a highly detailed and prescriptive tablature notation. By examining how improvisation works at a local, physical level in this piece without the usual context of overt interactivity or the performer's own material, I show how improvisation can be found in the basic kinesis of reading and writing. Cardew's *Treatise*, a canonic graphic score with no performance instructions, and my musical essay *A Treatise Remix* call into question what constitutes notation. Here I show how notation obtains meaning through performance even when it is not semantically fixed *a priori*. I also attend to the borderline case of Ben Patterson's *Variations for Double Bass*, which is more often aligned with the discourses of performance art than with improvised music, and whose "notation" consists of a barely scrutable private notebook. But what the performer *does* with the score clearly, if unexpectedly, reveals a powerful intersection of both notation and improvisation. By articulating what all

these pieces share, I encourage readers to stretch their understandings of notation and improvisation beyond the terrain of my own examples, and to develop and connect where I may have erred or overseen.

My portrayal of the field is, as mentioned, incomplete, and I hasten to acknowledge limits and omissions. Many giants of notation for improvisers, particularly Anthony Braxton, Earle Brown, Vinko Globokar, Barry Guy, Annea Lockwood, Pauline Oliveros, Wadada Leo Smith, Christian Wolff, and John Zorn are unfortunately absent. These composers are deeply relevant to the topic, and no less worthy of attention and affection than artists included here. However many of these composers have received considerable scholarly treatment in the last years, and I am reluctant to include them in a less exhaustive comparative study which would neither do them justice nor enrich the curatorial aspect of the dissertation.

A number of time-based formats are also left out, including animated scores[14] on film and video by Christian Marclay, Justin Bennett, and Catherine Pancake; realtime computer-generated scores by artists such as Jason Freeman or Pedro Rebelo; and improvised conducting techniques variously known as "conduction" (Butch Morris) or "soundpainting" (Walter Thompson and Sarah Weaver). The cultures and dynamics of the moving image, technological interactivity, and the choreographic body are extremely rich unto themselves, but fall outside the purview of this dissertation.

However I do hope that artists and scholars in these areas find some value in *Tactile Paths*. For despite the fact that I focus on scores containing nominally fixed, atemporal marks on printed pages, I wish to underline – following semiotician Charles Sanders Peirce – that these signs only become meaningful as notation in the minds and actions of their users. Because the users are improvisers "press[ing] on in an ongoing process of growth and development" (Ingold 2007, 75), printed notation is never as fixed as it may seem. It belongs to the flux, feedback, and transformation of performance itself, and should therefore also be relevant to the forms of non-printed notation mentioned above.

14. For a bibliography of "animated scores" see `http://graphicnotation.com`.

Context and Literature Overview

State of the Field

Despite the large number and wide array of artists working with notation for improvisers in contemporary music, "notation for improvisers" does not – to the best of my knowledge – constitute a cohesive field of research. While neighboring areas of interest in music scholarship such as indeterminate notation, graphic and verbal notation, open form composition, improvisation studies, and the work of particular emblematic artists who use notation for improvisers (see below) overlap with the topic to a certain degree, I believe there is still a gap to be filled.

As I have stated, the principle aim of this dissertation is to change that: to articulate problems and methods that connect diverse music falling under this umbrella, and so provide both artists and scholars some conceptual tools with which to explore and discuss how notation and improvisation (can) relate in a broader sense. In order to achieve this, much of my work in *Tactile Paths* is creative and exegetic. I work directly with key materials, pieces, and artists, unpacking my experience of how they work in ways that run deeper than more superficial aesthetic, historical, and technical differences.

But another crucial element in this effort is to rethink views that may have hindered articulate discussion around the theme of notation for improvisers in the first place. After all, if there is such a great deal of musical practice that deals dynamically with improvisation and notation – not only in "experimental" and "contemporary" music, but also in jazz, classical music, and non-western traditions – why exactly *doesn't* this music have a greater collective discursive presence?

The most obvious rationale is one I have repeated in passing several times: the aesthetic, historical, and technical differences among artists and work that could be placed in this category. Even if we restrict ourselves to the contemporary and experimental music under lens in *Tactile Paths*, it is far from evident what connects the music of Pauline Oliveros and Richard Barrett, Cecil Taylor and Ben Patterson, John Stevens and Annea Lockwood, or Polwechsel and the Instant Composers Pool. Not only do these artists reflect a seemingly incompatible array of styles and musico-social contexts, but their concrete approaches to notation and improvisation vary wildly. The dispersive effects of this from the outside, however, are mitigated by adopting the perspective of a practicing artist; experience composing and playing such pieces provides knowledge of phenomenological aspects that may be difficult to access through traditional (ethno)musicological methods.

Another possible explanation for this academic lacuna would be 20th century scholars' "historical amnesia" (Sancho Velázquez 2001) regarding the presence of improvisation in Western music in general. As various scholars have noted, this gap can be attributed to a variety of factors both musical and social: "technological development and industrialization" (Moore 1992, 84), modernist compositional aesthetics (Lewis 1996), or the professed scientism of the discipline of *Musikwissenschaft* at the end of the 19th century (Sancho-Velázquez 2001, 228-239). However, as the very existence of these critiques shows, the field of improvisation studies has broken this barrier wide open in the last twenty-five or thirty years, happily relegating this amnesia itself to history.

In my opinion the most durable explanation for the relative invisibility of notation for improvisers as a subject in academic discourse can be traced to the contentious and variegated discourse around the nature, use, and value of notation over the last half

century: what I call the prescription-preservation model of the score.

Whatever their relationship (or lack thereof) to improvisation, contemporary artists and scholars alike have often assumed that notation serves a dual function of prescribing and preserving: a score assigns the player(s) instructions with which to perform a piece of music, and stores (or alternately "describes" – see Seeger 1958 below) a piece for purposes of ownership, study, and/or subsequent performances. As The *New Grove Dictionary of Music and Musicians* tells us, this is in fact the very definition of notation: "a visual analogue of musical sound, either as a record of sound heard or imagined, or as a set of visual instructions for performers."[15] Such a view is not confined to dictionaries; it is expressed implicitly or explicitly in writings by vastly different thinkers and musicians, from Nelson Goodman, proto-ethnomusicologist Charles Seeger, historical musicologist Carl Dahlhaus, composers Harry Partch and Brian Ferneyhough, editor Kurt Stone, violinist-researcher Mieko Kanno to free improviser Derek Bailey:

> First, a score must define a work, marking off the performances that belong to the work from those that do not. [...] What is required is that all and only performances that comply with the score be performances of the work. [...] Not only must a score uniquely determine the classes of performance belonging to the work, but the score (as a class of copies or inscriptions that so define the work) must be uniquely determined, given a performance and the notational system. (Goodman 1968, 128-130)

> Three hazards are apparent in our practices of writing music. The first lies in an assumption that the full auditory parameter of music is or can be represented by a partial visual parameter, i.e., by one with only two dimensions, as upon a flat surface. The second lies in ignoring the historical lag of music-writing behind speech-writing, and the consequent traditional interposition of the art of speech in the matching of auditory and visual signals in music writing. The third lies in our having failed to distinguish between prescriptive and descriptive uses of music writing, which is to say, between a blueprint of how a specific piece of music shall be made to sound and a report of how a specific performance of it actually did sound. (Seeger 1958, 184)

> If one extends the concept of the written to the concept of textuality, it can be seen that [...] in Western music of the past centuries the essence is still in notation. Of the three layers that were distinguished – the real-acoustic symbolized in notation, the musical-intentional as the epitome of function and meaning, and finally the layer of the interpretational means of presentation, which are also acoustically real but not notated – it is without doubt the intentional layer that matters most.[16] (Dahlhaus 1979, 13, my translation)

> Notes should represent, for the player, physical acts upon the strings, levers, wood blocks, or whatever vibratory bodies he has before him, but they do not represent such acts very well unless the peculiarities of his string patterns, or lever or block patterns, are taken into account as the basis for the figuration of those notes. Results would

15. *Grove Music Online*, s.v. "notation", accessed 02.03.16, `http://oxfordindex.oup.com/view/10.1093/gmo/9781561592630.article.20114`.

16. "Erweitert man aber den Begriff der Schriftlichkeit zu dem des Textes, so zeigt sich, daß eben doch [...] in der europäischen Musik der letzten Jahrhunderte das Wesentlich in den Noten steht. Von den drei 'Schichten' die unterschieden wurden: der akustisch realen, die durch die Notation symbolisiert wird, der musikalisch intentionalen als Inbegriff von Funktionen und Bedeutungen und schließlich der Schicht der interpretatorischen Darstellungsmittel, die wiederum akustisch real sind, aber nicht notiert werden, ist es zweifellos die intentionale, auf die es ankommt." (Dahlhaus 1979, 13)

certainly be more immediate and might well be more rational as a whole if there were a separate notation for each type of instrument, based entirely upon its individuality, and, in addition, a common-denominator notation based upon ratios or clearly implying ratios. And students of the instruments would know both notations – the one for playing the music of a particular instrument, the other for studying and analyzing the total result. (Partch 1949)

I *demand* of notation that, first of all it be an *image* of the sounds required, depicted according to whatever conventions have been adopted. I demand also that it provide a *tablature*, that is to say, a set of instructions to the performer as to how to go about creating the required sounds – finger positions, strings, specific woodwind fingerings and so on.

I demand particularly, however, of notation that it be *historically resonant* in that it succeed in suggesting to the performer relevant musical contexts not amenable to highly concrete and particular notational specification. The total semantic weight of events specified, in other words, should be greater than the sum of individual instructions offered. (Ferneyhough, unpublished interview with staff of *Parergon*, 1997)

An editor serves as the mediator between the composer who invents new notation and the performer who must interpret it properly. A conscientious editor, one who involves himself in the musical aspect of the scores under his care, can bring the performers' need for notational clarity to the attention of the composer and collaborate with him toward this goal. Conversely, he can elucidate to the performer some of the composer's intentions and visions which may not be fully realized in the notation. Musical notation, after all, is not an ideal method of communication, utilizing, as it does, visual devices to express aural concepts. But it is all we have. (Stone 1980, xvii)

Musical notation in western classical music is a system which preserves past musical events while enabling and informing future ones, both describing musical works and giving specific instructions for them to be realised. We use notation for a wide variety of purposes: composers notate music for performance and publication; they sketch ideas that would otherwise be forgotten, allowing themselves time to reflect; performers read from notation to get to know a piece and also to perform it; musicologists often depend greatly on notation for analysis; and many musicians acquaint themselves with works via score-reading. (Kanno 2007, 31)

Essentially, music is fleeting; its reality is the moment of performance. There might be documents that relate to that moment – score, recording, echo, memory – but only to anticipate it or recall it. (Bailey 1992, 142)

Note the variety of historical moments, disciplines, and ideologies represented here. Note as well that each speaker has a different model of *what* is primarily being prescribed or preserved: for Goodman it is the musical "work", for Partch it is practical information, for Ferneyhough it is both (plus the sediment of the work's ontological emergence), for Dahlhaus and Stone it is the composer's intention, and for Bailey it is the performance itself. But in each and

every case, the prescription-preservation model is affirmed – it *cuts across* these positions.

While this model is by no means universally accepted, it evidently runs deep. So deep, I would submit, that for many people it renders the very notion of "notation for improvisers" to be a contradiction in terms, along the lines of "vegan salami" or "female masculinity".[17] Indeed if one considers prescription and preservation, both forms of fixation, to be the primary functions of notation – in ostensible opposition to the contingency and perpetual transformation of improvisation – the subtitle of this dissertation, "on and through Notation for Improvisers", amounts to little more than an oxymoron. Drummer Edwin Prévost, never one to get mired in shades of gray, points directly to this apparent conflict when he claims

> a) that in a so-called normal piece of formal music, for example a Beethoven string quartet or even a pop song, most of the technical problems of preparing for a performance are solved and refined before the intended presentation.
>
> b) that the relationships between the musicians are mediated through the manuscript which normally represents the score.
>
> The contrast of these analytical propositions with those of improvisation are:
>
> a) that improvising musicians are searching for sounds and their context within the moments of performance.
>
> b) that the relations between musicians are directly dialogical: their music is not mediated through any external mechanism such as a score. (Prévost 2009, 133)

But in notation for improvisers, there is usually more afoot and at stake; prescription and preservation may play a minor or trivial role. Cardew's *Treatise*, for example, deliberately omits any explanation of the graphic notation by which one could determine an object of prescription; it accrues meaning precisely through performers' engagement with Cardew's refusal to prescribe. Likewise the value of the minimal verbal notation in Richard Barrett's *spukhafte Fernwirkung*, written for a group of idiosyncratic improvisers assembled for a one-time event, hardly seems to consist in preservation. Rather, the object of "prescription" – different subsets of the unique constellation itself – seems to crystallize the occasion in full embrace of its immanent dissolution.

All the same, most notation for improvisers does not forego prescription or preservation entirely. Goldstein's *Jade Mountain Soundings*, for instance, fits the model quite neatly in that it provides a detailed set of instructions, norms, and repeatable sonic and formal properties. However apart from framing the identity of the piece, the score also marks and catalyzes dynamic, embodied processes that can never be captured (read: prescribed or preserved) in notation of any kind. Another example can be found in Ostertag's *Say No More* project, which explicitly thematizes and plays with the very notions of prescription or preservation; ironically, however,

17. See gender theorist Judith Halberstam's *Female Masculinity* (Halberstam 1998).

audio recordings and the memories of the performers themselves perform the bulk of this work, and written notation plays an ancillary role.

Presuming we do not take these examples' incompatibility with the prescription-preservation model as evidence that they are in fact (as hardliners such as Goodman and Dahlhaus might argue) no notation at all, that model would thus require some adjustment. The question then becomes: what exactly *is* afoot and at stake in notation for improvisers besides prescription and preservation – and how can that something be generalized beyond individual pieces and performances, in order that the model might be expanded, complemented, or challenged? Addressing these questions might help not only to illuminate notation for improvisers, but also to rewire assumptions about notation and improvisation in general which have plagued scholars and practitioners across the board.

In *Tactile Paths* I thus draw on writers who provide ways of broadening, complementing, and challenging the prescription-preservation model. Like the artists I examine, these writers represent a wide variety of artistic and scholarly positions. The literature I use can be roughly grouped into three categories: (artists') views on notation for improvisers, critical improvisation studies, and distributed and situated cognition.

(Artists') Views on Notation for Improvisers

The research questions I outlined in the introduction to this text are hardly unique to my own music. One finds evidence of their importance to practitioners in a variety of texts by and about artists included in *Tactile Paths*, and others who could have been, such as Cardew (1961; 1971; 1974), Karkoschka (1979), Braxton (1985; 1988; Lock 2008), Brown (1986), Goldstein (1988), Eno (2004), Rebelo (2010), Barrett (2014), Smith (Oteri 2014), and Toop (2015). Understandably, most of these frame the interface of notation and improvisation in terms of the authors' personal practices; they are not studies of notation for improvisers in general. However they are invaluable to my attempt at generalizing shared concerns for two reasons. First, they flesh out performative contexts – e.g. in what circumstances and for/with whom pieces were written, and how they have been performed and changed over time – issues which are so crucial to my research questions. Second, some of these artists offer refined conceptual descriptions of their methods, such as Barrett's notion of "seeded improvisation" or Smith's "Ankhrasmation". Principles revealed in these concepts help establish links with other artists that I develop throughout the dissertation.

Two of these artists/ writers are worthy of individual commentary. Composer, pianist, and musical activist Cornelius Cardew's three texts (1961, 1971, 1974), written at different stages in his artistic development, not only offer incisive reflections on the role of notation in contemporary music at a time of bubbling innovation;

they also trace the emergence of his interest and commitment to improvisation as a partial consequence thereof. *Treatise Handbook*, written while he composed *Treatise* (perhaps the only canonical piece included in the dissertation) offers a condensed, existential perspective on this evolution, articulating questions of major significance to the entirety of *Tactile Paths*. I deal with these in my own "A Treatise Remix Handbook".

Pedro Rebelo's brief article "Notating the Unpredictable" (2010) is among the very few texts to have dealt with the topic of notation for improvisers in general, and perhaps the only one to have done so from an academic perspective. It begins with questions of explicit interest to *Tactile Paths*: "How, then, does the role and function of notation change with specific contemporary practices, which are by definition ill-defined and feed off fluidity and change? What is the nature of notation in distributed and collaborative practices such as improvised music or network music performance?" (17). It also provides rich examples of notation as communication, reflection, and production, beyond mere prescription and preservation. But unfortunately, Rebelo's discussion of his own creative responses to these questions glosses over the most important aspects of the performative "unpredictability" he purports to address – what improvising performers actually do with notation. Instead Rebelo treats performance in purely general, hypothetical terms, and focuses almost exclusively on how his realtime computer-generated notation changes its appearance, rather than on how it engages those who are actually making the sounds in concert. In contradistinction to this approach, I proceed from the claim that the tension and connections between the factual contingencies of performance and notation are the heart of notation for improvisers, and only by taking them into account can research on the topic achieve Rebelo's goal of "question[ing] the presumptions of those who write and those who read, not to create a new language but rather to agitate notational practice, to unbind the volume, and to expose liveness" (26).

By contrast, musicologist Floris Schuiling's work (2015; 2016) on the music of Dutch composer-improviser Misha Mengelberg for the Instant Composers' Pool (ICP) addresses performative contingency head-on. In a recent article Schuiling argues that

> the scores in the ICP's repertoire function as significant sources of creativity for the performers. Rather than establishing uniformity and reaffirming the control of a composer as in the discourse and practice of the "work-concept", the pieces in the ICP contribute to the heterogeneity of creative possibilities open to the performers. (Schuiling 2016, 47)

Employing ethnographical methods and borrowing from exponents of "relational musicology" (Born 2010; Cook 2012), Schuiling makes a rare and compelling argument for the need to revise dominant concepts of both notation and improvisation based on what improvisers actually *do* with scores. He focuses on the spontaneous

and collective (re)ordering of set lists; individual players interrupting a piece with fragmentary scores (or "virus" scores, in Mengelberg's terminology); and the radical reworking of the ICP repertoire over decades through "not only varying the tempo, playing lines from other musicians, playing lines backwards, suddenly changing from minor to major, but also reinterpreting clefs, rests and the letters in titles as 'graphic scores'" (49-50).

While Schuiling's analysis is commendable in many respects, an important aspect of these scores is left out: the process of notating. One wonders, how did Mengelberg go about writing these pieces in the first place? Clearly they were not written for a generic orchestra or string quartet – they were written with his own improvisatory proclivities, the sizeable personalities of his bandmates, and the group dynamic and history of ICP as a whole in mind. Furthermore, given Mengelberg's taste for disruption and juxtaposition (Schuiling 2016, 47), one can easily imagine that he changed his approach to producing notated material over time based on first-hand experience of how previous scores were performed. How, we ask, did this change manifest? Such questions, I would argue, are crucial to presenting a complete picture not only of the work of the ICP, but of all notation for improvisers.

However even in the best of circumstances they tend to escape the musicological eye (and ear). One can compare drafts, sketches, edits, and scores; read correspondence with performers; or interview composers directly. But even when robust documentation is available and artists are willing and able to share this sensitive information, the minute particulars of inscription may simply be too ephemeral or private for external observation to capture. An artist-researcher such as myself, however, is in a better position to answer these questions by unpacking first-hand experience. The tacit knowledge of writing and realizing notation offers practitioners a rich perspective on notation that complements the paleography and ethnography of traditional musical scholarship.

Critical Improvisation Studies

Given my emphasis on how improvisers *use* notation – both as composers and performers – rather than on the internal structure of the documents themselves, I naturally draw on the work of a number of artists and improvisation scholars who do not concern themselves explicitly with notation. These sources can be placed under the umbrella of critical improvisation studies, a nascent interdisciplinary field that seeks to understand the practice of improvisation not only in music and the arts, but across a wide range of human activity.[18]

Artistic Sources   Three books by practitioners are particularly important to *Tactile Paths*. Goldstein's mostly handwritten anthology of scores and reflective texts *Sounding the Full Circle* (1988) ironically

18. See Lewis and Piekut 2014; Borgo (n.d.); and the online journal *Critical Studies in Improvisation/ Études Critiques en Improvisation* http://www.criticalimprov.com.

does not address notation, despite the fact that the volume contains some of the very most beautiful and provocative examples of notation for improvisers. His primary interest is the deeply material triangulation of body, instrument, and sound through improvisation summed up in his concept of *Sounding*, and the score is simply a tool to reach it. In "Seeing the Full Sounding", I explore how principles of *Sounding* are embodied in Goldstein's notation, folding his texts back onto his work in the form of a documentary film. The concept of *Sounding* also sheds light on the physicality of notation in pieces by other composers as well.

My occasional citation of (and where uncited, deference to) the second text, Derek Bailey's flagship *Improvisation: its nature and practice in music* (1992), may surprise some readers. Written by an artist fighting for the legitimacy of experimental improvised music in unsympathetic times, the book tends not to celebrate notation. However, his discussions of players' relationships to their instruments, ensemble dynamics, and especially the worldview of "long-distance improvisors" (125) are eminently relevant to my arguments about notation. Bailey's and his interviewees' "straight from the hip" descriptions of these phenomena help contextualize the dynamics of improvisation in which notation emerges and on which it feeds back; were he alive to read *Tactile Paths*, he might be delightfully shocked to see how the notated work included here extends and refines his ideas.

The third book, *echtzeitmusik: selbstbestimmung einer szene / self-defining a scene* (Beins et al 2011) provides artists' accounts and theories of improvisation from within the Berlin experimental music scene of which I am a part at the time of writing this dissertation. (Geography aside, two of the editors, Christian Kesten and Andrea Neumann, were collaborators in the making of *A Treatise Remix*.) Beins' (2011) chapter on group interaction and Neumann's chapter (2011) on her self-designed inside-piano instrument and sound research, stand out for their critical first-person reflections on the brass tacks of the craft of improvisation which can be so difficult to observe from a distance. On a different note, the roundtable conversation "Labor Diskurs" (Beins et al 2011, 232) provides a bird's-eye view of many contentious points in the discourse surrounding notation and improvisation, not only in Berlin but throughout Europe.

Scholarly Sources   Among the sundry improvisation scholars referenced throughout the dissertation, I have returned to three more than others. Two are united by their arguments for a mobile theory of musical improvisation in which the "performance according to the inventive whim of the moment"[19] is not a necessary and sufficient characteristic of improvisation, but rather one among many. Benson's *The Improvisation of Musical Dialogue: A Phenomenology of Music* (2003) expands the notion of improvisation within the remote domain of classical music to include a wide variety of over-time practices such as ornamentation, transcription, and compositional

19. Oxford Dictionaries, s.v. "improvisation", accessed 29.08.16, `http://www.oxfordreference.com/view/10.1093/acref/9780199578108.001.0001/acref-9780199578108-e-4586`.

revision in addition to the performance of cadenzas and extemporization. In contrast to *Tactile Paths*, Benson's understanding of notation in these practices is tied to limited musical materials, codified performance practices, and questions around the lives of musical works. However through this discussion he leads the reader to the view of improvisation as a meta-practice, a dialogue among composers, performers, and listeners that has much to offer my analyses of more experimental work.

Cobussen, Frisk, and Weijland's (2010) article "The Field of Musical Improvisation", and Cobussen's recent book of the same name (2016), melt the discipline of improvisation to an even greater degree than Benson, characterizing it as a phenomenon that "takes place in a space between" (12) performers, composers, organizers, listeners, and many more actants. Their model is a fluid and nonlinear one in which musicians, technologies, and historical and social situations feed back on each other. Understanding improvisation, Cobussen argues, requires us to examine constantly evolving activities and networks rather than stable agents or artistic products alone. In my concept of notation as a tactile path, scores can be seen as nodes inside this dynamic field that modulate musical and social relationships, and at the same time are changed by them. Likewise, they serve as snapshots of actants in that field from the outside, affording composers and performers additional perspectives on the environments they inhabit.

Cobussen shares a taste for complex systems with two other scholars whose research on improvisation has informed my ideas around notation. David Borgo's work drawing on theories of extended and distributed cognition, particularly his 2014 article "The Ghost in the Music: Improvisers, Technology, and the Extended Mind", has had a formative influence on my turn toward a processual, use(r)-based view of notation. Borgo develops a view of musical cognition as being not merely in the heads of individual musicians, but rather embedded in, and to an extent continuous with, the performative environment; among other things, that environment includes instruments, technology, and other musicians. Building on that model, I treat notation non-hierarchically as another element in the cognitive system, dynamically interacting with other agents. This represents a rather radical shift from the dominant structural view of notation that Borgo critiques elsewhere:

> Academic music studies have tended to argue (at least until recent decades) that music's significance, as well as its ontological status, resides in its structural features; specifically those structural features that may be represented as a notated score. Meaning, it was assumed, was 'in the notes' [...] For music not predicated on the primacy of a notated score or on strong distinctions between composers and performers – in other words, most music on the planet – this often meant the kiss of death, since the music academy has traditionally viewed all modes of musical expression through the formal and architectonic perspective of resultant structure. (Borgo 2007, 95)

In *Tactile Paths* I develop a view of notation that works for, rather

than against, his theory of improvisation, and hope to offer a surprising way to enrich it.

Distributed and Situated Cognition

In addition to the above-mentioned work in the field of music, a number of writers in contemporary cognitive science[20] have laid the groundwork for *Tactile Paths*. These scholars concern themselves with the interdependence of thought, perception, and action throughout human experience. Although I do not often refer to them explicitly, they have been foundational for my view of how notation works and changes within a dynamic musical environment, beyond simply transmitting static programs or instructions from composer to performer. (They have likewise influenced the work of Borgo and Cobussen discussed above.)

Edwin Hutchins' *Cognition in the Wild* (1995) focuses on the distributed qualities of cognition in his analysis of a naval ship mishap. He argues that the knowledge required to improvise bringing the ship to harbor without its failed electronics is spread, or distributed, over the ship's team and their texts and tools:

> One can focus on the processes of an individual, on an individual in coordination with a set of tools or on a group of individuals in interaction with each other and a set of tools. At each level of description of a cognitive system, a set of cognitive properties can be identified; these properties can be explained by reference to processes that transform states inside the system. The structured representational media in the system interact in the conduct of the activity. (Hutchins 1995, 37)

In this dissertation I consider the behavior of a band or composer-performer collaboration to be similar to a naval crew in distress; both think and act as a complex organism. Musical agency can be located and analyzed in the coupling of a player and her instrument, a player and her instrument with the notation, and players and their instruments with each other and the notation. Scores are treated as "representational media" that "interact in" – not only direct – "the conduct of the activity." I also proceed from Hutchins' assertion that cognition is distributed over time, not only during the performance of a task. While I am neither able nor interested to apply his computational analyses to the music under lens, I embrace his keen eye for real-world contingencies as part of, rather than anethema to, the formal structure of behavior.

Lucy Suchman's *Human-Machine Reconfigurations: Plans and Situated Actions* (2007) considers how cognition is situated, or embedded in, the structure of the environment in her discussion of users' interactions with copy machine help menus. According to Suchman, cognition does not occur as a linear process of external perception (input), mental representation and planning (computation), and action (output) causally constrained by an agent's surroundings. Rather, it arises from improvised interaction with those surroundings:

20. Aside from Hutchins 1995 and Suchman 2007, both described below, see Clancey 1993; Kirsh and Maglio 1994; Chiel and Bier 1997; Clark and Chalmers 1998; Anderson 2003; Noë 2004; and Gallagher 2005.

> [T]he efficiency of plans as representations comes precisely from the
> fact that they do not represent those practices and circumstances
> in all of their concrete detail. So, for example, in planning to run a
> series of rapids in a canoe, one is very likely to sit for a while above
> the falls and plan one's descent. The plan might go something like
> 'I'll get as far over to the left as possible, try to make it between
> those two large rocks, then backferry hard to the right to make it
> around that next bunch.' A great deal of deliberation, discussion,
> simulation, and reconstruction may go into such a plan. But however
> detailed, the plan stops short of the actual business of getting your
> canoe through the falls. When it really comes down to the details
> of responding to currents and handling a canoe, you effectively
> abandon the plan and fall back on whatever embodied skills are
> available to you. (Suchman 2007, 72)

Suchman's example offers a tailor-made analogy for the dynamics of notation for improvisers. Rather than writing a comprehensive program for performance, most composers plan within the performative environment in private practice, meetings with performers, and rehearsals. They give incomplete instructions that purposefully draw on the embodied skills of players not only to carry out the musical plan, but to co-construct the situation in which those instructions can become meaningful. Suchman's articulations of the finer points of plan formation, negotiation, and the structure of their representations have been a great help to my efforts to understand the myriad ways that notation is used and developed by and for improvisers.

Over the course of reviewing literature by cognitive scientists, I have however consistently run into one major incompatibility between my subject and theirs: most if not all the studies of distributed and situated cognition I have read rely on a goal-based model or experiment. In the examples described above, Hutchins' subjects attempt to steer a ship safely to harbor; Suchman's subjects make photocopies or get the canoe downstream without capsizing. In my opinion and experience, experimental improvisation and notation's relationships to teleological tasks are ambiguous; the wayfarer's vocation is to remain in movement, "press[ing] on in an ongoing process of growth and development, or of self-renewal" (Ingold 2007, 75-76). Perhaps for this reason, cognitive science has remained a background for *Tactile Paths*, rather than become an active discursive partner.

Dissertation Structure – Website

As a coda to this introduction, I would like to offer a few words on the structure of the dissertation. *Tactile Paths* is a native website. The choice of format is partly practical, with the goal of providing access to scores and recordings that are difficult or impossible to locate in research libraries and standard distribution outlets. Without these primary sources, discussion is emaciated. Additionally, I hope the internet provides a way to reach non-academic practitioners,

above and beyond a readership of scholars and specialists.

The conceptual role of the website format is to reflect the content metaphorically. *Tactile Paths* is a discourse on notation for improvisers, but it is also a meshwork of paths through them, a "meta-notation" that the reader is invited to explore in much the same way as performers explore the scores.

The paths, or chapters, of the dissertation are ad hoc, bottom-up analyses of single pieces or small groups of related pieces. Because the spectrum of music included is rather wide, a willfully improvised methodology is adopted in order to best articulate the unique environments in which shared artistic methods and problems emerge. For this reason, they differ rhetorically, involve media in different ways and to varying degrees, and draw on different bodies of secondary literature. In this way I use the diversity and contingency of my subject as a discursive resource, taking what architectural critics Charles Jencks and Nathan Silver have dubbed an "adhocist" approach:

> By bringing together various, immediately-to-hand resources in an effort to satisfy a particular need, adhocism may satisfy the particular problem with a juxtaposition of part-solutions. For example, it may be necessary to solve a problem without the 'usual' materials or experts [. . .] [I]n place of experts, an emergency team, ad hoc committee, or volunteer brigade can do the work instead – sometimes using bizarre methods that notoriously prove a lesson later to those with special skills or training. (Jencks and Silver 2013, 110-111)

Thus I draw as often as possible from my – and the artists' – own "emergency" first-hand experience as artists. In some cases this has resulted in purpose-built creative projects and presentation formats such as "A Treatise Remix Handbook" and "Seeing the Full Sounding". These are intended not only as subjects for research, but as aspects of the research process itself. (More on this in individual paths.)

In order to provide links among the paths, the reader will find a number of topics assigned to each chapter. These are the tags, or keywords, that identify themes or sites of inquiry that link multiple artists or pieces. They constitute the territory along which paths are inscribed.

All of the paths are ordered numerically for the sake of reference and convenience, but the argument of *Tactile Paths* does not proceed teleologically. Rather, the reader is encouraged to move among paths and topics in any order. Each route will afford a different understanding of the landscape. The objective of this structure is thus not only to reinforce or re-present my conception of how these pieces and concerns relate, but also to offer the reader a live environment in which to experience or improvise with them firsthand. The argument that unfolds as the reader passes through the website has a parallel in Tim Ingold's description of medieval readers' experience of travelling through a text:

The flow, here, is like that of the contours of the land as, proceeding along a path, variously textured surfaces come into and pass out of sight. Thus the 'stages' of the composition are to be compared not to steps in the march of progress but to the successive vistas that open up along the way towards a goal. Going from stage to stage is like turning a corner, to reveal new horizons ahead. (Ingold 2007, 96)

Hopefully, knowledge gained from readers' exploration of *Tactile Paths* will be likewise transferable to "new horizons" beyond the immediate field.

Seeing the Full Sounding

> For the improviser, the physicality of producing sound (the hardware) is not a separate activity from the thoughts, emotions and ideas in music (the software). In the act of creation, there is a constant loop between the hierarchy of factors involved in the process. My lungs, lips, fingers, voice box and their working together with the potentials of sound are dialoguing with other levels which I might call mind and perception. The thoughts and decisions are sustained and modified by my physical potentials and visa versa, but as soon as I try to define these separately I run into problems.[21]

21. Jim Denley (Denley 1992, 29).

> Language struggles with depicting physical action, and nowhere is this struggle more evident than in language that tells us what to do. Whoever has tried to assemble a do-it-yourself bookcase following written instructions knows the problem. As one's temper rises, one realizes how great a gap can exist between instructive language and the body.[22]

22. Richard Sennett (Sennett 2008, 183).

The two quotes above, from saxophonist Jim Denley and sociologist Richard Sennett, illustrate one of the fundamental problems and resources for notation for improvisers: negotiating the immediate physicality of improvisation, and the mediate symbolicity of notation. The connection of the improviser to her instrument is kinetic, local, and focused on the in-time, which seems directly at odds with the mediated, portable, coded, and mostly over-time[23] nature of notation.

The interface between these two positions is present throughout the music examined in *Tactile Paths* and many other notated pieces for improvisers, whether or not explicitly expressed in scores themselves. Building on Denley's hardware-software metaphor, one can see how Bob Ostertag deliberately repatches the performer-instrument feedback loop through the recording process in his *Say No More* project (1993a; 1993b; 1996). Ben Patterson embeds a long-term process of exploring the physical qualities of his instrument with preparations in his *Variations for Double-Bass* (1999). Performers experience types of movement and instrumental technique in the conventionally notated sections of my *Apples Are Basic* (2008) that inflect or guide improvisation in the graphically notated sections. Richard Barrett refers primarily to the physical properties of material, rather than to quantifiable pitches and rhythms, in his *fOKT* series (2005). Even Cornelius Cardew – who gives no instructions at all to performers of his abstract graphic score *Treatise* (1970) – grounds their interpretations in embodied experience *ipso facto*

23. Cognitive scientist Tim Smithers frames the notions of in-time and over-time processes as follows: "For things that happen IN-time the time taken matters. If they happen in different amounts of time they are importantly and distinguishably different happenings. In these cases, the time in which they happen is a fundamental characteristic of the happening. [...] For example, in walking, the time taken to move legs matters. If the leg movements involved took different amounts of time we would not have the same kind of walking – we may not even have walking at all! For things which happen OVER-time the time taken to happen is of no fundamental importance, though it may well be of practical importance. In these cases, if the amount of time taken changes or varies we still have the same thing happening. The time-taking aspect of these kinds of things can be safely disregarded in any proper understanding or explanation of them: they are NOT embedded in time; they are just contained in time." (1996, 114)

through his very refusal to instruct.

In the present chapter, I would like to foreground the encounter between physicality and notation in a documentary film made with director Zach Kerschberg entitled *Seeing the Full Sounding: Christopher Williams explores two pieces by Malcolm Goldstein*. This film traces the dynamic and analytically slippery connections of physical experience, sound, and notation in my performances of Malcolm Goldstein's *Jade Mountain Soundings* (1988, 63-67; henceforth *JMS*) and *on and on and always slowly nowhere* (2011; henceforth *OAO*). Rather than merely providing examples or support for the present text, the film itself is the primary argumentational vehicle; these words may be taken as an introduction.

In "Expressive Instructions", a short but powerful chapter in his book *The Craftsman* (2008), Sennett compares three recipes by chefs Julia Child, Elizabeth David, and his teacher Madame Benshaw for an elaborate French chicken dish called "Poularde à la d'Albufera". According to Sennett, each of these recipes provides a successful alternative to the traps of "dead denotation", or the debilitating use of commands that "name acts rather than explain the process of acting [. . .] [that] tell rather than show" (184). Child achieves this through sympathetic illustration; she points out likely pitfalls and "focuses on the human protagonist rather than on the bird" (185). David explains through scene narrative, "impart[ing] technique through evoking the cultural context of this journey" (187) of cooking the chicken. Benshaw's minimalistic and poetic recipe[24] uses metaphors "in order to give each action heavy symbolic weight" (193). In all of these recipes, Sennett shows how "the imaginative trope becomes itself the explanation [. . .] and how unpacked tacit knowledge can become expressive instruction" (184).

In the vein (forgive the pun) of "Poularde à la d'Albufera",[25] Goldstein's music offers a choice opportunity to explore the complex relationship between text and body by taking the physicality of string and vocal techniques as its very subject. *JMS* and *OAO* create an entire universe from the inner complexity of single sounds, the haptic poetry of a soloist's movement with bow, instrument, and voice, and the materiality of sound in space. And like Child's, David's, and Benshaw's recipes, Goldstein negotiates the ineluctable slippage between notation and the physicality of improvisation by using an "imaginative trope" – or guiding creative image – that he calls *Sounding*:

> Soundings: plumbing the depths of sounds and in/of me. All sounds. Touch releasing things into motion; gesture realized/resonances of texture becoming song. (Music: the process of living, sound.) Improvisations, my violin playing. . . an overflowing of myself in space. Sound as a physical reality, touching upon the ears of the body; ("upon the string, within the bow. . . breathing"). . . reverberations within the skull become a changing landscape – a new music. . .
> As one sound unfolds, I follow it with my bow, bent thick or thin upon the line; gut and metal unfolding, stretched taut, full length the black wood, a pathway of no stepping stones while fingertips and

24. "Your dead child. Prepare him for new life. Fill him with the earth. Be careful! He should not over-eat. Put on his golden coat. You bathe him. Warm him but be careful! A child dies from too much sun. Put on his jewels. This is my recipe." (Sennett 2008, 190)

25. Disclaimer: I do not wish to overstate the similarities between cooking and Goldstein's music. To the most obvious differences between the culinary and musical arts, we may add that the role of hand-eye(-ear) coordination in music is expressive; in cooking, it is functional. In the concert hall, there is no material product – sounds and movement are ephemeral; in the kitchen, one makes dinner. Furthermore *JMS*' notation consists primarily of tablature, not words. However I do believe Sennett's analysis of the basic problem of communicating physical activity and awareness through the printed medium is eminently relevant to the music under study.

footholds and swaying, sing a resonance of lush green. (Goldstein, as quoted in Arms 2012, 39).

This poetic cluster, in which the materiality of sound, movement, and subjectivity intersect, leads me to a number of questions. How does Goldstein's notation articulate the terms of his tacitly developed *Soundings* to me and other performers? How do the physical qualities of my reading, his writing, and our imaginations interact in and through performance? What role do these interactions play in the experience of listening and viewing?

Instead of responding verbally, I have attempted to answer these questions by showing rather than telling; *Seeing the Full Sounding* depicts the problems and minute details of reading and performing *JMS* and *OAO* directly in their native media of sight, sound, and movement.

An active and poetic approach to the medium of film is crucial here. Rather than using "neutral" surveillance-style video footage as raw data to be taxonomized or formalized (cf. Sennett's "dead denotation"), Kerschberg and I exploit the subjective movement of cameras onstage. Like the alternation of wide-angle shots and overhead closeups in Child's television series,[26] this allows us to trace and focus subtle movements that evade the unaided eye and ear. We also include offstage footage from the residency where the film was shot ("B-roll" in film jargon) as "scene narrative, in which the 'where' sets the scene for 'how'" (Sennett 2008, 188). Shots of me wandering through the Bohemian wheat fields and capering about lumber piles parallel how my sensory awareness is coupled to the space in which I am performing. (Consider in particular my investigation of the insects in the rafters and the creaky door hinges at the beginning of the film.) Most importantly, we superimpose notation on the performance footage in the editing process, so you may experience some analog of the feedback between notation and physicality that I experience while playing. My hope is that these techniques themselves become expressive instructions, revealing corporeal and temporal dynamics that would otherwise remain hidden behind skin, skull, and the "fourth wall" of performance.

The film, however, neither attempts nor succeeds to tell the "whole story" on the topics elaborated above; a few important points are glossed over. First of all, as the reader will gather from my comments in the film (3:02), my relationship to the notation has evolved through direct communication and hands-on work with Goldstein, as well as an immersion in his writings and recordings. I do not approach the scores as self-sufficient entities; nor would I counsel any other prospective performers to do so. Particularly in the case of *JMS* – which bleeds seamlessly into reflections before and after its appearance in *Sounding the Full Circle* (1988), a seminal anthology of Goldstein's writings and scores – the continuity of Goldstein's notated work with his holistic musical (and life) practice is paramount.

Another issue that might need emphasis is a major difference be-

26. See for example her instructions on cooking an omelet at `https://www.youtube.com/watch?v=RThnq3-d6PY`.

tween me performing *JMS* and *OAO*. In *JMS*, my eyes are coupled
to the score, and the physicality of reading recreates the movements
of Goldstein's writing. This conditions the position of my head
and body, even the slightest movements of which are audible in
the fragile long tones of the piece. In *OAO*, however, I do not read
the score at all during performance; rather, I memorize the sim-
ple sectional structure of the piece beforehand and internalize the
sonic images that Goldstein creates in his verbal notation. While
this over-time aspect of learning the piece is not captured in the
film, the physicality of reading *OAO* is still crucial, as my inter-
pretation of the words on the page is filtered directly through my
instrumental imagination.[27]

Nevertheless, the film shows how deeply Goldstein's music en-
twines the physicality of improvisation and notation. His scores
and my performances deconstruct any would-be opposition of no-
tation and improvisation by showing that physicality belongs to
both practices, linking over-time and in-time processes in unex-
pected and fundamental ways. Such links stand to illuminate a
dynamism central not only to Goldstein's music, but to notation for
improvisers as a whole.

27. For a discussion of the over-time
embodied work of interpreting dance
notation, see Watts 2010.

A Treatise Remix Handbook

What is the relevant way of speaking about Treatise*? What are the terms? Can one really say anything explicit about it? (Cardew 1971, 102)*[28]

Introduction

In "The Ground", I asked myself two questions in response to an invitation to compose for an improvising duo: "Why do they want a notated piece if they are going to improvise? And what can my written intervention offer these perfectly self-sufficient *virtuose* other than needless complication?" I went on to detail the problems with these questions and the naive oppositional perspective behind them, stating that "the relationship between notation and improvisation was and is not by nature conflictual." "Moreover," I continue, "I overlooked a cornerstone of my collaborators' musical world view: for the improviser, who happily, skillfully, and often makes her own spontaneous music without notation, scores are simply one more artifact in the musical environment."

While those questions began as a rhetorical springboard, I would like to revisit them here, slightly reformulated, as points for earnest reflection. If, for the improviser, music is fundamentally unscripted – or unscriptable – why *would* she compose or perform with notation at all? To address this important if somewhat unwieldy question, I turn to Cornelius Cardew's monumental 193-page graphic score *Treatise* (1970, composed 1963-1967). Its long historical shadow, and the variety of ways performers have dealt with its notation, make it uniquely suited for such an inquiry. In examining *Treatise*'s performance history from within a creative project, I will attempt to reveal some of the traits that lend it magnetism for so many improvisers, and extrapolate a few principles regarding what can make notation relevant for improvisers in general.

A Reluctant Referent

Treatise is one of the few scores for improvisers that might be considered "standard repertoire" in experimental music. In contrast to most of the pieces included in *Tactile Paths*, it enjoys a rich and diverse performance history, mainstream publication by C.F. Peters, and substantial critical and scholarly attention. That it may be considered canonical is, however, ironic; the score is deliberately incomplete.

28. The title refers to Cardew's own *Treatise Handbook* (1971), a volume consisting principally of cogitations on *Treatise*'s composition and early performances. Having reluctantly assembled the *Handbook* at the behest of *Treatise*'s publisher C.F. Peters, Cardew openly disparages Peters' request for a performance guide; he proceeds to offer the reader a diary of doubts, questions, associations, and occasional moments of lucidity from within the arduous creative process, along with descriptions of how and by whom the piece *happened* to be played in particular concerts. Instead of explaining the piece or telling putative performers how it should be played, these reflections and anecdotes activate the performer's imagination by example, and they typify a kind of wayfinding that saturates *Treatise* on many levels. In both the present text and in *A Treatise Remix*, I have attempted to follow in Cardew's slippery tracks. All right-justified quotes are taken from *Treatise Handbook*.

*It is a score consisting entirely of lines and shapes. It contains no sounds,
no directions to putative performers [. . .] 193 pages of lines and shapes,
clustered around a strong, almost continuous central line, which can be
imagined as the lifeline of the reader, his center, around which all manner of
activity takes place [. . .] (Cardew 1971, 113)*

*Any number of musicians using any media are free to participate in a
"reading" of this score (it is written from left to right and "treats" of its
graphic subject matter in exhaustive "arguments"). Each is free to interpret
it in his own way. Any rigidity of interpretation is automatically thwarted
by the confluence of different personalities. (Cardew 1971, 111)*

Whereas semantic vagaries in many scores for improvisers lack-
ing conventional notation[29] or comprehensive written legends can
be partially resolved by consulting the composer or performance
practice, *Treatise* makes a feature of, and perhaps depends on, inter-
pretive murk. Not only must a player decide how to interpret the
notation at the molecular level; she must, in the context of an en-
semble realization, negotiate its implementation with others, either
verbally during rehearsal, on the fly during performance, or both.
These three levels of interpretation may, and often do, contradict
each other.[30] In addition, the various notational elements (save the
empty staves at the bottom of every page) enter and exit sections of
the piece capriciously. Their visual-semiotic meanings change fre-
quently, as for example when a circle acts as a geometric motif on
one page, and becomes a musical note on the next. Sooner or later,
any consistency in the interpretation of a given element is therefore
undermined.

Through all of this Cardew's professed hope was "that in playing
this piece, each musician will give of his own music. He will give it
as his response to my music, which is the score itself" (1971, 113).
A noble intention, this communion, but how has it worked in prac-
tice, if at all? Even veteran performers have expressed their doubts.
Cardew's biographer and lifelong collaborator John Tilbury writes
that his "own long relationship with *Treatise* evokes a feeling of in-
adequacy: a failure to do the work justice" (2008, 253). According
to Eddie Prévost, "*Treatise* may have been an exhaustive attempt
to map a multitude of possible relationships and possibilities to
which a musician could attend. It was ultimately a theoretical exer-
cise" (2011). More pointedly still, Richard Barrett has described it as
"something that looks more like a gesture of despair at the impossi-
bility of [. . .] communication between composers and performers"
(Wooley 2015c). Cardew's own estimation of the effectiveness and
ultimate worth of this approach waxed and waned over the course
of piece's composition[31] – and finally dwindled to complete rejec-
tion in the early 1970s.[32]

Nonetheless *Treatise* is alive and well, "sow[ing] 'wild oats' [. . .]
even more than in similar compositions" (Anderson 2006, 317) of its
age and genre, in the words of musicologist Virginia Anderson. In
addition to its regular concert appearance and many recordings, it
is often taught in university courses and workshops throughout Eu-

29. "Some of the graphic material is
actually musical in origin. For instance
the five-line musical stave is constantly
in evidence in all shapes and sizes.
But it is always ambiguous." (Cardew
1971, 113)

30. Recordings of group re-
hearsals of *Treatise* published in
Sound American 12 (Wooley 2015a,
2015b) bear this out abundantly. See
http://soundamerican.org/sa_
archive/sa12/index.html

31. See excerpts from *Treatise Hand-
book* inserted throughout this text.

32. "In performance, the score of
Treatise is in fact an obstacle between
the musicians and the audience [. . .]
Treatise was a large-scale opus on
which I wasted more hours of crafts-
manship and intellectual effort than
I care to recall. It would gratify me
to sell the manuscript to some sleepy
bourgeois at an inflated price and thus
receive at least some compensation for
that waste." (Cardew 1971, 197 and
201)

rope and the US.[33] Particularly since 1999 – a period in which most of its commercial recordings were released – it has also undergone a critical renaissance[34] and appeared in several score exhibitions.[35] It may be surmised that *Treatise* – despite itself – is a referent in experimental music.

Inspired by this tension between a panoply of paradoxes within the score, and a dazzling legacy without, I began my study of *Treatise* with the following question: how and why have so many musicians performed the piece? The subject of the present text, a feature-length radio piece entitled *A Treatise Remix*, represents an attempt at an answer. It did not resolve the question above once and for all: I cracked no hidden code in the score, nor did I discover any magical thread uniting *Treatise*'s performance history. Indeed making *A Treatise Remix* revealed far more about my own assumptions and methods than about *Treatise per se*. However as I hope to show, *Treatise*'s unique ability to catalyze such self-discovery, a multi-tiered process of improvisation, may be the key to understanding its enduring relevance and appeal.

How – Source Material

> *"An articulated network" describes what I am working on. Not a discussion of (representing) objects. (Cardew 1971, 102)*

A Treatise Remix began with the aim of audibly comparing and contrasting a wide cross-section of *Treatise* recordings – their styles, self-imposed rules of interpretation, instrumentations, and so on. The format chosen for this comparison was a studio-assembled collage containing multiple recordings of selected pages sounding simultaneously. By layering diverse interpretations in this way, I intended to sketch a picture not only of particular performances' relationships to the notation, but also of those performances' relationships to each other. From here, I hypothesized, one might begin to theorize the gaps between notation and performance that *Treatise* so relentlessly interrogates.

I began by collecting a library of fifteen commercial recordings, six archival and broadcast recordings, and a few dozen more published online.[36] (Ultimately a total of twenty recording were used; they are listed in *Source Material*.) The library encompassed a vast stylistic breadth, spanning relatively straightforward chamber music realizations, digital sonifications of the entire score, atmospheric post-rock and noise renderings, and free jazz satire. Given this unruly tangle, my initial strategy to layer them in a meta-interpretative collage was bound to be messy. To keep the mess to a minimum, the collage would be held together by musical events or qualities shared between different recordings; audible interpretive trends would, ostensibly, provide the listener a structural thread throughout the piece.

The second task was then to locate these trends – to comb through the library and identify traits common to multiple record-

33. E.g. Ming Tsao's seminar at the University of Gothenburg (Spring, 2015), MUSC116 at Wesleyan University (Spring 2013) (`https://iasext.wesleyan.edu/regprod/!wesmaps_page.html?crse=013535&term=1131`), Christopher Hobbs' music technology class at De Montfort University (late 1990s – see Anderson 2006), or Anthony Coleman at the New England Conservatory of Music (2015 – see Wooley 2015a).

34. See Anderson 2006; Prévost 2007; Tilbury 2008, 227-277; Wooley 2015d.

35. See Ashwal et al 2001; Waterman et al 2007; and Held and Subirà 2008.

36. Since my aims were analytic and creative rather than archival, the discographical research was far from systematic. My principal sources were John Tilbury's *Treatise* discography (Tilbury 2008, 1049-1050), comments on particular versions in assorted publications (Cardew 1971; Anderson 2006), a network of resourceful colleagues, a helpful producer (Marcus Gammel), and of course the internet.

ings. My success was moderate; the findings were diverse. There were score-bound traits (e.g. the use of a particular instrument group such as radios or percussion for circles), and there were others not obviously connected to the notation (e.g. a frequent use of drones and static textures). There were conventional trends (e.g. (repeated) chords for the numbers), and more idiosyncratic ones (e.g. two digital versions' assignment of A440 to the lifeline).[37]

Had my goals been of an archival or taxonomical nature, such connections and their systematic scrutiny might have provided the basis for an entire dissertation alone. But my inquiry was artistic rather than scientific, and shortly after beginning this intermediate step, I realized my attention would be far more fruitfully directed toward understanding the *differences* between recordings. These were richer and greater in number, and, as I will explain, they crippled my initial strategy for the collage. Furthermore, they provided a key to answering my questions about improvisers' motivations and mechanisms for employing and performing notation. Two lines of difference brought this discovery to a fine point.

Degrees of Symbolicity

> There is a great difference between: a) doing anything you like and at the same time reading the notations, and b) reading the notations and trying to translate them into action. Of course you can let the score work on previously given material, but you must have it work actively. (Cardew 1971, 107)

Among the source material there is a wide spectrum of fidelity to the notation as symbols for sound production – from the literal to loose, and everything in between. At the literal end we may begin with Shawn Feeney's digital sonification. Indeed one hesitates to call it an interpretation; rather than assign rules to the score as the basis for performance, Feeney feeds digital image files of the entire score through a computer program that reads the pages as bit maps. As Feeney explains, "Sine waves are generated from the black areas of the score as it scrolls from right to left, with the y-axis corresponding to pitch" (2002-2016). Each page has an equal duration of ca. 5"; the sonic mapping undergoes no changes.

Among human performances, Vocal Constructivists' (henceforth VC) crisply conducted *a cappella* interpretation is perhaps the most strictly symbolic. Like Feeney's computer, the performers interpret the vertical axis of the page registrally, and the horizontal axis temporally; rough proportion in these parameters is maintained throughout. They also assign particular types of sounds (hissing, phonemes, clapping, etc.) to shape classes, and often dynamics to size. These materials and occasional text appear to be precisely and consistently worked out before performance; it is safe to presume that the coordination of twenty-three voices would be otherwise impracticable.

Right of center is the piece's first complete recording, by a Chicago-based sextet of seasoned improvisers conducted by Art

37. Feeney (2001) and Horvath (2012). This poetic coincidence may have a mundane explanation: according to Feeney, who did not know about Horvath's version before I asked him about it, Horvath took Feeney's version without asking, time-stretched it, added distortion, and called it his own without crediting Feeney. Given the dates of publication and the recordings' resemblance, plagiarism seems plausible.

Lange. This interpretation consistently respects the lifeline (which divides the ensemble orchestrationally – cello and clarinet above, piano and electronics below), numbers (which signify repeated *tutti* chords), circles (performed exclusively by the percussionist), and the rough left-to-right order of the symbols. Unlike VC, whose performers follow a common timeline given by the conductor, Lange's musicians follow a more flexible timeline in which the exact orderings of most sounds (except the repeated *tutti* chords) do not correspond literally to the horizontal distribution of symbols on the page. Rather, symbols appear to be preassigned to particular musicians, and the relative durations of events in each player's part (if not their order) is largely improvised. The sounds assigned to most symbols in the score – presumably also chosen by the players themselves – are less consistent and more context dependent, varying from page to page. These relatively minor variables render global coordination of parts within pages somewhat unpredictable. A palpably interactive discourse results from performers adapting their materials within the spontaneous polyphony.

Versions by the 2:13 ensemble or Cardew's 1967 BBC sextet, like most interpretations, fall somewhere in the middle of the spectrum. Here not all visual information in the score, apparently, is employed symbolically in performance. But the presence of some symbols remains audible, emerging and receding over time in function of the ongoing improvised musical development. Numbers and dots in both recordings, for example, often (though not always) represent repeated events and percussive punctuations respectively, acting as clear markers in a seemingly looser whole.

Left of center are recordings by FORMANEX and AMM, collectives who have played and recorded the piece on numerous occasions; they employ the score as a prism through which to "view" their freely-evolving improvisation. AMM member Eddie Prévost describes his experience of performing *Treatise*:

> Without having any preconceived ideas about what I will play – except by virtue of the instrumentation I will apply – I immerse myself within the sounds of the music, unfolding, reading the score as if it were a visual representation of the music. I then engage in a dialogue with the other players, using the inspiration of sounds and symbols to add my own voice. These are, of course, simultaneous readings (they always are). (Tilbury 2008, 247)

In contrast to recordings right of center, Prévost deliberately subverts the notion of the score as a collection of symbols to be realized as sound. For him, placing real-time music-making chronologically and ontologically before the symbols is not merely a personal choice; it is an imperative:

> [I]nterpretations of *Treatise* suffer when there is too much emphasis placed upon a reductive appreciation of its various parts. Art enters when the musician synthesizes the material. Gives it life [. . .] the hunter's mind weaves ideas from old facts and fresh metaphors and the scrambled crazy images of things recently seen. To move

forward is to concoct new patterns of thought, which in turn dictate the design of the models and experiments. (Prévost 2011)

While his use of the words "too much" and "parts" raise more questions than they answer, Prévost's metaphor of the hunt is provocative, and perhaps applicable to a wider swath of *Treatise* performances than his preface lets on. I shall return to this point.[38]

Lastly, there is the most liberal end of the spectrum, including interpretations by guitar-and-poetry duo Léo Rathier and Méryl Marchetti, and indie rockers Sonic Youth with percussionist/ producer William Winant. These versions can be described as having an inspirational, atmospheric, or subjective connection to the score, with no apparent deferral to the concrete notated symbols.

The word apparent should be underlined; as ever, it is impossible to say if the disconnection lies in the performance, in this listener's (lack of) imagination, or both. Indeed from the middle toward the "less symbolic" end of the spectrum, it becomes increasingly difficult to support claims about the relationships between particular recordings and the score. When performances adopt a more consistent, literal approach to interpreting the notation, forensically inferring interpretive principles from the musical results is relatively straightforward. At any given moment in Feeney's or Lange's recordings, one can establish concrete relationships between musical events and marks in the score; the artists' own written comments and page lists aid verification. However when an interpretive approach is more flexible or abstract, comparison can easily become a guessing game, particularly if no page numbers or artist comments are available. What I identify as a free improvisation, because I cannot recognize correspondences between visual symbols and musical events, may not necessarily be so; the rules of interpretation may simply be less obvious. Such cases would include numbers interpreted as seconds of silence instead of repeated chords, or John White's mischievous interpretation of ascending visual lines as descending gestures in the BBC recording (which, unsurprisingly, I was able to identify only because of Cardew's verbal anecdotes).[39] Likewise, there is the obvious danger of losing one's place in the score and misconstruing which symbols are or are not being played. This happened to me repeatedly when first listening to fast paced performances of many pages – even to strictly symbolic readings such as VC.

Such methodological problems compounded the differences in symbolicity I initially sought to cut through; they increased the difficulty of carrying out my plan to base *A Treatise Remix* on interpretive trends. This became especially clear in my first practical experiments with the collage. Even when I was able to identify the beginning and end of a particular page in multiple recordings, substantial links among different interpretations were mostly circumstantial. The fact that two or three versions of a given page shared some interpretive trait X was no guarantee they shared any other qualities that could establish the thread I counted on finding in the fog.

38. Prévost has documented his distrust of compositional and notational "control" in most of his writings. His position may be summarized in the following quote: "So, why is this notion of the composer/controller genius maintained? Much better, to my mind, for musicians to be directly involved in discovering sounds for themselves rather than being directed to try this or that procedure." (Prévost 2009, 141)

39. "May '65 [. . .] On this occasion John White set the precedent for [a] 'perverse' interpretation by reading the ascending lines as descending intervals." (Cardew 1971, 110)

Conversely, qualities irrelevant to *Treatise*, such as recording artifacts or the simultaneous sounding of a particular instrument in different ensembles, tended to audibly link recordings much more clearly than interpretive content. The recorded material's ostensible reducibility to symbols and their interpretation was overtaken by the irreducibility of "sound objects" in the musique-concrète sense.

In my "analytical improvisation" then, contingency was already there even before I actively sought it out. This experience shares something with most of my subjects' performances of *Treatise*: the principal that regardless of what one *thinks* might be under control, the musical facts may go their own way. Notation for the impro-viser is thus no guarantee of stability.

Differences in Time

> Remember that space does not correspond literally to time. The distance to the sun does not depend on only one speed; it depends on the route. Perhaps when interpreting it will be possible to select some lines as "time-lines". Symbols or groups can then be grouped immediately and as a whole and placed in relation to some such time-line. (Cardew 1971, 99)

The second line of difference, in which hardly any two record-ings are alike, is time. As one can see in *Treatise Handbook*, the num-ber of pages selected for any given performance, the durations of individual pages, and the duration of events assigned to particu-lar symbols within each page are staggeringly diverse. Unlike the parameter of symbolicity described above, in which the recordings can be placed along a generalizable continuum, it is difficult to ex-trapolate any meta-patterns at all from the performers' temporal approaches. A few examples should suffice to show this problem:

- Ellsworth Snyder's solo piano interpretation – whose liner notes make no reference to page numbers, and which I was completely unable to align to the notation – contains two "parts" on sepa-rate tracks. Part One lasts 23", and Part Two 19:40. Why Snyder released these takes as such is a mystery, but the mere fact that a single player in a single recording session chose to make such a distinction is indicative of *Treatise*'s temporal malleability.

- Shawn Feeney's digital sonification of all 193 score images with MetaSynth software lasts just over 15:00; each page has an iden-tical length of ca. 5". Lange's chamber realization of the same pages occupies a full 2-CD set at 1:41:19, with varying page du-rations.

- Three chamber realizations of p. 1 – Cardew directing the Amer-ican premiere, QuaX Ensemble, and Art Lange – last respectively 4:30, 3:30, and 2:00. The number 34 at the beginning of p. 1, in-terpreted in all three versions as sustained chords, lasts in each version 3:50 (17 iterations x 17"), 17" (one iteration), and 50" (7 iterations x ca. 7").

Although it is difficult to categorize these approaches, time is by no means an arbitrary or independent parameter in individual performances. As I suggested in the previous section, the tempi of many recordings (defined by the duration of pages, rather than by pulse) are closely connected to the audible presence of their symbolicity.

Extreme tempi, such as Feeney's sonification of the entire score at 5" per page or Mat Hannafin's 16' solo performance of a single page, tend to obscure the notation. Feeney's reading moves too quickly and uniformly to make figurative details, subtle variations on shape classes, or scalar differences perceptible, even though they are represented literally. Hannafin's 16-minute recording of p. 3 has the same blurring effect, but for the opposite reason. Due to the slow tempo, the physicality of his sustained circular rubbing movements on drum heads overshadows the correlation of symbols and events as such. Hannafin dwells within the circles on the page so long that the circle-ness of the page becomes a constant and recedes into the background.

"Moderate" tempi are problematic to define since the score provides no tempo markings in the first place. However, in the Lange and the BBC recordings, symbols are easier to identify as gestures or discrete events within the musical discourse. One hears repeated events, percussive outbursts, and glissandi corresponding proportionally to symbols on the page. These tempi can therefore be considered to be moderate. Both the positive and negative effects of moderate tempi became clear to me when listening to Sonic Youth's recording of p. 183. This performance is remarkable for its seemingly blasé non-engagement with the score, but entirely average in its duration of 3:27. Although I was unable to find any direct correspondences between the score and the interpretive content other than a short *Luftpause* toward the end, I continued to sense that what I was hearing *could* or *should* correspond because the pacing of the music was comparable with the density of visual information in the score: dynamics increase and the texture becomes thicker in the middle, with the aforementioned *Luftpause* before the coda. Evidence of the performance's symbolicity was inflated by the moderate tempo, so to speak.

All these shades of temporal complexity created second-order disjunctions – both between the recordings and between the collage and the score – in the process of layering recordings in my collage. Like the differences in symbolicity I mentioned in the previous section, these disjunctions posed a challenge to the original plans for *A Treatise Remix*. To understand how, consider the following test scenario.

Three versions of p. 111 lasting 5", 3:00, and 11:00 each contain a percussive attack corresponding to the dot at the beginning of the page. I wish to line up the three tracks so these attacks happen more or less at the same time, thus encouraging the listener to associate the interpretive commonality. This would render the fol-

lowing sequence: 5" with all three layers at the beginning, 2:55 with two layers, and 8:00 of one version solo. The 11:00 version would thus arbitrarily become the focal point; moreover the resulting form would explicitly contradict the graphic qualities of p. 111, which grows in density halfway through the page. To compensate, should pp. 112-113 of the 3:00 version overlap a single page of the 11:00 version? Should the 11:00 version be left intact, edited, or not used because it creates too many complications? Should new versions of p. 111 lacking traits in common with the other three be introduced to reflect the parallel lines?

Why – Self-evaluation

Such questions reveal how the exercise of comparing *Treatise* recordings pointed directly back at my own assumptions and methods, rather than revealing the nature of *Treatise* itself. My own subjectivity in the observational process was so great that analysis could only be a prelude, rather than a basis, for my own realization of the score. The remainder of this text will thus concern itself principally with the realization of *A Treatise Remix* as a creative rather than comparative enterprise.

But before leaving the survey behind, I would like to turn briefly to its broader impact on the remix; after all, my source material was not merely grist for the mill. Getting to know *Treatise*'s performance history was a formative process, from which I took away crucial lessons that laid the bedrock for *A Treatise Remix*. Perhaps in addition to shedding light on my own piece, these lemmas will also be useful for others who realize *Treatise*.

Lesson 1: Do It Yourself

All scores for improvisers are permeable; they let contingency in and leave aspects of their internal structure to the performer. But whereas pieces such as Malcolm Goldstein's *Jade Mountain Soundings* or my *Apples Are Basic* offer the erstwhile performer at least a trace of the "spirit" in which a performance might proceed, even the most basic, general conditions for a performance of *Treatise* are enacted by the players. And as we have seen, there is no cohesive performance practice to supplement that radical contingency. Furthermore, aspects of particular interpretations such as symbolicity and time are difficult if not impossible to apply to other interpretations, as they are bound to each other within the situation and personnel of a given performance. Performances of *Treatise* are best undertaken and assessed on their own terms; grafting strategies or values from one interpretation to another is unlikely to bear fruit.

With respect to my theoretical ambitions, the foregoing might be rightly called an admission of failure. Nonetheless, at the level of practice it offered me vindication and a clear foundational principle: do not defer to "tried and true" ideas or strategies – do it yourself.

Corollary to Lesson 1: Any Interpretative Approach Is Valid, but...

Affirming the relativism of *Treatise* in this way implies that any interpretative approach, any path through the piece, is in itself valid. I stand by this claim. But the same cannot be said of each *realization*; not all performances are equally convincing. A brief comparison of recordings by VC and solo pianist James Ede suggests why.

With respect to symbolicity and time, both performances are similar. They take a comparably literal approach, reading the page from left to right and translating the vertical dimension of the page registrally. Both share a tempo of roughly three pages per minute and proceed along unified timelines (VC with the help of a conductor, and Ede alone). But the impacts of the two performances are strikingly different.

On the one hand, VC take their approach to its logical extreme. By that I do not mean that they are fundamentalists; they frequently adjust the meaning of the symbols in context, e.g. by alternating between literal sonic mappings of visual lines à la Feeney, affective gestures, and texts derived from associations with visual figures. However they adhere to codes of translation long enough for the erratic nature of the visual material to render a consistent interpretation awkward or problematic. Such situations offer the performers an opportunity to stretch their interpretation and discover music beyond what the symbols suggest at face value. An example of this can be found in pp. 111-131, in which the translation of black and white circles ("Fa" and "wa"), vertical lines (claps), thin horizontal lines (nasal vowels), thicker ascending and descending lines (round *glissandi*), and other subtly differentiated symbols form a nonsensical, yet intriguingly virtuosic texture in constant variation. Had the interpretation focused only on the novel features of particular pages, this continuity, and consequently the surreal dramaturgy that carries the performance, would have been lost.

Ede on the other hand seems to stop at first impressions. His left-to-right reading is consistent, yet the distribution of symbols on the page does not manifest in temporal proportions. Shapes are not differentiated except in crude melodic figuration. The sonic quality of Ede's electronic keyboard remains unchanged throughout. Musical references in the notation are emphasized to a grotesque degree, but many nonmusical idiosyncrasies are apparently ignored (e.g. numbers) or smoothed over. Indeed, the expressive poverty in Ede's performance falls precisely into the trap that Cardew warned against in stating that

> many readers of the score will simply relate the musical memories they have already acquired to the musical notation in front of them, and the result will be merely a goulash made up of the various musical backgrounds of the people involved. For such players there will be no intelligible incentive to invent music or extend themselves beyond the limitations of their education and experience. (Cardew 1971, 129-130)

To be clear, it is not the degree of rigor in dealing with the *notation* that separates VC's and Ede's performances; other performances in the middle or at the liberal end of the symbolicity spectrum can be subjected to similar evaluations. Rather, I would argue that the performers' degree of rigor with *their own choices and actions* is what distinguishes VC and Ede. VC work on their approach *within* the performance; it gives the music a tension and richness that eclipse the aesthetic surface. Ede designs his strategy haphazardly at the outset and does not accept the challenges of his own making. He floats above the score; the resulting music is facile and obvious.[40]

Indeed the importance of maintaining rigor with one's own decisions might be considered fundamental not only to the interpretation of *Treatise*, but to the performance of any notation for improvisers in which the meaning of the score is distributed among multiple parties. Taking responsibility for one's own actions provides an antidote to the threat of a double-bind in which performers may hand over responsibility to the composer, whereas the composer has already assigned this responsibility to the performers. In such situations nobody is taking responsibility, and the result is unsatisfactory to everyone involved.

Lesson 2: Be Consequent and (Therefore) Improvise

Hence Lesson 2: whatever path you choose, be consequent; carry your strategy as far as possible and play at its margins. This resonates strongly with Cardew's comments on "Integrity", the second of his "Virtues that a musician can develop", a section of the final text in *Treatise Handbook* entitled "Towards an Ethic of Improvisation":

> 2. *Integrity.* What we *do* in the actual event is important – not only what we have in mind. Often what we do is what tells us what we have in mind. The difference between making the sound and being the sound. (Cardew 1971, 132)

Ironically Cardew makes no explicit reference to *Treatise* or notation in "Virtues"; he speaks of improvisation in general, and of his experiences with the improvisation collective AMM in particular. However as we just saw, this excerpt can also help us understand the dynamics of *Treatise* performances, even fairly codified ones such as the VC and Ede recordings. The fact that he includes these comments in *Treatise Handbook* at all is suggestive. Is improvisation always a factor in realizing *Treatise* with integrity?

I would argue that when one is consequent – when a performance takes its interpretive terms to their limits – performers are bound to find themselves enmeshed in unforeseeable relationships to the score, to other musicians, to their own habits: "the scrambled crazy images of things recently seen" (Prévost 2011). If one embraces this reality, bears witness to it, one is improvising regardless of the degree of detail with which one translates the notation into

40. To be fair, Ede was a student when he made this recording and posted it on YouTube. I do not mean to denigrate his innocence; I simply wish to show that "accuracy" is an insufficient barometer of success in any performance of *Treatise*.

sound. These are opportunities for transformation – we do *Treatise* in order to relearn "what we have in mind" and so change it through a dynamic connection with our environment.

The Hunt

In order to frame how that transformation occurred in *A Treatise Remix*, I will use Prévost's image of the hunt once more:

> Without having any preconceived ideas about what I will play –
> except by virtue of the instrumentation I will apply – I immerse
> myself within the sounds of the music, unfolding, reading the score
> as if it were a visual representation of the music. I then engage in a
> dialogue with the other players, using the inspiration of sounds and
> symbols to add my own voice. These are, of course, simultaneous
> readings (they always are). (Tilbury 2008, 247)

> [I]nterpretations of *Treatise* suffer when there is too much emphasis
> placed upon a reductive appreciation of its various parts. Art enters
> when the musician synthesizes the material. [He] [g]ives it life. [...]
> [T]he hunter's mind weaves ideas from old facts and fresh metaphors
> and the scrambled crazy images of things recently seen. To move
> forward is to concoct new patterns of thought, which in turn dictate
> the design of the models and experiments. (Prévost 2011)

Taken together, these comments suggest that performances at the literal end of the symbolicity spectrum – those which emphasize the score's "various parts" – do not engage in the kind of radical transformation Prévost and I value. For him, "moving forward" depends on a lack of preconceptions, on the spontaneity of real-time performance in which the models and experiments for interpretation are discovered. Symbolic preparation, by extension, constitutes an old pattern of thought that hinders this discovery.

On the whole I share Prévost's problem with "reductive", or uncritical, approaches to the notation (e.g. Ede, or at the other end of the spectrum, Sonic Youth). However I take issue with the notion that a high degree of symbolicity is necessarily reductive, and thus precludes moving forward in the hunt. As in the case of VC, even a literal reading with little overt improvisation can produce a music of integrity that reinvents itself through notation in performance. The fact of examining and translating notation before performance does not diminish its urgency or speculative qualities. To be sure, *Treatise* allows for VC's approach as well as Prévost's; herein lies its unique potential. Likewise it admits Ede's and Sonic Youth's approaches; therein lies a possible vulnerability. In any case, it becomes hard to make formal judgements, as these will mostly be based on aesthetic preferences.

The similarity of my own analytical work to Prévost's experience of playing *Treatise* further breaks down this dichotomy of the symbolic and the real-time. Just as if I had been playing with a band, I immersed myself in the material, used the notation to engage with the sounds and players around me, and "mov[ed] forward [...] to

concoct new patterns of thought, which in turn dictate[d] the design of the models and experiments" (2011). Granted, that process took place over a longer period of time than a single performance, and my collaborators were not physically present (at least at this stage). But spontaneity is not all there is to improvising in *Treatise*; as Prévost himself acknowledges, "the hunter's mind weaves ideas from *old* facts and fresh metaphors and the scrambled crazy images of things recently seen" (Prévost 2011, my italics). In a consequent performance, improvisation takes place at multiple levels, not only onstage.

How did I weave among them in *A Treatise Remix*?

The Lifeline and the Circles

I began with the score. Following Lesson 1, I resolved to commit to my own "reading" of the notation rather than defer to historical precedents or their structural commonalities. While the goal of the project required me to give the notation a certain protagonism, the nature of the collage format was incompatible with a strictly symbolic approach. Assigning symbols systematically to particular recordings or sound events would have been excessively formalistic, jeopardizing the all-important identities of and links between the different recordings.

My solution was to zoom out, not focusing systematically on symbols and rules but rather on a story embedded in the progression of the notation from beginning to end. The "characters" in this "narrative" were the lifeline and the circles.

> *The score seems not representational. No rules of representation. Except the central line represents perhaps the performer or a single line of thought.*
> *(Cardew 1971, 102)*

> *A line or dot is certainly an immediate orientation as much as a thread in the fog. For immediately it stands in relation to the thick central stave line, which would correspond in some way to the track made by the man walking. This "subject line" is essential. (Cardew 1971, 101)*

In a perpetually shifting graphic environment, the lifeline running constantly through the middle of nearly every page of the piece is one of *Treatise*'s only visual anchors. (The other anchor is the musical staves at the bottom of each page, which are identical, except for occasional minor cosmetic variations). It is impossible to ignore, and indeed has been a touchstone for several interpretations of *Treatise* in various forms, e.g. as a timeline (in nearly all recordings) and/or orchestrational division (e.g. recordings by VC or Lange). Frederic Rzewski is even reported to have played the lifeline exclusively in an early performance.[41]

A Treatise Remix treats it metaphorically, as a protagonist on a journey of self-discovery. This reading stems both from Cardew's comment that "*Treatise* is a long continuous drawing – in form rather similar to a novel" (1971, 117) and from personal observation. Flipping through the score from beginning to end, I see the

41. "June '64 [...] Rzewski played the central line (one of the few times the centre line has been interpreted) as continuous sound. At each break in the line he would start a new sound." (Cardew 1971, 110)

path of a narrator drifting through relationships with shapes, fig-
ures, and numbers who come and go; traveling through natural,
industrial, and psychological landscapes of all sorts; and, despite
obstacles and momentary destruction, moving on. The straightness
of this path is deceptive. If the journey were narrated from the out-
side, in third person, we would see twists and turns that the page
could not contain. However in first-person, on the ground, there is
only one direction: forward.

> *Obviously a circle need not have the duration of its diameter. It may refer to*
> *something quite outside the flow of music or sound. (Cardew 1971, 101)*

Circles represent the Other, the counterpoint in this narrative.
Whereas the lifeline travels across the page from left to right, the
circles seem to stamp the page's surface from above. Whereas the
line is in a state of continuous transformation, the circles suggest
single self-contained objects. Not only are the circles *different* from
the line – they often antagonize it. Their crowding, interrupting,
and blistering begins in the second half of p. 1 and reaches a climax
in pp. 114-141, where enormous black circles attempt to obliterate
the lifeline altogether.

This line-circle dialectic underlies *A Treatise Remix*'s realization
of pages in which the line is compromised or transformed, circles
play an important role, or both. Section I (pp. 1-6; 0:00-12:12) offers
an exposition. On p. 1 the line emerges and is interrupted by piano-
shaped figure and a bubble cluster. It resumes in p. 2, where it
meets and merges with a single circle. On p. 3 the line attempts to
work around and is subsequently stymied by an expanded version
of the cluster. In the middle of one of the cluster bubbles sits a
musical note, whose staff line extends diagonally to the center
of the adjacent bubble, then curves upward and continues in a
thicker pen-width as the lifeline. This episode continues through
p. 6 and ends at the emergence of a set of parallel staff-like lines,
the beginning of a new episode not included in *A Treatise Remix*.

Live Ensemble and Texts

Another manifestation of the commitment to develop my own
reading was to play the score with other musicians. Given my
aforementioned view that examining *Treatise*'s evolution from the
outside was also a kind of performance, it seemed only logical to
insert myself into the performative work more literally. In order to
bridge the experiences of *Treatise* from the inside and the outside,
I decided to interweave historical recordings of select pages with
original interpretations.

The hand-picked ensemble consisted of four Berlin-based musi-
cians: Christian Kesten (voice, objects), Andrea Neumann (inside
piano), Robyn Schulkowsky (voice, percussion), and myself (voice,
contrabass). We had varying degrees of experience with *Treatise*.
Kesten, despite being a veteran composer and performer of experi-
mental scores, was unfamiliar with the piece. Neumann had played

it a few times (including one intensively rehearsed concert with Keith Rowe). Schulkowsky had played and continues to play it regularly (often in the company of *Treatise* veteran Christian Wolff). I, the director of the project, knew the piece well from the outside but had never played it. We had all worked together in some capacity beforehand, but never in this particular quartet constellation; thus, a certain balance of compatibility and uncertainty was promised, both internally and with respect to the score.

In addition to playing, I also resolved to integrate my own text. Although it had been my intention from the beginning of the project to use fragments of *Treatise Handbook* and other of Cardew's texts on notation (1961; 1974), it became clear from my initial experiments with the collage that commenting vicariously on the discourse of the piece through the layering and temporal placement of Cardew's words alone would not suffice. One solution was to splice original radio feature-style informative material with Cardew's introductory text from a 1966 BBC radio broadcast of *Treatise*, such as you hear throughout the first twelve minutes. Another, which emerged as a proposal in post-production from producer Marcus Gammel, was to include informal descriptions of the visual appearance of the score. Translator and vocalist Kesten also recites such descriptions.

Dynamic Temporal Structure

> Work with your hands on the material (the netting); don't try and set up grammatical rules which you will only ignore in the next page. (Cardew 1971, 102)

As I briefly outlined in my description of Section I, the lifeline-circle narrative provided a cohesive way of selecting which pages of the score to realize. It was also applied to the more detailed organization of source material, live ensemble, and texts. In Section II of *A Treatise Remix* (pp. 111-141; 17:12-41:40), for example, symbols define which layers of material are present and when.

- If a circle is present on a given page, then the live ensemble plays.
- If circles are absent, then a fragment from *Treatise Handbook* is recited by Schulkowsky (English) and/or Kesten (German).
- If the lifeline is intact on a given page, then the tape collage[42] sounds continuously.
- If the lifeline is broken or transformed, then "slices" (isolated and/or audibly edited fragments) of the tape collage are used.
- If the lifeline is absent, then no tape sounds.

42. No actual magnetic tape was used in production. Henceforth I use the word "tape" to denote the fixed media collage of historical recordings.

These rules result in a contrapuntal ebb and flow between the layers. Hence on p. 111-113 (17:11-21:26) a continuous tape collage is heard, with text on p. 111 (17:17-17:38) and p. 112 (19:15-19:49). On p. 113 while the tape collage is sounding, the live ensemble plays. On p. 114, there is only text, and on p. 115-116 only live ensemble.

Crucially, this mapping did not define sounding results, but rather boundaries for situations in which I or the ensemble made context-dependent decisions. In this sense the ordering, density, and durations of source material in the continuous tape collage on p. 111-113 began as a completely open question. Because there were several recordings of these pages, three of which (FORMANEX, WhoThroughThen, Cardew BBC) were individually dense, I chose to leave time for different recordings to emerge without overcrowd-ing one another, using the graphical elements to suggest rough changes of overall density and volume. Within this thick texture, the live ensemble was indicated to play p. 113; so as not to imme-diately lose our identity within the tape collage, we collectively decided to perform only the circles. Since there was no tape present on p. 113, it seemed wise to play all the symbols on that page, each performer choosing which ones to play and in which order – ex-cept the circles, which we played together on cue. An "improvised" secondary rule thus grew spontaneously out of a performative con-tingency: if a circle is present and the lifeline is intact on a given page, the live ensemble plays only the circles.

The meaning of the notation grew in constant feedback with the individual elements to which it referred in a variety of ways. The temporal structure (like *Treatise* itself) was not simply an *a priori* container to be filled with inert material – it was a dynamic, ad hoc creature that both emerged from and transformed the process of mixing the collage and working with musicians.

Another simple but significant case of this feedback was the in-clusion of particular pages in Section II. They were chosen not only according to the line-circle dialectic, but also according to which pages were played in available recordings and those recordings' mutual compatibility. Following my criterion to include only pages in which the line is compromised or transformed, circles play an important role, or both, Section II would have technically started at p. 113. However three of the five recordings that included material from these pages happened to begin on p. 111; they also contained vocal material, a useful way to bind the identity of the section. Thus I included pp. 111-112, despite the fact that they did not fit the orig-inal plan. For reasons of density described above, this section lasts for 4:15, an unexpectedly substantial part of Section II.

Before and after Section II, the form contains two *intermezzi* and four solos. The nature of these sections emerged quite late in the process of assembling *A Treatise Remix*; rather than forming part of a centralized plan, the sections themselves were also a consequence of negotiating material, form, and performer choice – a long-term

improvisation also implicit in the page selection.

The *intermezzi* (I −12:13-15:37; II − 41:41-43:46) are played exclusively by the live ensemble, with no text or tape collage. Our interpretation of the notation in the *intermezzi* was more uniform and tightly choreographed than in Sections I and II, which are characterized by greater flexibility and individual timelines; each performer chose and prepared specific symbols à la VC. This precise interpretive strategy was arrived at collectively during rehearsals. Although the content is less "improvised" in the moment of performance than Sections I and II, the emergence of the approach, as well as the specific distribution of tasks on each page, represent a kind of organizational improvisation somewhere between my improvisation with the tape collage, and the ensemble's performance in the studio.

In addition to playing our instruments, we play back samples of *Treatise* recordings whose pages fall outside the line-circle narrative, sounded through instruments of each player's choice. Kesten used a CD player amplified through a tin bottle, Neumann used a digital recorder amplified by pickups on her self-designed inside-piano instrument, Schulkowsky used a noisy, semi-functional cassette recorder, and I used a hand-held radio tuned to a mini-FM transmitter. These instruments were selected completely ad hoc, and techniques for playback had to be learned during the rehearsal process. Our tenuous fumbling around for buttons combined with the thin, silly sounds of the playback come to define the *intermezzi* over and above our interpretation *per se*; the situation speaks louder than the structure.

For the four solos, each performer was invited to realize any page, completely independently of the master plan, according to any chosen interpretational strategy. These solos were later treated in the mixing process as wild cards, elements that could be dropped into the master plan where I wished. Kesten chose p. 140 (39:26-40:55), Neumann p. 158 (30:29-31:42, mixed among pp. 126-128 of the tape collage and live ensemble), Schulkowsky p. 73 (15:24-17:10), and I p. 141 (40:56-41:41). My page and interpretive approach were not selected until the end of the second day of the recording session, after the others had recorded theirs and the ensemble material was mostly finished. The choice was largely impulsive – I felt the need to play some "normal" notes on the bass to offset the predominantly quiet, noisy material of the previous pages. Playing an instrument and reciting text in a single take also seemed an appropriate way to offset the use of overdubbing throughout Section II. Ironically, this off-the-cuff response to conditions accumulated over the course of many months of research and tape collage assembly, a week of rehearsal with the ensemble, and two long days in the studio brought forth a light-hearted but fundamental insight:

> Ladies and gentlemen, we've come to the heart of the piece. It's called 141 . . . aaaaaaaaand there's no lines or circles or anything like that. It's . . . empty . . .

Conclusion

> *A musical score is a logical construct inserted into the mess of potential*
> *sounds that permeate this planet and its atmosphere. That puts Beethoven*
> *and the rest in perspective! (Cardew 1971, 108)*

With this comment, we come full circle: in the end, does the arbitrary prevail? Is *Treatise* ultimately ... *empty?* Had I limited my study to extant recordings and the discourse around the piece, I would have most certainly answered in the negative. So many provocative, and occasionally beautiful, recordings and discussions have arisen from the score that one can hardly deny its power, at the very least, to inspire. But I also experienced *Treatise* from the inside, and the fact is that my defining comment on this journey appeared to support the skepticism of Tilbury, Prévost, and Barrett which I questioned in the introduction. Frankly, hearing myself call an empty page the heart of the piece surprised me. What to make of this?

One can take my surprise itself as a measure of the score's success. It serves as a prime example of *Treatise*'s ability to induce and test the performer's commitment to reworking her methods and assumptions through the empirical contingencies of performance. I recall here Cardew's point 2 from "Towards an Ethic of Improvisation": "What we *do* in the actual event is important – not only what we have in mind. Often what we do is what tells us what we have in mind" (Cardew 1971, 132). In the process of realizing *A Treatise Remix* I not only learned the score of *Treatise* – I also relearned and perhaps even de-learned myself. In this vein, my use of the word "empty" should be retroactively qualified; *Treatise*'s semantic and material emptiness is insurmountable, but at the same time dynamic. Its internal richness sets us performers on a hunt, and its absence of ideological or sonic content routes that hunt right back to us. If we bring the content, rather than finding it along the way (the way being not only real-time performance, but all the preparatory and reflective labor with which it is continuous), the hunt ends before we reach ourselves. If however we accept the challenge to "give of [our] own music in response to [Cardew's] music, which is the score itself" (Cardew 1971, 113) – as Tilbury, Prévost, and Barrett have done time and again in spite of their skepticism – performing has the potential to become "a voyage of 'self-invention'" (Tilbury 2008, 236).

Gary Peters, in contradistinction to many improvisation scholars, has argued for the importance of the work in (free) improvised performance, and against assigning (inter)subjectivity undue weight: "The care for the work, one that overrides the more trivial concerns of intersubjectivity, is a care for the work's beginning, not its end; as such, it will be ever ready to destroy the work in an attempt to preserve what Heidegger describes as the openness of that beginning" (2009, 51). In *Treatise*, the distinction is turned on its head; a voyage of self-discovery is neither incidental nor a telos in itself, but rather

an ineluctable consequence of performing the piece with integrity, whatever that may mean for each performer. This may be the reason both for *Treatise*'s popularity and perpetual freshness, and for its emblematic status among notation for improvisers as a whole.

Entextualization and Preparation in Patterson's Variations for Double-Bass

Introduction

Most composers of notation for improvisers are improvisers themselves. This is no coincidence. As composer-pianist and improvisation scholar Vijay Iyer has noted,

> The most savvy composers writing for improvisors are those with personal experience as improvisors – those who possess an intimate understanding of its parameters of expression, its interactive possibilities, and the stakes involved in the commitment to process.[43] (Iyer 2004)

How, why, and what these artists notate can vary substantially. Some transmit aspects of their own practice as improvisers (Malcolm Goldstein); some develop it privately (Derek Bailey – see Lash 2011); and others agitate their ensembles (Misha Mengelberg – see Schuiling 2016 and Whitehead 1998). Some luxuriate in the gray area between the written and the improvised (Bob Ostertag), and others inscribe a gap (see Richard Barrett's *Blattwerk* (2002) or my *Apples are Basic*(2008). But in all these cases, the matter of what gets notated is nearly always intertwined with ongoing improvisational practice.

The present chapter aims to articulate the dynamics of this intertwining – the process of inscription. It centers on the following question: how do composer-improvisers use notation to share, challenge, or transform their own ways of improvising?

By tracing my study, preparation, and multiple performances of Ben Patterson's *Variations for Double-Bass* (1962), I will flesh out a deceptively straightforward answer: notation for improvisers *entextualizes* the ongoing improvisatory practices of its composers and/or performers. Borrowing from anthropologist Karin Barber, who, after Michael Silverstein and Greg Urban (1996), defines entextualization as "the 'process of rendering a given instance of discourse as text, detachable from its local context'" (Barber 2007, 30), I will pursue two related claims: (1) notation in this piece emerges from and feeds back on improvisation, rather than simply generating or freezing it, and (2) improvisation in this piece is a continuous thread throughout processes of score-making, preparing and rehearsing, and revision after performance – above and beyond its

43. Throughout the dissertation I use the "-er" spelling of the word "improviser". However I respect the alternate "-or" spelling in citations by others who choose this variant. Likewise I respect British spelling norms in citations, while adopting American English norms for myself.

most obvious manifestation in concert performance. *Variations* offers a unique opportunity to address these issues, as it foregrounds aspects of inscription, preparation, and revision that are often too private or ephemeral to trace in other scores for improvisers.

Variations for Double-Bass: Background

I first learned about Ben Patterson's *Variations for Double-Bass* in Fluxus[44] catalogs and histories – the piece has something of a legendary aura around it. Composer and experimental music scholar George E. Lewis describes it as going "well beyond any previous notion of extended technique then in force in the world of contemporary classical music" (2014, 95); elsewhere it is referred to, along with other early pieces by Patterson such as *Paper Piece* (Stegmayer 2012, 59-61), as a historical contribution to black performance art.[45] It was premiered at Mary Bauermeister's Cologne salon in 1961, subsequently performed at the famous Wiesbaden Fluxus exhibition of 1962[46], and is now considered by most scholars and enthusiasts to be a Fluxus classic.

So it was with some surprise that my request to Patterson for a score in 2001 was answered with an unceremonious thicket of typewritten text, handwritten comments, unexplained Xs and arrows, cut and pasted fragments from Verdi's *Rigoletto*, editorial scribbles, and photographs from an early performance. Its provenance was Patterson's *Black and White File* (1999), a "working file" (Patterson 1999, "Overview") of the composer's scores from 1960-1999. Unpaginated and bound in a simple two-ring binder of the type used by Germans for the most banal of record-keeping, the seventeen *Variations* are unassumingly sandwiched between *Duo* (1961), for voice and string instrument, and *Paper Piece* (1960), for an unspecified number of performers playing (with) paper.

The humble presentation of this Do-It-Yourself collection stands in marked contrast to scores by many of Patterson's Fluxus contemporaries such as George Brecht's *Water Yam* (1963) or the La Monte Young-edited volume *An Anthology of Chance Operations* (1963). Compared with these Fluxus archetypes, both meticulously designed and packaged by the movement's spokesman George Maciunas, *Variations* seems more like a leaky sketch than a polished, autonomous art object. Its informality is emphasized by its distribution history: from 1999 to 2012, Patterson produced copies of the *Black and White File* to order and often gave them away for free, up until his scores were published together in an anthology edited by Benedikt Stegmayer (2012).

In my opinion Patterson's direct, unfussy approach to writing, publishing, and distributing his scores does not reflect a lack of care; nor is it merely cosmetic. In choosing to work this way Patterson underlines practice's primacy, and notation's embeddedness within it:

44. Fluxus is (or, according to some, was) a heterogeneous network of artists including Patterson, George Brecht, Geoff Hendricks, Dick Higgins, Alison Knowles, Yoko Ono, and many others, "founded" in the early 1960s by George Maciunas. Fluxdaughter and historian Hannah Higgins states, "Since Fluxus artists never seem to agree on anything, Fluxus has become 'a pain in art's ass,' in the words of Fluxus artist Ben Vautier. Neither the style nor the substance or significance of what they do produces consensus among the artists. Production ranges from minimal performances, called Events, to full-scale operas, and from graphics and boxed multiples called Fluxkits to paintings on canvas. The artists come from almost every industrialized nation, they span several generations, and many even dislike each other. Accurately portraying Fluxus therefore requires thinking about art in a way that forgoes the normally definitive terms of style, medium, and political sensibility." (2002, xiii)

45. See http://13.performa-arts.org/artists/benjamin-patterson.

46. See *Fluxus Festival neuester Musik* http://www.hundertmark-gallery.com/videos.0.html.

> My pieces, as they appear on paper, have neither material nor abstract value. They achieve value in performance, and then only the personal value that the participant himself perceives about his own behavior and / or that of the society during and / or after the experience. (In fact, any piece is just this: a person, who, consciously, does this or that. Everybody can do it.) (Patterson, as quoted in Lewis 2012, 988)

Having performed *Variations* on several occasions, I can attest that the principle value of Patterson's notation is indeed personal and reflective; one discovers this both in and *en route* to concert performance. However whereas Patterson implies that *Variations'* notation "on paper" is simply a means to an end – prescribing and preserving the piece for performance – my own experience playing the piece has revealed that the score is something more. In addition to providing the performer a set of instructions or generative conditions for performance, it is also itself performative, and the nature of that performance – always shifting, contingent, and reflective – might be best termed improvisation.

Entextualization

Explaining the performative, improvisational nature of *Variations'* notation – as well as that of most notation for improvisers – can benefit from the notion of entextualization. A brief historical contextualization of the term suggests why.

The concept emerged in the field of anthropology in the 1980s and 1990s as a response to the rise of performance theory. According to Karin Barber, performance theory sought to provide an alternative to the then dominant view of culture as text:

> Text implied a view of society as prescriptive, fixed and adhering to rigid structures; performance implied a focus on what was improvised, ephemeral, fluid, of the moment only – but in that moment, vital and responsive to the contingencies of context. [. . .] Dwight Conquergood elegantly sums up the opposition as a war of vocabulary, where the benign forces of "improvisation", "flow", "process", "participation", "embodiment", and "dialogue" are ranged against the enemy lexicon – "fixity", "structure", "objectification", "reification", "system", "distance", and "detachment" (Conquergood 1989). [. . .]

> But while performance theory provided wonderful conceptual tools for thinking about emergence, it had a tendency to dismiss the whole idea of the aspiration to fixity as a scriptocentric imposition. It thus offered inadequate resources for understanding how the fluid is consolidated, and why stunningly creative oral performers so often claim that their texts have never changed by so much as a syllable. But out of performance theory came its own inverse and complement: the concept of "entextualizuation". [. . .]

> The concept of entextualization [. . .] opens the way to an integrated vision of the generation of cultural forms from the bottom up, in which misleadingly sharp binary oppositions can be allowed to fade away. (Barber 2007, 29-31)

This "performative turn" (Conquergood 1989) in anthropology
(as well as in theater studies and other disciplines in the humani-
ties) has resonated in music scholarship over the last twenty-five or
so years. "New Musicology" (also currently known as "Critical Mu-
sicology"), music performance studies, and in particular the field
of improvisation studies, of which I consider this dissertation to
be a part, have all turned away from hard textuality and embraced
the role of agency, contingency, collectivity, corporeality, and in-
tersubjectivity in musical discourse. Musicologist Floris Schuiling
summarizes the shift thus:

> During the 1990s, musicologists increasingly started to address
> music's entanglement with social and political issues, as well as
> the ideological baggage that had prevented this earlier, and eth-
> nomusicology was swept up in the more general reflexive turn in
> anthropology that problematized the notion of "culture" and the
> nature of ethnography and fieldwork. In both fields, one outcome of
> these developments was a shift in emphasis towards the concept of
> performance, to avoid either a work-based approach or a totalising
> concept of culture, and to foreground the forms of social and creative
> interaction that were now increasingly seen to be essential to music's
> existence. (Schuiling 2016, 42-43)

Improviser-scholar David Borgo has described this shift in more
pointed terms. His account gives a sense of the performative turn's
importance to areas of practice and research that suffered from
previous neglect and misrepresentation in the textual era:

> Academic music studies have tended to argue (at least until recent
> decades) that music's significance, as well as its ontological status,
> resides in its structural features; specifically those structural fea-
> tures that may be represented as a notated score. Meaning, it was
> assumed, was 'in the notes' [. . .] For music not predicated on the pri-
> macy of a notated score or on strong distinctions between composers
> and performers – in other words, most music on the planet – this
> often meant the kiss of death, since the music academy has tradition-
> ally viewed all modes of musical expression through the formal and
> architectonic perspective of resultant structure. [. . .]

> From the sciences to the arts and humanities, researchers in the twen-
> tieth century were led, often reluctantly, to shift their focus from
> objects to relationships, from products to processes, from content
> to context, and from ideas of permanence to those of permeability
> and polysemy. [. . .] In music studies, similar postmodern and post-
> structuralist trends de-centered the musical 'author' (usually read as
> 'composer') and the musical 'text' (usually read as the 'score' or the
> 'recording') from their privileged positions. (Borgo 2007, 92-95)

While the performance-text polemic that Barber and Conquer-
good describe above is not (or is no longer) as bitter in contempo-
rary music scholarship as it may have once been in anthropology,
posttextual and antitextual sentiments still linger in improvisation
studies; notation and improvisation are often pitted against each
other. The following statements by Borgo and fellow improviser-
scholar Tracy McMullen are good examples:

> Rather than view improvisation as a specialized activity and something that simply augments a more traditional music education, as often happens now, we may wish to – riffing again on Stanislaw Ulam's pithy remark about nonlinearity – view improvisation as the study of all 'non-notated' aspects of music. From this perspective, improvisation is not simply an alternative approach to composition but rather an integral part of all musicking activities. (Borgo 2007, 107)

> In the modern period, the increased emphasis on the textual analysis of the "work" establishes the composer's score as the site of music, marginalizing music's corporeal aspects, including its embodied and contingent performers (Taruskin; Goehr). And improvisation – which privileges the subjective, embodied performer and acts of performance over objective, reified scores – has been increasingly culled from the Western music tradition (Bailey; Nettl and Russell). (McMullen 2010)

Given only textual and performative perspectives, the study of notation for improvisers, and a piece such as *Variations*, is thus caught between a rock and a hard place. On the one hand it challenges old-fashioned views that privilege the score at the expense of contingency. On the other it challenges the efforts of scholars such as McMullen and Borgo to develop dynamic and inclusive models of improvisation by leaving the score behind.

Entextualization, which focuses on "the process of rendering" (Barber 2007, 30) texts rather than on the internal structure of finished objects, offers a solution to this bind by providing a middle way between two totalizing poles. It allows us to concentrate on articulating "given instances of discourse" – concrete moments of practice – "from the bottom up" (31). It also helps us to see how notation promotes growth in the improvised discourses from which they arise.

Leaks in the Score

I would like to begin by considering *Variations* in a scriptocentric light, according to the prescription-preservation model I set out to rethink in Chapter 0 ("Context and Literatire Overview"). Doing so will allow me to show how this view, while initially helpful for purposes of orienting the performer, breaks down in practice under internal inconsistencies, or "leaks" to what lies "outside" the score, and requires a more flexible view for the performer to find a coherent way forward.

I start with Patterson's instructions on p. 1:

> pitches, dynamics, durations and number of sounds to be produced in any one variation in this composition are not notated. (in the first performance by the composer a graphic score derived from ink blots was used as a guide; however, there are many other satisfactory solutions.)

I take this to mean that the following instructions prescribe actions. Some traditional musical parameters of these actions are not

included. Therefore, the performer may choose them in context. While this introduction invites a degree of local performative intervention – what anthropologists Elizabeth Hallam and Tim Ingold call "centripetal" improvisation, "aiming for the bull's eye" (Hallam and Ingold 2007, 13) – Patterson does not invite the performer to stray from the instructions. I should therefore proceed to realize those instructions as faithfully and transparently as possible. I continue:

> I. unfold world map on floor. circle with pen, pencil, etc. city in which performance is being given. locate end pin of bass in circle.

Although Patterson has not announced them beforehand, a number of objects are necessary to perform the piece, including a world map and a pen or pencil. I will need to collect them. Continuing from the end of the typewritten instructions in Variation I, I find a handwritten addendum:

> Locate north and align with compass. affix with tape. display local flag.

This instruction seems to have been added later than the typewritten material; the inscription of the prescriptive content in the score has a temporal dimension. This could raise questions about which instructions have priority, but the handwritten addendum integrates smoothly; it extends and develops the typewritten phrase, and I can perform it as part of Variation I without problems. I will also need a compass, tape, and a local flag from wherever I perform the piece. (Where will this be?)

To the upper left of the instructions, there is a handwritten x with a circle around it, and just to its lower left, the word "map". These markings, like "bird calls", written to the lower left of Variation II, seem to be practical markups that Patterson made to remind himself of the content of these particular variations when performing them. Such notes would have saved him the trouble of searching through the fine print, much in the same way that a downward-facing letter "E" would remind an orchestral performer to put on her mute, or a circled *forte* would remind her of a dynamic shift.

The score is saturated with such markups, including a circled "tremelo" [sic] in Variation IV, or the underlined words "goldface paper" and "pizzicati" in Variation V; clearly, this copy of the score was a working part used by Patterson in concert. In all probability, it was written over more than once, given the variation in pen-widths and Patterson's record of revision on the final page of the score ("Revised, Chateau Beauregard 1989") and comments such as "Do this Milan [. . .] Newcastle" in Variation VI. This document therefore preserves not only a means to recreate the piece in a generic sense; it also traces an actual performance history. (What is the relationship between the two?)

Moving on to page 2, I find the handwritten word "(Tuning)" at the end of the typewritten instruction in Variation III ("produce a

number of arco, quasi-webern sounds."). Unlike the handwritten addendum to Variation I, the instruction to which "(Tuning)" refers is ambiguous, for I would have already tuned in Variation II ("using four different toy whistles, animal or bird imitators or calls, etc. *tune strings of bass as well as possible*" (my italics)). It would not make much sense to tune the bass in two successive variations; does this mean that Variation III is an ending to Variation II, to be performed *attacca*? Or perhaps this is simply a kind of practical markup, like "map" in Variation I, that Patterson used to remind himself to perform it this way on a particular occasion?

Below the verbal instructions in Variation III appears a fragment from Verdi's *Rigoletto* inserted into the score. The crooked horizontal line below the second staff suggests that it was cut and pasted on top of the typewritten layer, producing a photocopied shadow. Despite the fragment's temporary, haphazard appearance, performing it presents no practical complications *per se.* Like the addendum to Variation I, I can play it as is.

Subsequent appearances of *Rigoletto*, however, are more complicated to interpret. Such is the case in Variation IV, where it appears in handwritten rhythms with accidentals, but without staff lines or any supplementary information about how it should be played. It seems to be pasted over a fully notated version on staff lines, remnants of which can be seen to the lower left of the variation; possibly fixed pitches were eliminated because the melody should be played with the clothespin preparations specified in the first half of the variation, which change the pitch of the strings unpredictably. In an effort to find similar cases elsewhere in the score that might elucidate Variation IV, I compare this instance of the fragment with a similar one in Variation XIV, also handwritten with rhythms and accidentals but no staff lines, except those underneath the cut and pasted overlay. But Variation XIV is equally cryptic; no more information is given than in Variation IV.

Adding to the mystery, the accidentals in Variation XIV do not correspond to those in Variation IV, which are identical to the accidentals in the fully notated version of Variation III. More questions are raised than answered here – should the *Rigoletto* of Variation XIV be played in a different key than the others, and if so, which one? And what of the numerous verbal instructions to play *Rigoletto* I find throughout the score such as "Rigoletto" in V and IX, "pizzicato Rigoletto full" in X, or "Rigoletto rhythm" in XII?

Returning to Variation IV, I find another leak. Specifying a string preparation, the handwritten indication "above & below bridge" lies above the hand-underlined phrase "plastic spring-type clothespins". On the very next line "~~several inches~~" is scratched out and substituted with the handwritten word "just", followed by "above bridge". These instructions contradict each other; can I presume that Patterson placed the preparations differently on different occasions, and I might do the same? In this case, Patterson's indication that the clothespins "rattle and/or produce odd tones" provides the

framework for an informed choice; I thus treat this inconsistency as permission to place the clothespins at either location, at whatever distance to the bridge works for me and my instrument.

Unfortunately notational confusion of this sort can not always be resolved in context; sometimes contradictions or unclarities handicap my understanding of the basic instructions. For instance in the first part of Variation IV, I encounter an arrow pointing from the first line ("place a number of wooden and plastic spring-type clothespins") to measure 6 of the first appearance of the *Rigoletto* fragment in Variation III. Does this mean that the clothespins should be applied to the strings during the melody? Later in Variation IX, I find three different modifications of the same excerpt: "Whistles", "Accordion bird", and "Trumpet or sax". Written in three different pen-widths, and thus presumably at different times, these comments suggest the melody could be played on any of these instruments. Could I also play it on another? Variation X is another such example. Its original typewritten instructions to "perform pianissimo, medium and short tones arco with mute" are faintly scratched out; above is written "Parrot on string", "~~Stop Rigoletto~~" (crossed out), and below the line "pizzicato Rigoletto full". In comparison to the relatively minor effects of notational unclarity on the clothespin preparations, Variation X's problems are significant; completely different actions are described. The question is not merely *how* but *what* the performer is actually supposed to do here.

It is worth pointing out these problems' close connection to the medium of handwriting, and to Patterson's engagement with the materiality of the score more generally. The presence of multiple edits in the same document, for example, is a direct consequence of working with pen and paper. Had he edited Variation X with Word, new markings such as "Parrot on string" would have simply replaced previous ones; "perform pianissimo, medium and short tones arco with mute" and "~~Stop Rigoletto~~" would have disappeared without a trace. Likewise, inserting the *Rigoletto* fragments with Photoshop, as opposed to manually cutting and pasting, would not have created photocopied shadows. Doing so would have resulted in a tidier appearance, but the temporality of the insertion – i.e. an index of change to the original typewritten version of the score – would have been obscured.

For better or worse, handwriting and work with the physical medium of notation – which we find in the vast majority of pieces included in *Tactile Paths* – is increasingly rare in the world of contemporary music performance. Contemporary musicians typically work from scores antiseptically typeset in notation software and/or word processing programs, usually prepared by the composer and untouched by other performers.[47] This workflow has obvious benefits: it eliminates ambiguity between classes of notational symbols; makes revising a quick and simple matter; bypasses the cost and potential for mistakes associated with hiring a copyist; and reduces

47. A microindustry of digital copyists who specialize in contemporary music does exist – see for example the firm Notengrafik Berlin (http://www.notengrafik.com), for whom I have occasionally worked as a proofreader. Such copyists are usually hired for well-funded orchestral or opera projects, and as such do not represent the norm. In any case, their method of typesetting, and the performer's approach to reading the finished notation, is no different from scores are copied by the composer directly.

the time required of performers to access content. In sum, it minimizes resistance to the cutthroat pace of underfunded preparation and rehearsal which is symptomatic of our times.

However this workflow also reinforces the prescription-preservation model of the score by prioritizing the consistency of notational *objects*. It eliminates or marginalizes artifacts of the *process* of inscription that might complicate the clean flow of information from composer to performer. Handwritten edits or manual cut-and-paste inserts are seen as sloppy; conflicting performative indications are less likely to be digested.[48] For this reason, Patterson's jumble of annotations is more likely to paralyze than to animate the average contemporary music performer whose scriptocentric view I have expressed in the previous paragraphs.

But even from the scriptocentric standpoint, *Variations'* "inconsistencies" must be important. Given the fact that Patterson did nothing to resolve this quagmire when he published the piece, one would even have reason to believe that it constitutes an intentional strategy. Otherwise, why would he have sent me this score in the first place? He could have just as easily sent me an unedited typewritten copy.

This points to a more fundamental incompatibility between *Variations* and the hard textual view: Patterson's frequent changes to the manuscript arguably render it too mobile, too distributed to consider it a single, finished text at all. *Variations* shares this characteristic with much music of the pre-modern era, including scores of the Ars Subtilior with whose notation scribes frequently "experimented" (see Stoessel 2013); the "improvised scribblings" in manuscripts by Frescobaldi (see Jeanneret 2013); and the profusion of different versions of overtures and symphonies by Mendelssohn (see Hogwood 2013). What makes *Variations'* – and numerous other examples of notation for improvisers – exceptional is that it was written in an era when textual autonomy is/was the normative view of notation.

I continue to Variation V:

V. weave strips of gold-face paper through strings in space between bridge and fingerboard. fasten four colorful plastic butterflies to strings over gold paper. performing normal, "bartok" and/or "fingernail" pizzicati [sic], catapult butterflies from strings.

Here I am faced with yet another quandary: how to approach the battery of objects required to perform the piece? The objects called for in Variations I-IV are fairly straightforward. A world map, pen or pencil, local flag, compass, toy whistles, animal or bird imitators or call, and clothespins are mostly utilitarian and/or sonically oriented, so I feel comfortable choosing the right tools for the job. However Variation V's requirements seem more visual and theatrical. What is the role of the paper and butterflies; should they be big or small, flashy or modest, loud or quiet?

Such questions grow in magnitude later in the piece, where Patterson calls for "Accordion bird [. . .] Trumpet or sax" in Variation

48. Music that makes an outright poetic feature of conflicting performative indications would be an exception. Here I have in mind pieces such as Xenakis' *Evryali* (1973) for solo piano, where the density of notes is physically impossible for the pianist to play in its entirety; late pieces by Morton Feldman that superimpose multiple time signatures – the rhythmic values of whose events do not always add up (see Feldman 2000, 141); and numerous pieces by Brian Ferneyhough and Richard Barrett (and even my *Apples Are Basic*) that layer details such as embouchure, bow position, register, dynamics, and expressive markings in nominally contradictory ways to achieve unpredictable sounding results. While these cases do not depend on handwriting *per se*, it is noteworthy that all of these composers have copied many of their manuscripts by hand.

IX, "Parrot on string" in X, "Chinese drum" in XII, "eatibles" in XV, or "camel head" in XVI. Must I really bring an accordion? What sort of parrot and camel head does he mean – cardboard, stuffed, mechanical? Perhaps they were specific items in a personal collection? What on earth are "eatibles"?

These inconsistencies and uncertainties accrue an additional layer of complication due to the difficulties of parsing compositional revisions from practical markups for performance. As I hinted above in my description of the "(Tuning)" problem in Variation III, one cannot always be sure if an annotation applies to an individual performance or to the piece as such. Omissions of parts of variations (e.g. "~~corrugated cardboard~~" in XI, or the final bars of Rigoletto scratched out in III, IX and XVI) or of entire variations (VII) are the trickiest case. While the intention is clear ("don't play this"), graphical informality creates doubt as to whether Patterson set something aside on a particular occasion, or he meant to erase it from the composition permanently. In a few instances he does clarify that specific actions belong to particular performances ("Do this ("C claps" [sic]) Milan[...] Newcastle" in Variation VI), but this is the exception rather than the rule.

Musicologist Bengt Edlund's (1997) distinction between "structural" and "interpretive" elements in notation – those pertaining to the "composer as composer" (25) and the "composer as the first interpreter of a work" (25) respectively – seems to provide a useful tool to begin sorting out such chaos. Structural signs are "accorded normative validity" (25), whereas interpretive signs are "proposals that you are thankful for, consider – and feel free to ignore" (25). Edlund argues that this axis may help to liberate performers from indiscriminate compliance with each and every sign in the score; faithfulness to a particular semantic layer of the notation trumps faithfulness to the letter of the score as a whole.

But as Edlund hastens to acknowledge, it is not always possible to separate the two categories, and his test is not particularly robust: "If a sign is really interpretational, it is likely that it can be disregarded, or that other signs can be substituted for it, with acceptable musical result" (1997, 26). In the context of *Variations* it is especially weak, for Patterson himself provides so many alternatives that hardly a structural sign would remain if we accept Edlund's criterion of substitutability. Guitarist-scholar Stefan Östersjö's critique is relevant here: "The problem with this line of thought is that it is typical of the two agencies that they overlap and are shared by both parties." (2008, 86). Because Patterson was the piece's foremost performer, the boundary of agencies is especially elusive.

Should structural/interpretive distinctions not suffice, Edlund recommends that performers be faithful to style in their interpretation of ambiguous signs:

> In order to understand properly what faithfulness to the style
> amounts to and to give it its proper place within interpretation, it

is necessary to keep in mind that style (among other things) concerns conventions as to how certain signs in notation should be read and how certain typical configurations should be executed. (Edlund 1997, 28)

Unfortunately, this approach also fails *Variations*. What would the stylistic conventions of this piece even be? The "musical material" here is radically diffuse, ranging from tuning, to the application of butterflies and feather dusters, to postal service (XVII). The piece could (debatably) be situated within the genre of "Fluxus event scores", but doing so would be of limited value for our purposes, for the genre is defined principally by the form of the notation – "short instruction-like texts proposing one or more actions" as art historian Liz Kotz describes them (2001, 55) – rather than by its performative content or historical performance norms. The actions these scores require are as diverse as the actions of daily life, and, as Kotz has observed, actual performances by composers and members of the Fluxus inner circle have run the gamut:

> In both Young's and Brecht's scores, a condition of "maximal availability" is most effectively created through the most minimal means. The simplest structure could produce the most varied results, while still retaining a certain conceptual unity and structural integrity. An extraordinarily compressed verbal inscription, like "Exit" or "Draw a straight line" provides a kind of structure that other artists could use to produce diverse interpretations or realizations – thereby creating new pieces, and effectively blurring the boundary between "composer" and "interpreter" far more decisively than, for example, musical scores which simply allow performers to select among or re-arrange existing sections. In perhaps the best-known instance of this "re-authoring," Nam June Paik made an unorthodox realization of Young's Composition #10 at one of the early Fluxus Festivals by dipping his head in a bowl of ink and using it to draw a straight line on an unrolled sheet of paper in his Zen for Head (1962). (Kotz 2001, 80-81)

What all of this – conflicts between multiple annotations, historical and semantic ambiguities relating to Patterson's handwriting, difficulties in determining types of agency and style – suggests is that *Variations*' notation simply does not benefit much from a textual view. We *can*, of course, find elements of prescription and preservation, but once a performer attempts to rely on them, contingency and possibility complicate the situation considerably.

The Score as a Sketch Map

How does the performer proceed, then? Let us continue from a practical point of view. On the one hand, given the problems outlined above, she might be forgiven for working with less complicated aspects of the score and bypassing the others. After all, an extensive paleographic analysis is, from a performer's (if not from a historian's) perspective, somewhat alien to a piece so clearly conceived in a spirit of mischief and playful exploration. Furthermore,

before Patterson recently passed away, bassists could also directly solicit his advice on practical quandaries when they could not manage alone.[49] Indeed that is precisely what I did in preparing my first performance in 2009; the composer was most helpful, offering simple answers that greatly diminished my need to continue poring over the notation:

> The local flag in this case is the German flag (or the flag of Köln)... a small one... maybe 10cm long, made of paper or cloth on a short pole. This is placed at/near the city where the performance takes place. Check the shops near/in the Bahnhof.
>
> About the Verdi: in general you can play the entire melody each time, OR play the entire melody only once... either at the beginning or at the end... and play only fragments of the melody at other times. This is your choice.
>
> Yes, the mechanical bird [parrot] is important. I shall look in my box of "funny things" to see if I still have a bird, which I could lend you for this performance. (Patterson, personal email to the author, 27 April 2009)

On the other hand, the letter of the score is not arbitrary; Patterson clearly cares for the details of notation. This is true not only of *Variations* but also of pieces throughout his *oeuvre*.[50] His specific wordings (and sometimes visually beautiful presentations) invite performers to treat seemingly mundane tasks with a heightened degree of conscientiousness, and they shift attention to possibility beyond surface. Variation VIII-3 is one such case: "roll narrow wheeled furniture caster slowly down from endpin over tailpiece, bridge, G string and into pegbox (caster may squeak)." He could have just as easily written "roll furniture caster from endpin to scroll", and the overall effect for an audience would be roughly the same. But by articulating specific aspects of the environment in which the action takes place, the notation focuses each step, engaging the performer in a process of discovery that is, as his quote at the beginning of this chapter suggests, fundamental to playing *Variations*. In VIII-3, the particular trajectory of the caster is important not because it is structurally definitive (movement along the D string would not pose grave consequences), but because it articulates the context of the activity – where exactly the performer is at any moment, what unintended things may happen – and demands a deeper sort personal engagement. As we shall see later, proceeding from this attentive connection to the score does have practical consequences.

Fortunately, these two apparently contrary impulses – to avoid getting carried away with the notation in and of itself, and to respect its details to the extent that they might spark a discovery that cannot be predicted before carrying out the work it sets in motion – can be reconciled by taking into account a simple historical fact: Patterson was the piece's only documented performer until my performance in 2009. Because the double bassist and the composer

49. Patterson died on 25 June 2016, between drafts of this chapter. The question of his current and future "unavailability" to answer these questions becomes more complicated now; I have no immediate suggestions for how players might access such knowledge, other than reading this text, consulting other contrabassists such as Michael Duch and Damon Smith who have worked with Patterson, or conducting the kind of archaeological research I already characterized as "alien" to the piece. Be that as it may, for reasons I argue above, there are other (richer) ways to deal with Patterson's score than by attempting a reconstruction. For those seeking a deeper analysis of the (hypothetically) dead composer's significance to performance practice and culture more generally, see Kanno 2012.

50. See *Methods and Processes* (Stegmayer 2012, 93-106) or *Pages To Save Our Planet* (266-272).

were one and same person, there was no need for Patterson to finalize, clarify, or document all revisions and performance notes systematically for other eyes. As the score was not published until twenty-six years after it was written, we can safely assume there was no great incentive for the composer to eliminate inconsistencies that he could have ignored or dealt with himself when necessary.

In this light, the identity of the score undergoes a complete metamorphosis. Refusing to be shoehorned into a *Fassung letzter Hand*[51], it becomes a kind of sketch map, as described by Ingold:

> The vast majority of maps that have ever been drawn by human beings have scarcely survived the immediate contexts of their production. These are usually contexts of storytelling in which people describe the journeys they have made, or that have been made by characters of legend or myth, often with the purpose of providing directions so that others can follow along the same paths. [...]

> The map does not tell you where things are, allowing you to navigate from any spatial location you choose to any other. Rather, the lines on the sketch map are formed through the gestural re-enactment of journeys actually made, to and from places that are already known for their histories of previous comings and goings. The joins, splits and intersections of these lines indicate which paths to follow, and which can lead you astray, depending on where you want to go. They are lines of movement. In effect, the 'walk' of the line retraces your own 'walk' through the terrain.

> For this reason sketch maps are not generally surrounded by frames or borders (Belyea 1996: 6). The map makes no claim to represent a certain territory, or to mark the spatial locations of features included within its frontiers. What count are the lines, not the spaces around them. [...]

> To draw on a sketch map is merely to add the trace of one further gesture to the traces of previous ones. Such a map may be the conversational product of many hands, in which participants take turns to add lines as they describe their various journeys. The map grows line by line as the conversation proceeds, and there is no point at which it can ever be said to be truly complete. (Ingold 2007, 84-85)

According to this model, Patterson's handwritten addenda are not refinements or repairs to a completed work, but paths that trace "journeys" he "actually made" as a performer through the initial typewritten sketch. What I previously characterized as inconsistencies or points of notational conflict are the "joins, splits, and intersections" of those paths, through which Patterson improvised new routes and began new trajectories. The complex layers of editorial chaos represent a continually fresh *re-tracing* of germinal ideas over time within and in response to his personal history with the piece. In sum, the score becomes a space for ongoing intervention.

As the score "makes no claim to represent a certain territory" (Ingold 2007, 84) – to prescribe and preserve the definitive content of the work – Patterson's lines can be understood as contingent, but exemplary. The metatext here is an invitation to other performers

51. "Last manuscript version" (Hogwood 2013, 123), a term commonly used by musicologists to determine the "definitive" version of a work. *Variations* is a textbook case study for critiques directed at the authority of the *Fassung letzter Hand*, such as that expressed by philosopher and musicologist Bruce Ellis Benson: "We tend to think of works as being finished in the sense that nothing further could be done to them, but the reality is more often the case: that they are finished in the sense that the composer simply has no more time to work on them further. So, properly speaking, they are not really 'finished' at all. While we distinguish between what counts as a finished work and an unfinished one, such a distinction is – at least partially, if not to a great extent – dependent upon the conventions of a given practice." (Benson 2003, 67)

to *continue* intervening and drawing their own lines rather than un-
tangling Patterson's. This view is bolstered when we consider that
Patterson deliberately offered me his personal palimpsest *instead*
of a clean copy of the original typewritten score (*sans* handwritten
annotations, Verdi, etc.) as published in curators John Hendricks
and Detroit Gilbert's *Fluxus Codex* (1988) or in Patterson's event
score catalog (Stegmayer 2012). My case is not an exception; right
up until his recent death, Patterson continued to offer the *Black and
White File* edition to people who requested the score,[52] thus proac-
tively inviting others to participate with him in this "conversational
product of many hands" (Ingold 2007, 85).

My personal communication with Patterson shows this conver-
sation in action. He has repeatedly encouraged me to perform as
many of the variations as I wished in individual performances, and
to tinker with their content (see his comments on *Rigoletto* above) or
change their order as necessary. While helping me prepare my first
performance of the piece in 2009, at which the composer would be
present, he even proposed a new variation:

> It is now very late at night, and so I am having funny ideas. What do
> you think about this idea:
>
> You are on center stage... in the spotlight... performing "Variations
> for Double-Bass", as best you can. At the far right (or left) of the
> stage, "the composer", sitting on a chair... in dim light..., "criti-
> cally" watches and listens to your performance.
>
> "The composer" holds in his hands a miniature double-bass (25cm
> long), which he shakes with anger, or waves with delight... from
> time to time... to demonstrate his approval or disapproval of your
> interpretation of his work! (Actually, "the composer" would make
> only a few and limited gestures. He does not want to be a distrac-
> tion.)
>
> In the end, of course, "the composer" is very happy and applauds
> your performance... MIGHTLY [sic]!
>
> Well; that is my funny idea for tonight. What do you think? This
> could be the "first performance" of an extremely new variation!
> (Patterson, personal email to the author, 28 April 2009)

Patterson's caricature of the overbearing "composer" here is re-
vealing. By reinserting himself into the piece in quotation marks,
he confirms what we have suspected all along: that the act of com-
posing *Variations* is a performance. This self-satire deconstructs
Patterson's position as author, "interrupting the working of the
work congealing into a work" as philosopher Gary Peters (2009, 94-
95) would put it, and thereby unfixing the (already barely fixable)
text. In so doing, Patterson definitively deflates the scriptocentric
view through which I began the present analysis and reminds us
that in the sketch map of *Variations*, "[w]hat count are the lines, not
the spaces around them" (Ingold 2007, 85).

But the new variation is not merely ironic metacommentary.
Patterson's "funny idea" is also a new line itself, material to be

52. "Which version of 'Variations'
do I now send to interested parties?
Generally, the annotated one I sent to
you. And yes, the"Black and White
File" is more or less history, since
Benedict Stiegmann [sic] wonderful
effort." (Patterson, personal email to
the author, 20 April 2016.)

realized in concert. Beyond the veil of the work-as-noun lies work-as-verb; "performance" is both an act of role playing and an act of hands-on musical labor. (This must have been all too clear to the composer during the thirty-five or so years in which he was the only bassist to play the piece.) The importance of this aspect of *Variations* recalls Patterson's ambivalence toward notation: "In fact, any piece is just this: a person, who, consciously, does this or that." (Patterson, as quoted in Lewis 2012, 988).

Granted, this new line is not entirely like those he applied to the printed score. As one can see in the video of my 2009 concert included here, the "composer" variation does not entail much in the way of action; Patterson observes from the corner, with modest facial expressions and a brief tuning parody on his miniature instrument. There is a stark contrast between his passive stance and the explicitly physical work in which I am engaged with the bass and other gadgets. However the new variation does share with all the lines on the sketch map a commitment to perpetual transformation. Patterson's edits place the material in situations where its identity may not only altered, but completely rediscovered in the act of playing. Regardless of the level at which this occurs – at the position of C-clamps or the ontology of the work – the sheer relentlessness of this commitment seems to be at least as important as the material that he re-composes. Taken together, these line-events of the inscriptive performance, I would argue, themselves constitute (an) improvisation.

Improvisation in Notation

To move from the assertion that the score is a performance, to the assertion that it is an improvisation, may require some additional explanation. The first apparent problem with this formulation is that most standard conceptions of improvisation, for all their differences, locate improvisation in the event of playing (see Chapter 0, "On and Through a Name"). I wholeheartedly agree, and for this reason have emphasized the role of players in the life of scores, "on how improvisers use notation, rather than on the internal structure of the documents themselves", throughout *Tactile Paths*. Thus, in Chapter 0 I criticize composer Pedro Rebelo's (2010) discussion of his realtime computer-generated notation for omitting the factual contingencies of performance. Likewise, my discussion of the visual aspects of Cornelius Cardew's graphic score *Treatise* in A Treatise Remix Handbook is as parsimonious as possible, in contrast to numerous other analyses of the piece (cf. Dennis 1991; Ashwal et al 2001; Anderson 2006). What is the logic and the purpose, one may ask, of focusing on the score of *Variations* as a site of improvisation – particularly since it never once asks the performer to "improvise" as such?

I would explain my use of the term as a further emphasis on the *practice* of notating, as opposed to the work-as-noun that notated

artifacts, in the form of a score, are often understood to construct. Indeed I sympathize with philosopher Bruce Ellis Benson (2003), Östersjö (2008), and pianist and artistic researcher Paolo de Assis (2013a), who all claim that musical works – which consist not only of manuscripts, but also editions, ongoing performance histories, recordings, discourse around the piece, and many other factors – are, like *Variations'* notation, processual. I also recognize that improvisation in, on, with, around, and through works is a fundamental part of their existence. However works are not practices in and of themselves; they are ideations, whose existence depends on a much higher order of complexity than I wish to address here. My goal is to focus on the lower level context of notation, how composer-improvisers work with it locally, in order to provide other performers with entextual alternatives to the work-based model.

The second apparent problem, as composer and Patterson scholar Bill Dietz has pointed out, is that characterizing Patterson's score as a locus of improvisation seems to contradict *Variations'* historical milieu:

> I have a slight hesitation about the emphasis on improvisation here. [...] With later exceptions perhaps notwithstanding, Patterson's background is emphatically compositional. [...] I doubt that that would have been the framework at all that BP thought of the score when he made it. As I understand his thinking at that time, it was much closer to the thinking around other fluxus and post-Cagean and even Darmstadt adjacent stuff. (Dietz, personal email to the author, 24 May 2016)

Dietz's comments are supported by Patterson's own recounting of the genesis of *Variations*:

> I remember that when I started composing this piece, my initial preoccupations were on the exploration of the possibilities of a "prepared" double bass (like John Cage's prepared piano). So, the first variations were to change the "timbre" (sound quality)... by placing clothespins, paper clips, etc., on the strings. (Patterson, as quoted in Lewis 2014, 94)

Clearly Cage's influence ca. 1962,[53] as well Stockhausen's (for whose tutelage in tape music Patterson had been initially drawn to Cologne (see Russeth 2016)), do not suggest a particularly improvisational bent. Nor does *Variations'* self-evident debt to Patterson's background as an orchestral bassist. For these reasons alone, one might conclude that Patterson's relationship to improvisation at the time was tangential, at least in comparison to the rest of the composers included in *Tactile Paths*.

However, as media theorist and art historian Philip Auslander (2000) and Lewis (2014) have argued, *Variations* also represents a transitional moment in Patterson's development. Whereas he may have begun composing the piece in search of new sounds-in-themselves, exploring the means by which these sounds were produced brought Patterson to an entirely different set of concerns:

53. Cage is often criticized for his dismissive view of improvisation (see Lewis 1996 and McMullen 2010). However, as musicologist Sabine Feisst has pointed out, "in the course of his career, his idea of improvisation underwent a considerable transformation" (2009, 48), and some of his later pieces such as *Child of Tree* (1975) incorporate improvisation quite transparently (if not always by name). Therefore one must be careful not to equate Cage with an anti- or hypoimprovisational perspective out of hand. Nonetheless, as reflected in his famous letter to Leonard Bernstein regarding Bernstein's proposal to program an improvisation along with the New York Philharmonic's 1964 premiere of Cage's *Atlas Eclipticalis*, his attitude toward improvisation at the time he met Patterson was unequivocally antagonistic. The letter reads: "Dear Lenny, I ask you to reconsider your plan to conduct the orchestra in an improvisation. Improvisation is not related to what the three of us are doing in our works. It gives free play to the exercise of taste and memory, and it is exactly this that we [Cage, Morton Feldman, and Earl Brown, CW], in differing ways, are not doing in our music" (Feisst 2009, 43).

> After a few days, I began to consider the instrument in itself, as an object or a medium that could be handled in a theatrical way to broaden the range of audio and visual "image-effects." After having discovered this possibility, the rest came quickly and easily... and I got my passport for the "country of wild artistic freedom." [...] *Variations for Double Bass* was my first big leap beyond the "primitive" tape music that I realized in Ottawa. With this work, for the first time, I went from a single medium (acoustic) to a form of multimedia in which the visual elements of theater assumed the same importance as the acoustic elements. (Patterson, as quoted in Lewis 2014, 94-95)

Progressing through the original typewritten variations one by one (with the exception of Variation I), one can sense this transformation in miniature as materials become more theatrical, subjective, and associative, and less concerned with sound as such. By the time we get to the last variation, Patterson seems to forego "acoustic elements" (Lewis 2014, 95) almost completely; now in the "country of wild artistic freedom" (95), he has gone so far from home that he can only communicate by post:

> XVII. address, write message (reading aloud) and stamp picture
> postcard. post in f-hole.

To be sure, such a moment could hardly be less Cage-like: demonstrative, communicative, embodied – in sum, an unabashed "exercise of taste and memory" (see fn. 53). Although he may have begun the piece with Cage in mind, Patterson emerges here as the polar opposite to Cage's puritanical emphasis on objectivity, discipline, and a stark separation of musical material and the body (see McMullen 2010). Suffice it to say, then, that *Variations* does not fit squarely into a post-Cageian (i.e. hypo-improvisational) tradition.

More importantly, when we take a closer look at the dynamics of the work in which Patterson was engrossed while composing the piece, we see more than an arbitrary cross-fade from period A to period B. We see him intentionally interacting with his environment – his instrument, his community, objects at his disposal – and transforming himself and that environment in the process. He reveals himself to be a "wayfarer" *par excellence*, the model improviser-as-traveler I discuss in Chapter 0, borrowing from Ingold:

> The wayfarer is continually on the move. More strictly, he is his movement. [...] The traveller and his line are [...] one and the same. It is a line that advances from the tip as he presses on in an ongoing process of growth and development, or of self-renewal. [...] As he proceeds, however, the wayfarer has to sustain himself, both perceptually and materially, through an active engagement with the country that opens along his path. [...] To outsiders these paths, unless well worn, may be barely perceptible. [...] Yet however faint or ephemeral their traces on land and water, these trails remain etched in the memories of those who follow them. (Ingold 2007, 75-76)

It is in this sense above all that I consider *Variations'* notation to be an improvisation: a "meta-improvisation" entextualized by, but

not reducible to, the composer's ad hoc markings and the temporal conditions under which he applied them. Patterson's wayfaring consists in his *movement* through the piece as he wrote and performed and rewrote it time and again, not in the printed page alone. At the same time, the printed page must be understood as part of the movement, for it not only records previous trajectories, as skid marks on a highway never to be revisited by the driver who made them. It becomes an actant within Patterson's environment – what Ingold calls "the country" (75) – accumulating and reflecting those trajectories back to Patterson as he continues forth.

An equally relevant aspect of wayfaring to Patterson's notational practice is that his "trails remain etched in the memories of those who follow them" (Ingold 2007, 76); they encourage performers other than Patterson to carry on this improvisation through their own performances and annotations. For an elucidation of this point I turn again to Ingold's description of the sketch map:

> I have suggested that drawing a line on a sketch map is much like telling a story. Indeed the two commonly proceed in tandem as complementary strands of one and the same performance. Thus the storyline goes along, as does the line on the map. The things of which the story tells, let us say, do not so much exist as occur; each is a moment of ongoing activity. [...] To tell a story, then, is to relate, in narrative, the occurrences of the past, retracing a path through the world that others, recursively picking up the threads of past lives, can follow in the process of spinning out their own. But rather as in looping or knitting, the thread being spun now and the thread picked up from the past are both of the same yarn. There is no point at which the story ends and life begins. (2007, 90)

To bring these threads together, I surmise that there is no clearly determinable point at which Patterson's notation ends and his performance begins. The narrative of Patterson's actions embedded in the score and the actions themselves are "complementary strands of the same performance" – a decades-long improvisation. To people who have not performed the piece, or in Ingold's words, "outsiders" (2007, 76), this continuity may not be easily identifiable. But for me, a performer, it is key to understanding the piece, for it compels me to "recursively [pick] up the threads of past lives" (Ingold 2007, 90) and improvise myself.

Improvisation in "Preparation"

Characterizing the score as an ongoing process of improvisation, rather than merely a document from which that process originates *underscores* that performers are far better served by emulating the reflective and experimental attitude traced in the notation, than by copying Patterson's factual historical choices. For my own performances of *Variations*, this has had foundational consequences. It has brought liveness and significance to preparatory work I would not ordinarily consider "performative". That work, a "blurring of art

and life" in the words of proto-Fluxus artist Allan Kaprow (Kaprow and Kelley 2003), has in turn shined a light on what exactly Patterson means by the "personal value that the participant himself perceives about his own behavior and / or that of the society during and / or after the experience" (Lewis 2012, 988). Furthermore, it has shown how the acts of perceiving oneself and society can become blurred in the improvisation of daily life beyond the stage. In the rest of this chapter I will attempt to unpack specific examples of this from my own experience.

Objects

The first and most basic task of preparing *Variations* is assembling the long and sundry list of objects required to realize Patterson's instructions. On paper, the relationship of this task to the "artistic" work of interpretation and performance appears to be purely "instrumental". Although it is an important part of the production of a musical experience, one might reasonably presume that it has no more musical significance than rehairing a bow or setting up chairs for a concert. However in practice, most objects have to be actively procured, and the score provides minimal context for determining their qualities, functions, and probable source. The process of filling in this context can be a complex one indeed, particularly if one accepts Patterson's invitation to "recursively [pick] up the threads" (Ingold 2007, 90) of past performances and continue improvising.
Let us have a look at the list:

- world map (I)
- pen or pencil (I)
- magnetic compass (I)
- tape (I, XV)
- local flag (I)
- four different toy whistles, animal or bird imitators or calls, etc. (II, XIII)
- a number of wooden and plastic spring-type clothespins (IV)
- gold face paper (V)
- four colorful plastic butterflies (V)
- clamps ("C" claps [sic], woodworking, etc. of various sizes) (VI)
- small objects of metal (paper clips, hair pins, etc.) (VII)
- objects of rubber (suede-leather brush, etc.) (VIII)
- large piece of cellotex [styrofoam] (VIII)
- narrow wheeled furniture caster (VIII)
- accordian [sic], trumpet, or sax (IX)
- mechanical bird/ parrot/ tucan [sic] (IX, X, XII, XIII)
- comb (XI)
- mirror [optional] (XI)
- corrugated cardboard (XI)
- two newspaper holders filled with tissue paper, newspaper,

cellophane, toilet paper, tinfoil, etc. (XI)
- feather duster (red/ other colors) (XI)
- Chinese drum (XII)
- Japanese or Spanish hand fan (XIII)
- Windmill (XIII)
- flexible tube (XIII)
- balloon (XIII)
- pump (XIII)
- "chain" of various threads, cords, strings, ropes, shoelaces, plastic, insulated electric wiring, and/or old rags (XIV)
- small piece of wire, colored paper, plastic, metal (XV)
- eatables (XV)
- black paper (XV)
- corkscrew, drill, knife, saw, and/or scissors (XV)
- dining fork (XV)
- texts or pictures from newspaper, magazine, etc. (XV)
- camel head (XVI)
- bow tie (XVI)
- rose (XVI)
- cigarette (XVI)
- stamp (XVII)
- picture postcard (XVII)
- ratchet (XVII)
- cat (XVII)

After a quick overview of the instrumentarium, the objects' heterogeneity is immediately apparent. Some objects are primarily visual. Of the local flag, one wonders: how big should it be – big enough to drape over the stage, or small enough to stick on the bass? What counts as "local" – is this meant as a political commentary? The camel head is a rather obscure item – is there some hidden meaning here? Would an unstuffed teddy bear head suffice? (As Patterson would inform me, a "mutant animal head seems ok, although it misses the pun of 'Camel cigarettes' " (Patterson, personal email to the author, 29 April 2009).)

Objects such as "C" clamps, the "chain" pulled through the F-hole, or styrofoam are (also) sonic in nature. The size of the clamps, the length and materials of the chain, and the shape and sort of styrofoam will all have a direct impact on the character of the variations that involve them. But the score presents neither indications as to the objects themselves, nor to the duration, intensity, or affective character of events that might provide a clue to the identity of these instrumental prostheses. On what basis, then, shall the performer search for and select them?

Some objects have the potential to function both visually and sonically, depending on the particulars of what the performer collects. Gold face paper, for instance, can be solely a decoration that dampens the strings; in that case, one might choose a thicker, softer

card stock. On the other hand, it might be used as a preparation that audibly rattles when the strings are plucked; in this case a thinner, metallic foil-like paper would be appropriate. Similar questions can be asked of the butterflies and mechanical bird: should they be selected for their decorative appeal, their qualities as musical instruments, or both?

On the surface these issues bear a strong resemblance to interpretive problems in Cage's music for prepared piano, which initially inspired Patterson to write *Variations*. Pianist and artistic researcher Luc Vaes has pointed out in his exhaustive study on the "extended piano" (Vaes 2009) that the preparation instructions included in *Concerto for Prepared Piano and Orchestra* or *Sonatas and Interludes* leave considerable doubt as to the material qualities and placement of preparatory objects. Cage does indeed offer a detailed inventory of the screws, nuts, weather stripping, and pieces of rubber placed between the piano strings, as well as "exact" location coordinates in the form of string names and absolute distances from the bridge. However structural differences from instrument to instrument in string lengths and thicknesses relativize his prescriptions considerably. The performer cannot rely on the letter of the score alone; in choosing preparation objects and locations, she must ultimately exercise taste and judgement, adapting to local contingencies.

But whereas in Cage's case, the foundational context of the performer's search for objects is found ultimately in the melodic, rhythmic, gestural, and textural scaffolding represented in the conventional notation, *Variations* offers no such fallback; the instructions *are* the score, and they are thin indeed. As I noted earlier, basic information regarding the affective character of actions and timing are nowhere to be found. The performer can almost never rely on the letter of the notation to answer the questions I asked above. How, then, is she to go about assembling her instrumentarium?

I would posit that rather than presenting "instrumental" hurdles to overcome, these problems constitute a fundamental site of creative work in *Variations*. If the performer approaches these questions as opportunities through which to discover her *own* context, without undue emphasis on immediate results, they engage her in precisely the same sort of pre-performative improvisation that Patterson himself traces in the score. Just as exploring the mechanism of "preparations" on the contrabass brought the composer "to consider the instrument in itself, as an object or a medium that could be handled in a theatrical way to broaden the range of audio and visual 'image-effects'", so are other performers brought to reconsider their practices and Patterson's notation by exploring the mechanism of "preparing" *Variations* in the broader sense.

Lewis' comments on Patterson's *Methods and Processes*, a piece roughly contemporaneous to *Variations*, offer an insightful picture of this dynamic:

A deceptively complex example of improvisation from *Methods and Processes* uses materials from the environment itself – in this case, a bakery:

> enter bakery
> smell
> leave
> enter second bakery
> smell
> leave enter third bakery
> smell
> leave
> continue until appetite is obtained

The piece asks participants to interact with a potentially large number of bakeries but gives a limited set of instructions as to how that interaction is to be performed. In Cagean terms, this is a moment in the score that would ideally be "indeterminate with respect to performance," but in everyday-life terms, innumerable small acts, performed in the spirit of the piece, require indeterminacy to live alongside agency in ways that cannot be conflated with what Cage called "the dictates of the ego." These small acts include not only physical motion and decision making as to timing, but also self-reflection, attention, and evaluation with regard to the experience itself – elements that, after all, are explicitly called for in the piece and that draw upon essentially universal tendencies and capabilities. (2012, 988)

Like *Methods and Processes*, *Variations* "gives a limited set of instructions as to how [...] interaction is to be performed" – in this case with objects and the places where they might be acquired. Performers of both pieces must "engage with the country" (Ingold 2007, 76) in order to determine the terms of that interaction. In this way, questions about the nature of the objects in *Variations* may answer themselves through a process of ad hoc hunting and gathering.

Hardware, craft, party favor, book, and magic shops; flea markets; random junk piles on the street; closets and kitchens; and the giveaway table in an old East German cafeteria have all been my "instrument shops". The roles and ideal qualities of objects have often emerged and accrued meaning dynamically through my interactions with such locales and their unexpected offerings.

One such case is the world map in Variation I. For my 2009 and 2014 performances, I used a modern National Geographic map of the earth that had previously been hanging in my hallway. "World = planet Earth" was my common-sensical interpretation. I might have used this map forever, had I not encountered a map of Pomerania nestled among a stack of free books at the above mentioned cafeteria in the former East German town of Jena shortly before a 2015 performance. Unfamiliar with the geography and history of Pomerania[54], I opened the map and was surprised to see Berlin at the lower margin of the area represented. (Most modern regional maps of northeastern Germany feature Berlin prominently.) I was charmed by this marginality; the idea of Berlin,

54. Pomerania, previously a part of Prussia, extends along the Baltic coast from Stralsund in Germany to Dansk in Poland.

where I would perform the piece, sitting on the edge of "the world" seemed a poetic fit to the context in which I would perform the piece, a Fluxus festival at a state opera house — another "edge" of another "world". While this joke was likely lost on the audience in the performance, it was a source of personal enrichment for me: precisely "the personal value" that Patterson underlines, but happening before, rather than during or after, the action onstage.

In addition to searching alone, I have also engaged with shopkeepers and friends in peculiar and refreshing ways in order to find these objects. Drawing on the depths of a magic shop clerk's knowledge of her toy butterfly assortment; enlisting the help of friends to dismember and modify stuffed animals; or chatting with Patterson about the objects he used in his own performances (one of which, the mechanical parrot, I have inherited) have of course formed part of my concept of the objects' identities.

An example of this phenomenon concerns the butterflies in Variation IV. In the process of launching them onstage, I invariably lose one or two. After two performances of *Variations* in 2009, the set of metal butterflies I had carefully picked out at a magic shop in Barcelona — for the brilliant "clang" they made upon crashing to the ground, and the clips behind their wings that allowed me to lightly clamp them to the strings — were mostly broken or lost. At the time of preparing my next performance in 2014 and wondering how to replace the missing objects, I discovered that a friend of mine had adopted one the butterflies I launched and lost in the second of my 2009 performances. Because we did not know each other in 2009, I was surprised to learn that he had kept it as a memento. He offered to loan it to me for my performance in 2014, on the condition that I take good care of it and return it to him afterward. I obliged, and we repeated the procedure for my next performance in 2015. Through this exchange, Variation IV has become a ritual of friendship as well as an instruction, changing my relationship to the butterflies *en route*.

In these examples, which are but two among many, notation elides the constructed indeterminacy of performance with the ineluctable indeterminacy of life. The acquisition of objects spins out into a more fundamentally human kind of improvisation in and with the world in which "the traveller" – I – and my "line" – practice along but not merely within the piece – "are [. . .] one and the same" (Ingold 2007, 75). Those elisions shine a light not only on the "personal value" Patterson states to be the objective of performing *Variations*, but also on that personal value's intimate connection to community, or the behavior of "society" as Patterson puts it.

The mapmakers of my prop for Variation I, the politicians who drew the borders around Pomerania, and the cafe owners who curated the giveaway table where I found the map all became active partners in the improvisation of realizing *Variations*. So did friends who helped me (dis)assemble stuffed animal heads (which, incidentally, were never used in performance) or rescued and babysat my

lost butterflies. Likewise one can imagine how clerks or customers standing in line at the bakery where a performer of *Methods and Processes* enters and smells (and receives looks of befuddled amusement) also become part of a shared experience. Perhaps the most poignant example of this unexpected collectivity is Patterson's new variation for my 2009 performance – or shall I say *our* performance – in which we literally perform together.

This may seem paradoxical if one considers *Variations* from a textual view – as a fixed script for a solo piece which was performed only by its composer for most of its existence. Onstage, where the work-as-noun is presented before an audience, the distance between self-perception and perception of community could hardly be wider; hence Patterson's parody of the solitary judgmental "composer". But if we consider ongoing improvisational practice, rather than solitary authorship, to be the foundational context for *Variations*, the continuity of the individual and the collective described above becomes clearer. As Lewis states,

> Working as an improviser in the field of improvised music emphasizes not only form and technique but individual life choices as well as cultural, ethnic, and personal location. In performances of improvised music, the possibility of internalizing alternative value systems is implicit from the start. The focus of musical discourse suddenly shifts from the individual, autonomous creator to the collective – the individual as a part of global humanity. (Lewis 1996, 110)

Rehearsal

Once at least some of the objects are at hand, the work of actually playing the piece can begin. How does it carry forth the line of notation, investigation, and preparation explored thus far?

Up to this point in the text I have developed an entextual view of *Variations* by abductively examining the granular content of the score, the historical context of that content, the instructional value of the context, and the beginnings of a performer's work. This sequence comes reasonably close to representing what, in my experience, a critical performer might deal with when finding her way through the piece. Following my previous comments about the continuity between Patterson's notation and performances, one might say that in this text, too, "the thread being spun now and the thread picked up from the past are both of the same yarn. There is no point at which the story ends and life begins" (Ingold 2007, 90).

But when I attempt to describe and situate the later steps of playing, refining, and combining individual variations on the way to concert presentation, a linear approach becomes less tenable. My objects, notes, and video documentation from several performances of *Variations* have many gaps and messy intersections between those steps. Rather than a single winding line, I see something more like the unperformed score of *Variations*, as viewed by an "outsider": a cacophony of footprints and fragments which trace a theoretically continuous movement, but which are themselves

extremely discontinuous. The lines of this sketch map are radically different from, for example, the seamless calligraphy of Malcolm Goldstein's *Jade Mountain Soundings*, which indexes unbroken movement across the page, to be read with unbroken concentration by the performer, and representing unbroken lines of sound in performance.

As I have attempted to demonstrate thus far, making sense of the sketch map and construing Patterson's movement through the piece – which, I contend, is the score's real meaning from a performer's point of view – both elicits and depends on the active improvisational performance of the "reader", the performer. By going forth without all the answers, learning through action, a performer not only discovers what Patterson did historically, but also that the piece "is just this: a person, who, consciously, does this or that" (Patterson, as quoted in Lewis 2012, 988).

In the spirit of this assertion, and in an effort to finish unpacking my preparation of *Variations* with a modicum of honesty, I would like to scribble on my own sketch map. Rather than continue as before, I will henceforth trace "pieces" of my experience of rehearsing and performing *Variations* in the form of seventeen meta-variations. These reflections and instructions for actions are meant for the reader, to perform herself.

By "perform" I mean two things. The first sense refers to actions that the reader is encouraged to realize literally, paying close attention to the empirical particulars of the process. I intend these as analogs of the preparation process that I have gone through myself in *Variations*, in order for "outsiders" to experience a taste of this themselves. Hopefully, doing so will act as a "preparation" for viewing the videos of my performances of the piece, transforming the reader's viewing and enticing exploration of contingency in the way that placing objects on bass strings does.

The second sense of "perform" here invites the reader to improvise a conceptual path through my reflections. As explained above, I find it virtually impossible to extrapolate a comprehensive method or sequential logic from my performing experience. However there are occasional hints of patterns in these footprints, which I offer here so that you may "recursively [pick] up the threads of past lives" and continue weaving the story of the piece yourself, even though I provide no single analytical route to the end. Like Patterson's handwritten edits to the score, these reflections are a gesture of collaborative trust. They say "I can't figure this out for you, but here is how I did it."

"It is now very late at night, and so I am having funny ideas."

Pitches, dynamics, durations, and number of thoughts to be observed in any one preparation in this composition are not notated. (In the first performance by the composer, a score to Benjamin Patterson's *Variations for Double-Bass* was used as a guide; however,

there are many other satisfactory solutions.)

I   Sometimes the work moves quickly, in a linear fashion, as for example in Variation I. I figure out how to unfold the map, make sure the compass is functional, and place both objects on the floor in order. The local flag presents a slightly higher degree of complexity, in that I must decide how and where to display it. In all my performances I have placed the flag on the ground by default – this is a personal decision, rather than a given – but have used different techniques to support the flag on each occasion. The 2009 performance features a small empty jar; the flagpole leans against the lip of the jar, and the flag droops downward. In 2014, I might have dedicated more time to this question, as my use of Blu-Tack clearly failed and the flag fell down repeatedly. In 2015 I used a small jar filled with earth, and stuck the flagpole in it upright.

No solution is "better" than any other *per se*. Even the "failed" version in 2014, followed by my comment "Berlin fehlt runter" ("Berlin is falling down"), set a comfortable, humorous tone that contributed to the celebratory quality of the evening, a birthday celebration for Patterson. A solution can, however, be more *useful* than another, if it provides a resource for solutions that follow. Resource, of course, is more retroactively "discovered" (or not), than provided. Frederic Rzewski explains this principle of recursivity in his "Little Bangs: a Nihilist Theory of Improvisation" (1999):

> In improvised music, we can't edit out the unwanted things that happen, so we just have to accept them. We have to find a way to make us of them and, if possible, to make it seem we actually wanted them in the first place. [. . .] (The relation of the improviser to the unpredictable things that happen in the improvisation is a little like that of early Christian theologians to the crucifixion. This was an event that should not have happened; yet it did happen, so it had somehow to be explained. [. . .] In a similar way, an improviser, having played a wrong note, follows it with another wrong note, and still another, until finally a wrong note is played that makes the whole sequence seem right again.) (383)

Ironically, Rzewski employs this observation to define the differences between notated composition and improvisation, but in *Variations*, we see how this principle in fact undoes the distinction completely.

Iron your favorite flag.

II   In contrast to previous stages of picking through the notation and assembling objects, which proceed bit by bit at the most pragmatic level possible, I often begin the rehearsal process for a concrete performance by surveying the variations as a group and considering which ones to play in which order. Although the letter of the score neither requires nor permits mixing and matching variations to taste, both the performative diary embedded in Patterson's edits and our direct correspondence, as described above, provide more than sufficient encouragement.

This adds an additional layer of complexity to the already considerable work of sorting through what Kotz terms the score's "maximal availability" (2001, 80). However it provides a way to cope with immanent risk of tedium involved in playing each and every variation in the written order. A viewer can sense this risk – if not the tedium itself – in my first performance in 2009, which contains almost every variation in the sequence given by Patterson; the total duration is 30:05. In comparison to my performances in 2014 and 2015, lasting 24:30 and 17:05 respectively, the shape of this first performance comes across as rather arbitrary. Indeed one may have the impression of an undifferentiated list of circus tricks rather than an integral piece. The danger here is not merely boredom or exhaustion, but rather that *Variations* may come across to the audience as a cheeky 1960s period piece rather than a living, ongoing improvisation.

III Yawn.

IV For other variations, the work can be slower and the path less direct. Different clamps (VI) and clothespins (IV) at different locations on the strings, for instance, create completely different sonorities, so these variations require more "conventional" musical practice and deliberation than an object such as the flag. The score also declines to indicate how many preparations should be employed, whether to play these variations *arco* or otherwise, and other such details of the operation. In order to develop a sense for the possibility of particular tools and techniques in these variations I try out as many possibilities as seem worthwhile, and become aware of other variables in the process.

2009: "The composer" seemed delighted at my "removal" of the clothespins in Variation IV (7:42). Do you like it? If not, place a number of wooden and plastic spring-type clothespins on your fingers. Do you like it now?

V A dramaturgical priority of mine is to choose forms that foreground and partake of that living, ongoing improvisation. For example: improve upon previous performances (hence my reflection after the maiden voyage in 2009). "In what sense might improvisation prove to be a sort of 'improving'?" asks Benson.

> One thing is clear: whatever "improvement" improvisation can be said to bring about cannot be defined in terms of anything like "an ever-better interpretation," any more than we can see the history of music as animated by an invisible hand of progress. Yet, improvement need not be defined in simplistic normative terms. The original meanings of "improve" convey a very different idea, one not necessarily connected with making anything "better" in the sense of "progressively better." In its original sense, improvement has to do with the way in which we relate to our surroundings, so that "improve" can be defined as: "To turn (a thing) to profit or good account." Traditionally, improvement has often been associated with

the cultivation of land: to live on the land means "improving" that land in the sense of enhancing and nourishing it so that it yields an abundant harvest. Cultivating the land is a way of dwelling in a place, but a way in which one becomes a part of that place and makes that place into a home. Thus, any increase in merit or value that this improvement brings about can be defined only in relation to those who dwell within that space. While it may be possible to talk about a kind of "progress" that dwelling brings about, that progress is more like the kind about which Wittgenstein speaks – the kind that comes from scratching an existing itch. It is a kind of progress that can only be defined in light of actual needs, not theoretical ideals. (Benson 2003, 149-150)

Rest. Refuse to fly. Visit an old friend.

VII   The moon is a great piece of cheese: two eyes, a nose, and a mouth. Can you do this? Do this here. There.

VII   Exploring the relationships between these variables, rather than suppressing them in favor of an ideal solution, can often constitute the most important aspect of the performance of any given variation. The case of the mechanical parrot, which recurs in Patterson's handwritten comments in Variations IX, X, XII, and XIII, is a particularly strong example of such exploration for two reasons. First, no particular action is assigned to the bird in the score; I can ostensibly "free" improvise with it. Second, the bird is old – it was a gift from Patterson – and does not move reliably anymore due to mechanical dysfunction. For organizational theorist Erlend Dehlin, these conditions represent cases of "positive" (proactive) and "negative" (reactive) improvisation, respectively:

> [N]egative improvisation is more of a reaction to upcoming events than something that is initially chosen. It depicts the kind of situations where acute complexity is thrown at you, sparking a felt and recognized desire to resolve this complexity and avoid chaos. (2008, 221-222)

> Whereas negative improvisation is triggered by unexpected complexity, positive improvisation implies actively making sense of and acting in your present situation out of an ambition to create knowledge. Thus, knowledge is sought voluntarily as a sovereign value, but always within context. (2008, 223)

Both positive and negative improvisation overlap as I learn the idiosyncracies of the object and adapt my "performance" to its capabilities. This negotiation can activate parameters that have nothing to do with the parrot itself, such as the physical position of the instrument, but that nonetheless draw attention to themselves in the process of exploration. As improvisers are wont to do, I welcome such developments and follow their trajectories in both rehearsal and performance.

One may compare in the videos how I have physically oriented the bird, my instrument, and my body to each other in three completely different constellations to get the object to "work". In 2009

(18:10-19:45) this dance came to dominate Variation X – my first encounter with parrot, immediately after Patterson had delivered it on the afternoon of the concert. I placed the bass on my lap and set the bird on the strings. Its torso moved front to back, but did not locomote, so I attempted to help it by raising the bottom of the bass and so creating an incline. This action turned into a theatrical gesture which I had not planned, but which anyway became part of the unfolding of the performance. In 2014 (22:20-23:35) I had difficulties getting the parrot to move at all, and so resolved to move it with my hands around the bass lying on the floor. This activity became a kind of puppetry, as if the bird were investigating different parts of the instrument in order to find a place to make its nest. (Ultimately it decided on the gold paper.) In 2015 (11:00-12:40), I resolved to avenge the lackluster performance of the parrot in 2014 by practicing with the bird intensively. I carefully experimented to observe how its legs should be placed between the strings and how I could control miniscule differences in string pressure to activate the parrot most effectively. While the bird was decidedly more active in this interpretation than in 2009 or 2014, my fixation on success ironically prompted a rather mechanical quality of movement in my own body that detracted from the playfulness of the activity. That is to say, in this case I *failed* to follow the secondary parameter and the performance suffered for it.

VIII   The 2014 performance was preceded by a day-long itinerant minifestival including pieces by Patterson and other Fluxus artists, many of which were 80th birthday gifts to Patterson. My response to this occasion manifested in two ways.

One. I chose to make Variation VIII a focal point of my performance, referring to a piece I performed earlier on the day of the concert by Geoffrey Hendricks:

> *A Project for Ben Patterson*
>
> Transpose Nam June Paik's score
> One for Violin Solo, 1962
> to the Double Bass
>
> (and I'll paint sky on the inside
> of all the fragments) (Stegmann 2014, (unpaginated))

In Paik's *One*, the performer slowly raises the violin above his head and smashes it to bits on a table in front of him – a martial arts-like act of clarity and concentration. While Hendricks' piece is an inside joke between two old friends, it also represents a unique and difficult set of problems for the performer if the parody is to be made apparent. The violin is relatively small and fragile, and thus easily hoisted and annihilated; however the size and weight of the bass make this gesture a near impossible task. Thus I spent several days experimenting with techniques for raising the bass slowly above my head, holding it steady, and pretending to smash it efficiently. (As if by divine intervention, the site of the performance

– a concrete square at the foot of Berlin's famous television tower at Alexanderplatz – had access to a high terrace above the square where the audience stood. Without the help of gravity obtained by being higher up, "smashing" the bass would have barely resulted in a few cracks.)[55]

As I was preparing my performance of *Variations* at the same time, my attention was naturally drawn to Variation VIII ("holding bass by fingerboard upside-down, balance on scroll"). I decided to include this variation in my performance as a gesture of continuity with *Project*; I was particularly sensitive to the *way* in which the bass should be inverted, which like most instructions is not defined in the score. Having practiced a dramatic technique for Hendricks' piece, I resolved to employ this in Variation VIII, and inserted Variations XIV (11:12), XIV (12:10), and XII (13:50 before VIII (16:15) in order to make the bass raising more climactic.

Two. I integrated party favors into the instrumentarium. In Variation II, while tuning (4:22), I used a party whistle as one of the "four different toy whistles, animal or bird imitators or calls, etc." The object returns in Variation XIII (13:55), attached to a "flexible tube to which is attached a balloon" that sounds when the balloon deflates. (The balloon itself reads "80!".) Instead of covering the scroll of my instrument with a camel head in Variation XVI, I used a party hat.

IX Standing right-side up, yawn. Whistle happy birthday.

X There is of course more to the selection process than shuffling self-contained modules to embody a dramaturgical vision. As we have seen since the beginning of this analysis, the content of individual variations is extremely malleable and context-dependent. Thus, formal decisions always take place in a feedback loop with "lower level" practical considerations, where the material improvisation takes place.

Yawn on your lap.

XI Visit your local café.

1. Comb your hair.
2. Read the newspaper.
3. Yawn.

NOTE: The omission of Variation VIII in my 2015 performance was of course not the result of a single factor, the "chain problem", but of a network of factors both internal and external to my own interpretation. For one, the piece was programmed in a tightly scheduled concert with other pieces, and I had to reduce the number of variations to the minimum. I also wished to focus on the sonic aspect of the piece more than I had in previous performances, for which reason VIII seemed superfluous.

XII The attached copy of the score also contains my own markups, in pencil. Where are they?

XIII Indeed, my improvements of previous performances have not resulted in an ever sharper rendition of the same image, any more than Patterson's edits to his score have. Rather, both Patterson and I have responded to "actual needs" (Benson 2003, 150) to extract new "personal value" from the piece. Thus, one finds a wide spectrum of forms in the three attached performances. In 2009, as I mentioned before, I played the piece for the first time, and the primary need was simply to get through the piece; most of the variations are therefore performed "as written". After I discovered that the length, pace, and combination of variations in this maiden voyage were problematic, subsequent versions have all been shorter and more compact, but each includes different variations and orderings to reflect a slightly different focus. The 2014 performance, for example, which was programmed in a concert in honor of Patterson's eightieth birthday, has a more theatrical, celebratory flavor in which variations are strung together dramatically with a climactic inversion of the bass in Variation VIII. My 2015 performance, on the other hand, has a more matter-of-fact sequence which is meant to focus on sound. There are fewer variations, allowing me to spend more time exploring the particular sonority of each individual section.

14 June 2015 was my thirty-fourth birthday, and also Flag Day in the United States. I wanted to present a robust, compact, sound-oriented performance. The 2014 performance felt a little too theatrical, or decorative. After performing it, I thought, "that is the best version I have ever played!" It was musical, but also stiff.

Clean up your coffee.

XIV (May overlap above)

Individual variations are of course just the starting point in practicing and putting together a performance. As soon as one follows through with all the stages necessary to realizing a given variation, one discovers the importance of transition: when and how the objects and preparations should be removed, where the instrument is placed, and so forth. If I choose to leave objects attached to my instrument, the bass can potentially accumulate paraphernalia until the end of the piece. Multiple preparations can enrich each other or cancel each other out; if I take them off, they can be placed neatly and methodically on the table whence they came, or thrown on the floor like cigarette butts.

The significance of transition is especially noteworthy in Variation XIV, for the chain of junk that must be taken out of the F-hole must not only be dealt with afterward, but also installed inside the bass before the performance begins – preferably inconspicuously – and dealt with in the preceding variations. If I am to turn the bass upside-down in Variation VIII, this could compromise the security

of the chain inside the instrument; thus I have to find a delicate way of maneuvering the instrument to prevent this from happening. In 2009 this was not an issue, as I had forgotten to install the chain before the concert – and ended up running backstage to do so at 23:10-25:00! In 2014 I bypassed the problem by placing XIV before VIII. In 2015 I declined to perform VIII altogether.

Yawn on your tiptoes.

XV   Suppose. . .

1. Even the "clean" "original" copy of the score, without the historical layers of editorial markings, was always and remains a space for intervention.
2. The sketch map drawings are simply a flag.
3. You, the performer, determine if the score is a notation for improvisers.
4. Climb a flagpole.

XVI   "can you alter your life if you alter this page"[56]

56. From Pattersons's *Seminar II* (Stegmayer 2012, 127).

XVII   Three Postcards:

• 2009: "Dear Ben, I didn't plan it this way – I promise! Yours, Christopher"

• 2014: "Dear Ben, Third time's a charm. . . Love, Christopher"

• 2015: "Dear Ben, Polly and I seem to have found a way to make it work! Love, Christopher"

An Invitation to Collaborate – Répondez s'il vous plaît!

Notation is an invitation to collaborate.[57]

In the planning of communities a score visible to all the people allows each one of us to respond, to find our own input, to influence *before* decisions are made. Scoring makes the process *visible*.[58]

57. Richard Barret (personal email to the author, December 12 2015).

58. Richard Halprin (Halprin 1969, 4).

Introduction

Collectivity is almost universally recognized, and celebrated, as a cornerstone of improvised music. Group interaction onstage is itself a crucial feature for listeners; how materials and events emerge from socially situated actions and reactions between performers is often viewed as at least as important as the sounds and sound-forms that they produce (Monson 1996; Fischlin and Heble 2004; Haenisch 2011). The values that underlie and evolve through these interactions (MacDonald and Wilson 2005) can anchor communities that form around improvised music; the notion of improvisation as a "practice of conversing as equals" (Nicholls 2012, 114), in which difference is both interrogated and respected, has often been cited as an instantiation of and a model for self-determination and social change (Fischlin and Heble 2004; Lewis 2008; Prévost 2009; Born 2017).

Notation need not be a part of these models of collectivity *per se*. As anthropologist and former musician Georgina Born has argued,

> there is perhaps something singular about improvisation in that improvised performances are marked by degrees of openness, mutuality and collaboration that are heightened and intensified when compared with the interpretation of scored works, and that necessitate participants' real time co-creation and negotiation of social-and-musical relationships. From one perspective, then, such performances may become sites for empractising ways of 'being differently in the world' based on a 'recognition that alternatives to orthodox practices are available' (Fischlin and Heble, *The Other Side of Nowhere* 11). (Born 2017, 50)

Some scholars who emphasize the political dimension of improvisation, such as philosopher Tracey Nicholls, even suggest that notation is incompatible with true collectivity:

> I want to highlight two ways in which improvisatory practices and principles of improvisation can be put into practice in a political context: we can affirm that we always have available to us the option of

rejecting the preconceived instructions of a score or script; and we
can commit ourselves to the practice of conversing as equals. What-
ever its other limitations, improvisation is necessarily and integrally
resistant to the perceived authority we attach to planning and tradi-
tion and this serves as a model for countering hegemony in all forms.
In departing from composed scores, it stresses the principle that
there is no one right way to do things. For this reason, improvisation
can be a liberatory political model at least to the extent of showing
that scores (understood here as performance instructions from those
who hold power) need not be followed to their bitter end, that cre-
ative community-building strategies may be substituted in place of a
(partially) determining text. (Nicholls 2012, 114)

Yet music by a number of improvisers who use notation does in
fact privilege and make an essential feature of collectivity. All of the
artists included in *Tactile Paths*, as well as others such as Anthony
Braxton, Chris Burns, Barry Guy, George E. Lewis, Misha Mengel-
berg, Pauline Oliveros, Polwechsel, Wadada Leo Smith, and John
Zorn, are among them. In this music, both the non-hierarchical
interaction of the group and the practice of scoring enable musi-
cal experiences that are unthinkable through only one method or
the other. Furthermore, some of these artists owe the development
of their work in large part to their participation in formal collec-
tives and tightly knit musical communities: Braxton, Lewis, and
Smith are lifelong members of the Chicago-based AACM (see Lewis
2008); Cardew was a member of the seminal ensemble AMM and
a founder of the Scratch Orchestra (see Cardew 1969); and Zorn
remains an emblematic figure of the "downtown" NY scene which
blossomed in the early 1980s (see Lewis 1996 and Brackett 2010).
Empirically speaking, notation and the "liberatory political model"
of improvisation do not seem fundamentally opposed to each other
after all.

But the above statements by Born and Nicholls do raise impor-
tant questions. What *is* the value of notation for collective improvi-
sation, exactly? How does notation construct, destruct, deconstruct,
or reconstruct improvisers' relationships to each other? What does
notation for improvisers say about collective improvisation in the
world, about "the individual as a part of global humanity" (Lewis
1996, 110)?

I would like to offer a tentative, speculative response here based
on the work of two artists and thinkers who have made the collec-
tive and political aspects of notation for improvisers a primary
feature of their work: visionary American landscape architect
Lawrence Halprin (1916-2009) and British composer-improviser
Richard Barrett (1959). Putting together their statements at the
heading of this chapter, along with others which I will address
throughout this chapter, we have a simple but provocative hypothe-
sis:

Score + Response = Collaboration = Liberation.

In the following text I will explore the particulars of this pro-
posal in the context of their own work and see how it holds up.

Lawrence Halprin – RSVP Cycles

The RSVP Cycles: Creative Processes in the Human Environment (Halprin 1969) is somewhere between a theory, a manifesto, and a metascore for score-based collaboration by Lawrence Halprin. Though not listed as an author, his wife and collaborator Anna Halprin, reluctant godmother of the postmodern movement in dance, was also deeply involved in the publication – and remains, at age 96, an exponent of its principles (Worth and Poyner 2004). Due largely to the confluence of the Halprins' backgrounds, the book is explicitly interdisciplinary in nature. As Liana Gergely has argued in her 2013 study of Anna Halprin's historic dance piece *Ceremony of Us* (1969), the cycles' processual nature makes them ostensibly applicable to any field. This is reflected in the diversity of its abundant exemplary material; this "outrageous and seductive scrapbook of cherished images" (Kupper 1971) contains "scores" ranging from Hopi petroglyphs and player piano rolls to American football plays and vegetation maps.

Here I would like to explore the model's creative and theoretical relevance to notation for improvisers. My primary motivation for doing so is Lawrence Halprin's focus on the collective element, which, as I claim above, is a basic facet of musical improvisation. But over and above this general connection, Halprin's book resonates with *Tactile Paths* in not aiming to circumscribe notation from the outside; rather, in the vein of Patterson's *Variations for Double-Bass*, it stimulates speculative reflection to be acted upon. As Halprin states, the "RSVP Cycles and the point of scoring are not meant to categorize or organize, but to free the creative process by making the process visible" (1969, 3). In my following exposition of the RSVP cycle, I will concentrate on those aspects of the model that bear out Halprin's claim, with an eye on its applicability to a series of pieces by Richard Barrett entitled *fOKT* (2005).

Structure and Examples

According to Halprin, *The RSVP Cycles*[59] began "as an exploration of scores and the interrelationships between scoring in the various fields of art" (Halprin 1969, 1). However, reconsidering the importance of preparation and context for score production led Halprin ultimately to examine "nothing less than the creative process – what energizes it – how it functions – and how its universal aspects can have implications for all our fields" (2). The RSVP Cycles therefore do not model the practice of scoring *per se*, but rather the collaborative production and *use* of scores.

The model is based on four elements: Resources (R), Scores (S), Valuaction (V), and Performance (P):

> *Resources* which are what you have to work with. These include human and physical resources *and* their motivation and aims.

59. Henceforth I will place *The RSVP Cycles* in italics to refer to the book itself – Halprin 1969. Where it is not capitalized and italicized (i.e. "RSVP cycles" or simply "cycles"/"cycle"), I refer to the model contained in the book.

Scores which describe the process leading to performance.

Valuaction which analyzes the results of action and possible selectivity and actions. The term "valuaction" is coined to suggest the action-oriented as well as the decision-oriented aspects of V in the cycle.

Performance which is the resultant of scores and is the "style of the process".

Together I feel that these describe all the procedures inherent in the creative process. [. . .] Together they form what I have called the RSVP Cycles. (Halprin 1969, 2)

The cycles in which the elements relate is represented by a circular diagram, which

operates in *any* direction and by overlapping. The cycle can start at any point and move in any direction. The sequence is completely variable depending on the situation, the scorer, and the intention. (Halprin 1969, 2)

Figure 1: RSVP diagram

Halprin offers a simple example by way of basic universal human needs. As most of his examples, they are not without problems (see my discussion of Bach and Amirkhanian below); nevertheless this particular example does serve my purpose of fleshing out the cycles' atomic principles:

(R) Need for food → (P). Hunting. No score no art process.
(R) Need for food → (S) → (P). Hunting Ritual. Ritualize i.e., score (art process).
(R) Need for shelter → (P) House. No score no art process.
(R) Need for shelter → (S) → (P). House as architecture. (Halprin 1969, 193)

As one can see, what Halprin calls "scores" comprises a bewildering variety of texts. This can be confusing, but in fact there is a tie that binds. As architecture critic Kathleen John-Alder points out,

Figure 2: RSVP example: human needs

[a]ccording to Halprin, scores conveyed information that guided and controlled "the interactions between elements such as space, time, rhythm, sequence, people and their activities". As such, they illustrated how to make or act at a particular moment or place. (John-Alder 2014, 58)

Differences between particular scores and their attendant creative processes are distinguished according to various factors: what elements of the cycle are present; the degree of overlap among them; where a given process begins; and its route through the diagram. Through these factors, the model makes visible what scores *do* – their effects on the whole creative process. For Halprin, an important consequence of visualizing scores' behavior is the ability to identify whether scores "energize" processes, or "describe or control" them (191). He designates four common mapping types that reveal differences along these lines:
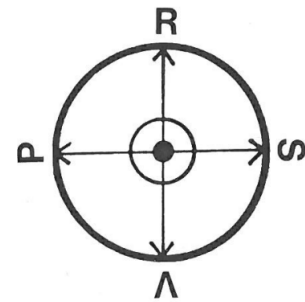
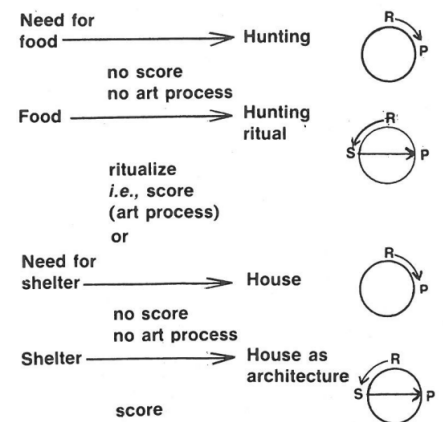There are many interrelationships and weightings of the cycle but the major configurations are as follows: these describe the relationship *during performance* (P), not during the scoring itself or what has led up to the score.

Relationships during Performance

1. (S) → (VPR): Closed score for complete control – score as vehicle – as precise as possible to accomplish a mission.
2. (S) → (R): No control during performance – score energizes.
3. (PRS): Some control, very little feedback or selectivity during performance.
4. (R) ↔ (V) / (S) ↔ (P): Some: control, selectivity, feedback, change, growth (Halprin 1969, 192)

For artists and scholars working with notation for improvisers, these "major configurations" are extremely promising in themselves. They offer a gradated view of prescription and preservation, as well as a view of what lies beyond the work. Unfortunately, however, Halprin's musical applications of this typology – and the cycle as a whole – are extremely problematic, if not to say glib. Halprin's *concept* of scoring is highly sophisticated, but he seems to be out of his depth when it comes to practice. This becomes clear in his discussion of Paul Klee's graphic interpretation of an uncited passage by J.S. Bach:

> The Bach notation is as precise and controlling as he could make it, what was left for the performer was a matter of technique and interpretation. [...] Bach reaches out over the centuries to our time and prefigures what should happen with intricate precision. Basically no interaction is possible – the performer plays what is there with a greater or lesser degree of talent – he is a technician rather than an artist, a medium rather than a contributor. (Halprin 1969, 12)

It hardly seems necessary to point out the holes in this assessment, but let me a list a few for the sake of argument. First, Halprin ignores the role of history; neither changes to the score through centuries of editing (particularly Klee's own renotation) nor the improvisatory aspects of baroque performance practice such as ornamentation are taken into account. Second, he imposes a modern work-based view of the score (i.e. as a transparent representation of the composer's intentions) onto a practice which existed over a hundred years before this model even appeared (see Goehr 1992). Third, he erases the agency of the performer entirely, comparing her to the mechanism of a player piano: "The ultimate development of this kind of controlling musical score in which the performer is a medium, is the punched rolls used in player pianos" (13). In fact, he maps both the Bach and player piano examples identically as (S) → (VPR): "controlling". How can Halprin's reading account for the fact that Bach's music was partly copied by his wife, Anna Magdalena Bach? Or for wide differences between performances of the Bach cello suites by – as just an example – Pablo Casals, Mstislav Rostropovich, and Anner Bylsma? Needless to say, this is not a fair representation of Bach's score or its performance.
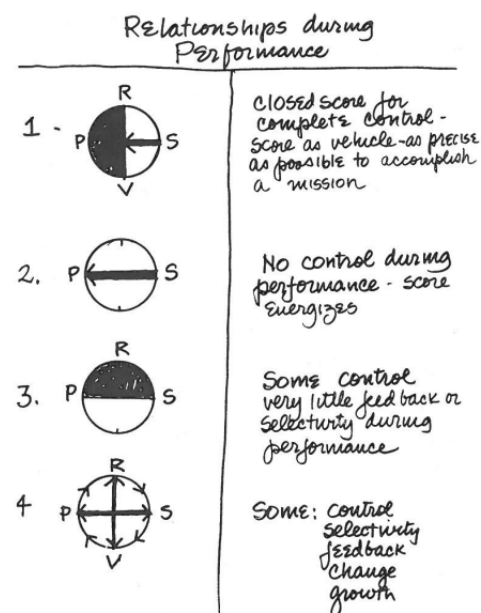

Figure 3: Relationships during performance

His discussion of *Serenade II Janice Wentworth* (Halprin 1969, 14-15), a series of graphic scores for indeterminate performer (musical or otherwise) by composer Charles Amirkhanian, is only slightly less problematic. "The scores indicate," according to Halprin, "how the new music has influenced the scoring technique, and the score itself has responded to the requirements of the music as an open environmental event" (14). This description is justified by Amirkhanian's subsequent list of possible interpretations by a percussionist, a painter, or a theatrical director; all performers use the score's unexplained symbols as stimuli to unprescribed actions within the framework of their respective tools and skill sets. Halprin contrasts this "openness" to Bach, but rather incongruously maps *Serenade* as (S) → (P): "energizing". Energize it does, but where is the (V) of the performers' fundamental decisions regarding the score's indeterminate aspects? Valuation seems to be the crux of his distinction between the two musical examples, but it is not articulated.

In both of these cases, Halprin sells his cycle short. He only considers what the score itself denotes – from an underinformed point of view, at that – and not the life of the score in the world that his own model makes visible. For example, his application of the same mapping type to Bach and Labanotation (a choreographic scoring system used in ballet and modern dance, 40) obscures the fact that the latter is used to record pieces *after* they are composed and performed, whereas the former is a medium of communication with the performer *before* performance. One objectively transcribes, the other subjectively inscribes. Halprin's own diagram has the potential to show this difference: he would simply need to trace a longer trajectory through the circle such as $(R) \rightarrow (P) \leftrightarrow (V) \rightarrow (S)$ for the first performance of a choreography and its transcription into Labanotation, then $(S) \rightarrow (V) \rightarrow (P)$ for subsequent performances. In the case of Bach, he might have included feedback between (V) and (R) to show that the performer is also in dialogue with the resources of performance practice, instrumental technique, and the perpetually evolving identities of the works that the score (partially) represents.

In a similar way, the reductive examples of the Bach and Amirkhanian scores forego opportunities to highlight surprising similarities between them. Going past the first iteration of the cycle – a single hypothetical performance – might show, for instance, that repeated performances of Bach (P) constitute a personal history with the piece (R) that a performer may consciously vary or improve (V) over time. Such change would reflect an opening in the process of interpretation, which Amirkhanian's score shares. This oversight is all the more surprising given Halprin's repeated emphasis on the temporal process: "The element of *time*," he says, "is always present in scores. Scores are not static; they extend over time" (190).

Halprin's (non)mapping of improvisation also begs for revision. Many of the scores he discusses involve improvisation overtly in some capacity (e.g. an Allan Kaprow Happening (30) or Anna Hal-

prin's dance piece *Ceremony of Us* (200)). However, Halprin seems not to identify them as improvisatory, reducing improvising to a monad, (P):

> [I]t is important for anyone working with the cycle to understand where he is concentrating and which parts are operating. If, for instance, you jump immediately to Performance (P), you are improvising. There are times when improvisation, for example, or spontaneous responses are vital to the release of creative energies which might remain locked up otherwise. But these energies can often fruitfully lead back into the rest of the cycle or remain isolated for their own sake. (Halprin 1969, 3)

Here again he occludes the potential of the cycle by not examining his object in critical detail; he defaults to a romantic notion of improvisation rooted in an aesthetics of spontaneity and inwardness (see Sancho-Velásquez 1999, 32-35). Nowhere does he mention how improvisation might arise from negotiating (R), (S), (V), or from feedback among them. More strangely, given the collaborative foundation for the whole RSVP model, he locates improvisation at the level of the individual rather than the group. His portrayal bears an uncanny resemblance to a view of improvisation criticized elsewhere in detail by Bruno Nettl:

> Specifically or implicitly accepted in all the general discussions [of improvisation] is the suddenness of the creative impulse. The improviser makes unpremeditated, spur-of-the-moment decisions, and because they are not thought out, their individual importance, if not of their collective significance, is sometimes denied. (Nettl 1974, 3)

In sum, Halprin's analyses of music – and of others' work in general – tend not to do justice to his model. But all is not lost.

The Sea Ranch

One gets a much richer sense of the potential of the cycles from the documentation of Halprin's own collaborative projects, in which the entire R-S-V-P sequence is consciously deployed as a creative method. An excellent example is The Sea Ranch (Halprin 1969, 122-155), an ecological planned community in northern California, whose masterplan Halprin oversaw in the early 1960s. Although Halprin does not map the project's evolution explicitly onto the RSVP Cycle, his annotated photos, scores, and allusions to the cycle in particular stages make it possible, with the help of secondary literature on the project, for others to infer its workings.

I will now unpack this robust example of the cycle in order to offer the reader a more charitable view of the dynamics of Halprin's model. In addition to illuminating the structure of the model, I hope my explanation supports Halprin's claim that the book itself is a score (Halprin 1969, "Acknowledgements"), and "[f]or a score to function the participants in a score must exhibit a commitment

to the idea of scoring and be willing to 'go with' the specific score" (190). In other words, rather than apply the model as a finished, self-contained system, I will improvise with it in an attempt at a temporally distributed theoretical collaboration.

For purposes of structural clarity, I will proceed in outline form rather than in narrative prose.

1. Resources

- Commission by owners and developers: "Oceanic Properties, a subsidiary of the Hawaiian developer Castle & Cook, selected Halprin to oversee the master plan for a second-home community" (John-Alder 2014, 55).
- Team included cultural geographer Richard Reynolds (John-Alder 2014, 55); San Francisco Bay Area-based architect Joseph Esherick; Berkeley-based architecture firm Moore Lyndon Turnbull Whitaker (Canty 2004, 23); and "a then unprecedented wide range of disciplines: foresters, grasslands advisors, engineers, attorneys, hydrologists, climatologists, geologists, geographers, and public relations and marketing people" (Canty 2004, 23).
- Natural conditions of the site: undeveloped coastal land 120 miles north of San Francisco near the San Andreas fault; cool, damp, windy climate; active ocean; rolling meadows; patches of redwood forest.
- Historical conditions of the site: "The specific character of the landscape Oceanic purchased was the result not only of geological forces, [. . .] but of decades of farming, ranching, and lumbering. Over the nineteenth and twentieth centuries there had been selective clearing for timber, hedgerows had been planted to protect livestock from the wind, and the meandering State Highway 1 was constructed stretching along the base of the range." (Lyndon and Alinder 2004, 19)
- Inspiration by local architecture, especially "timber framing of local barns" along the Coast Highway (Lyndon 2009, 84).
- Explicit wish to work with ecological scoring (Halprin 1969, 117).
- Explicit wish to create " 'an opportunity for people to form a community.' His thinking about The Sea Ranch was influenced by his experience in a Kibbutz." (Canty 2004, 25)
- A "feeling that this area could be a prototype of how man could plan development *with* nature rather than ignore her" (Halprin 1969, 117).

2. Performance

- Site study: "A year of careful ecological studies revealed a great deal about the land that was not apparent from the start" (Halprin 1969, 117-118).
- Reynolds measured wind and other meteorological conditions of area (John-Alder 2014, 55).

- "Up in the woods forestry practice was studied at length" (Halprin 1969, 118).

3. Scores

- Representations of (P) such as:
- Vegetation and soil (Halprin 1969, 125).
- Topography and drainage (126).
- Wind deflection (127).
- Bioclimactic needs (128).
- Radiation impact (128).
- "A careful logging program" and "a carefully organized program of controlled burns" to rehabilitate the nearby redwood forests (118).

4. Valuaction → Resources

- Discussion of discoveries in (S) – that which was "not apparent from the start" (Halprin 1969, 117-118). This led to
- "Resource analysis" (Halprin 1969, 124) – reevaluation of (R) before proceeding with development planning.
- Example: "the cool, damp climate was outside the human comfort zone. The data also indicated that wind was the most easily controlled climate variable" (John-Alder 2014, 56).

5. Scores (↔ Resources) → Valuaction

- "Thematic early scores" (Halprin 1969, 130): development sketches (130-131).
- Visual descriptions of architectural principles to cope with wind and dampness: slanted roofs, placing buildings adjacent to hedgerows (135).
- Visual descriptions of urban planning principles to foster community living: condominiums and clustered housing (141).
- Primary purpose NOT to prescribe unilateral action (as blueprint) and preserve instrumental data about the environment for construction.
- RATHER to provide points for discussion among collaborators about how to integrate the development with the environment as a whole: "Taking particular elements and scoring alternatives as test runs to disclose options and allow for valuaction and selectivity to operate" (124).
- Contains questions regarding (R): "Stable of archt's? – no review of aesthetics – archt's to do their own 'thing'. Materials?" (130)
- John-Alder:

  Scores, defined as a "system of symbols", energized the process. [...]
  Halprin also used scores to investigate alternative design scenarios.
  In other words, he was again directing his colleagues to look at
  processes of formation for design inspiration. But unlike his earlier

natural history directives, with their emphasis upon the physical mechanics of geology and physiology, this time Halprin promoted a set of generative parameters that intermingled people, their actions, and their chance encounters with natural processes, their actions, and their chance events. (John-Alder 2014, 58)

6. Valuaction ↔ Scores

- "Concept Alternatives" (Halprin 1969, 132): a grid mapping the aesthetic, social, and structural aspects of various building options, for discussion.
- "Followed hard on the heels of thematic scores and made selections between various alternatives based on values and congruence with motivations. Feedback between V and scores was continuous during this period" (124).
- Not only filtered scores for implementation in performance, but also catalyzed new scores.

7a. Scores → Valuaction

- "Location score" (Halprin 1969, 132), featuring urban policy proposals, "establishes major 'lines of action' for performers to follow" (138). Would later, after subsequent iterations of (V), be used as the basis for actual construction plans submitted to the property owners (141).
- Same time phase as 7b.

7b. Scores → Resources

- Drafts for ecoscore (Halprin 1969, 122-123):

  The procedure began with sketches that established geologic time as the baseline metric for change. This was paired with a chart that catalogued human interaction with the land. Information included the ethnographic observations and bioclimatic analyses done by Reynolds, the development of these observations into built form, and the economic imperatives driving second home development and real-estate sales (figure 16). The next drawing organized this information into a series of parallel chronologies, or subsystems that tracked changes in geology, vegetation, and land use activity (figure 17). The final iteration, which is the ecoscore in *The RSVP Cycles*, transformed the parallel trajectories into a single, multi-dimensional spiral consisting of temporally distinct, but spatially overlapping rhythms. In this hypothetical landscape, layers of time and process fold back around and become a recursive feedback loop that links land use to its environmental impact. (John-Alder 2014, 28)

- Did not lead to (P), i.e. construction, but rather looped back to (R):

  The ecoscore is a description of processes leading to the inventory items (R) analyzed as the basis for planning. It should of course be clear that an ecoscore does not stop at a particular point in time, but is continuously evolving. (Halprin 1969, 124)

- Reflective tool for future consideration.

8. Performance

- "Ground was broken in 1964 for three demonstration projects: a ten-unit condominium by MLTW, who prepared a plan for eleven more to be strung along the south shore of the site; a set of six 'Hedgerow Houses' by Esherick in a meadow; and a store near the condominium, also by Esherick." (Canty 2004, 25)
- Construction of first phase of development.

9. Resources ↔ Valuaction

- Construction (P) led to salable product (R).
- Unexpectedly high demand: "The place took on a special cachet. Oceanic had helped to sell one hundred lots the first year but met its goal in just over eight months." (Canty 2004, 29).
- Tension between Halprin's scores and owners' commercial goals:

  In some respects, the growing pains of success proved a challenge. The original planning principles proved surprisingly fragile. After just five years of construction, Halprin complained that houses going up in 1969 were being "scattered" on the meadows rather than clustered along the hedgerows. Moreover, houses were being built in the front rows of shore front and forest, areas where they were forbidden by the plan. [. . .] In part, such departures from the plan resulted from a virtual revolt by the real estate agents of Castle & Cook. They objected to not being able to market the most desirable home sites and claimed that condominium units and cluster housing were difficult to sell. (Canty 2004, 29)

10. Performance ↔ Valuaction

- "Oceanic dismissed Halprin and the original architects in the late 1960s." (Canty 2004, 29)
- Corporate allies also left:

  Boeke [vice-president of Oceanic] himself left at year's end 1969, and one of Oceanic's real estate agents took his place. [. . .] Few were left in the company who cared about The Sea Ranch, and an agent was sent over to arrange Oceanic's phased withdrawal from the project. (Canty 2004, 29)

- Subsequent developments did not reflect principles of Halprin, his collaborators, and their scores.
- Halprin reflects on demise:

  Unfortunately, later performance has lost track of the intent of the score and many performers have not "gone with" the agreed upon score. [. . .] It is significant to analyze why the score was violated as a guide to future work in scoring. I have been told that the score was too open and should have been more closed an therefore controlling. I do not agree. I do not feel that any score is too open. I feel that I overlooked several characteristics of scoring, principally:

  1. The score was not visible enough to everyone involved.
  2. Some of the score was kept secret because it was not completely agreed upon by management. For example, public access to beaches

and the idea of varied income. This did not really turn out to be a balanced community in terms of income levels, which is what it was intended to be.

3. All the principles of the score were not understood thoroughly. For example, the notion of tight-housing clusters of various configurations was not really visualized by the sales force.

4. Early sales management groups were disbanded, and the second wave had not been involved in the score and subsequently did not really understand it.

5. Short-range economic goals were allowed to override long-term goals. (Halprin 1969, 146)

Explanatory Potential for Notation for Improvisers

What can we learn about scores and collective improvisation from the example of The Sea Ranch? What does it tell us about the relevance of the RSVP cycles to notation for improvisers?

First and foremost, scores are but a single factor in collective environments; Halprin's model is ecological. By this I do not mean (only) that it concerns itself with the natural environment. Rather, I mean that the cycle situates its four elements in a non-hierarchical environment where their unpredictable mutual influence is made visible. Following improvisation scholars David Borgo (n.d.) and Marcel Cobussen (2016), I believe the ecological perspective to be fruitful for the study of improvised music in general because of the way in which it foregrounds the simultaneous action and perception of musicians with instruments, each other, physical and social spaces, and many other "actors, factors, and vectors" (Cobussen, Frisk, and Weijland 2010). Borgo:

> When viewed ecologically, cognition is best understood as a process co-constituted by the cognizing agent, the environment in which cognition occurs, and the activity in which the agent is participating: action, perception, and world are dynamically coupled. In this light, improvisation may be seen as a cyclical and dynamic process, with no non-arbitrary start, finish, or discrete steps (i.e., it is not a token of a compositional megatype). The improviser and the environment co-evolve; they are non-linearly coupled and together they constitute a non decomposable system. (Borgo n.d., 10)

An ecological approach is suited to scores for improvisers because it shows their participation within this co-evolution, rather than their prescription or preservation of it from the outside. We must not begin at (S) and proceed directly to (P) – with an optional path through (V), interpretation and rehearsal – as would be suggested by some linear models of notation and performance (Boulez and Cooper 1990, 87; Nattiez 1990, 17). The cycle may start anywhere and move in any direction; thus it accommodates how notation emerges and feeds back on ongoing improvisational practices (see "Entextualization and Preparation in Patterson's *Variations for Double-Bass*"); how it changes and is changed through use (see "A Treatise Remix Handbook"); and its growth over longer periods

of time – what precedes and follows an initial inscription and single performances (see the Bach example above).

A second related point is that scores and collectives are mutually influential, but ultimately independent of one another. On a positive note, the collaborative aspect of work is present in the model even when the participants, such as a composer of written texts and an instrumental performer, do not work together personally. The cycle can be shared and distributed among many parties over time and space, and the continuity and contingency of the work-as-verb is still manifest – whether this occurs between J.S. Bach, Anna Magdalena Bach, and Pablo Casals; or between Halprin, Barrett, and me. However this point reveals a potentially problematic side to notation for collective improvisation. As we see in point (10) of my mapping of The Sea Ranch project, collectives and scores tend to evolve on their own terms, and neither one can sustain the other. Group personnel, performance practices, and interest in particular scores inevitably drift; scores may only make sense in a particular constellation, or lose value after having been played only once. If a given project is inherently temporary – as in the case of Richard Barrett's *fOKT* series – this may not be a problem, and even an asset. But as in the case of The Sea Ranch, the sustainability of ambitious long-term projects may be compromised or crippled by the very contingency that animates them.

A third relevant aspect of Halprin's model is the (V) element, *valuaction*, "which analyzes the results of action and possible selectivity and actions. The term 'valuaction' is coined to suggest the action-oriented as well as the decision-oriented aspects of V in the cycle" (Halprin 1969, 2). It "incorporates change based on feedback and selectivity, including decisions" (191).

What might valuaction mean in the context of notation for improvisers? On the one hand, it may surface in processes of criticism, revision, and verbal negotiation among collaborators as we see in The Sea Ranch project. Ideas are inventoried; a score is produced; it is discussed and edited (V); fundamental assumptions and materials are reconsidered; the score is revised; the project is performed; the results are discussed again (V); and perhaps they lead to subsequent scores and performances. This is very much the case in *A Treatise Remix*: I studied the score of *Treatise* and its performance history; collected recordings and edited them into a collage; presented my collage and ideas about the score to my collaborators; discussed, rehearsed, and revised my plans with them (V); performed with them in the studio; made adjustments to the plan in the studio according to the input of my producer and sound engineer (V); assembled the live recordings with the collage in sometimes unpredictable ways; added unplanned material and erased planned material; and then returned to the studio for the final mix. This sense of valuaction is, in fact, nothing special; it inheres to virtually any workflow that admits even a modicum of change and diversity.

But valuation can also take the form of nonverbal reflection in practice, experimentation, and rehearsal. In this context it has a strong affinity to guitarist and artistic researcher Stefan Östersjö's notion of "thinking-through-practice" (Östersjö 2008, 77), which he develops as an alternative to the notion of performative interpretation:

> It involves the physical interaction between a performer and his or her instrument and the inner listening of the composer; both of which are modes of thinking that do not require verbal 'translation'. Instead they function through the ecological system of auditory perception. [...] thinking-through-practice is an interpretative process that makes up an important part of the preparatory work leading up to a performance. And it is a process of validation that goes on also in the performance itself. (Östersjö 2008, 77-78)

Östersjö's last point – that thinking-through-performance, or nonverbal valuation, can continue into the performance itself – is especially significant to improvisation, where evaluation-and-action during the course of performance are not only possible, but mandatory to the performance's very continuation. The musician hears as she plays as she hears, but this is not an unmediated flow; she might make mistakes, she interacts with one sound or player and not another, she feels ambivalence about when to end or not. These are all instances of evaluations that lead to action, and they are inherent to the activity of the improviser during performance. That Halprin's model gives (V) the same hypothetical importance as all the other elements in the cycle underlines its proximity to the practice of improvised music.

Fourth, the model is based on activity and artifacts rather than on the functions of particular actors; identities shift with and/or emerge from the process. This is useful in the context of notation for improvisers because categorical distinctions between composers, improvisers, and interpreters are bypassed. As we see throughout *Tactile Paths*, such traditional divisions of labor can be difficult to establish in this music because composition, improvisation, and interpretation are often carried out by one and the same person or people (see Ben Patterson's *Variations for Double-Bass* (1999) or Bob Ostertag's *Say No More* (1993)). Even when these activities are carried out by separate subjects – as for example in Cornelius Cardew's *Treatise* (1970) or my *Apples Are Basic* (2008), where the composer notates and others play – the actual work of composing and performing overlaps considerably; the practice of improvisation occupies a space between them. As I show throughout the dissertation, following experimental musician and scholar George E. Lewis,

> [c]reating compositions for improvisers (again, rather than a work which "incorporates" improvisation) is part of many an improviser's personal direction. The work of Roscoe Mitchell, Anthony Braxton, John Zorn, and Misha Mengelberg provide examples of work that retains formal coherence while allowing aspects of the composition to interact with the extended interpretation that improvisers must

do – thus reaffirming a role for the personality of the improviser-performers within the work. (Lewis 1996, 113)

The cycle thus allows us to focus on workflows unique to particular projects or performances. It not only generically frees us from problematic conceptual binaries, but also provides a view of what specifically emerges in its place on a case by case basis.

This aspect of Halprin's model may have had its roots in the social structure of his profession. As a landscape architect, Halprin would never – indeed could never – have operated as solitary author, or considered his collaborators as executants. He was constantly required to negotiate with other architects, investors, politicians, urban planners, climatologists, geographers, engineers, contractors, and (sometimes) even ordinary citizens, and his work changed drastically in the process. We remember that, for better or worse, the RSVP cycle bound him with The Sea Ranch architects, engineers, planners, et al in a dynamic process *together*.

Indeed this brings us to the political heart of the model. By making visible the creative *process* itself, rather than a chain of command, Halprin proposed to subvert the top-down decision making behind product-oriented thinking, which consolidates power and dehumanizes end users – in his case, communities who inhabit planned urban environments:

> If the scorer develops a closed, completely precise score, he then assumes complete responsibility. In the newer "open" scoring, members of the audience as well as performers often participate in performances. As a result, they need to recognize that in these instances responsibility is shared by them. The new scoring needs to be as visible as possible so as to scatter power, destroy secrecy, and involve everyone in the process of evolving their own communities. [...]

> A community has the right to make scoring decisions itself, based on its own understanding of the implications of action. The implication of this method of approaching planning through multivariable scoring systems is *not* to abrogate authority or decision-making in deference to chaos, or to avoid responsibility by making everyone responsible. What it proposes is a scoring process related to parts of the "systems approach" in operational research where all the parts and participants, in the search for solutions to particular problems, have equal validity and strength in arriving at decisions. It is on this approach rather than a hierarchical structure of planning that the new scoring technique bases itself. (Halprin 1969, 175)

Ironically, Halprin's very faith in the transformative power of "the newer 'open' scoring" (175) – particularly that of his own model – reveals its Achilles' heel. While the RSVP cycle privileges collective dynamics over a top-down chain of command, it also fails to represent the fact that not all participants necessarily have an equal say in the process. Halprin's dismissal from The Sea Ranch project by managers at Oceanic brings this point home bitterly.[60] The owners' unilateral abandonment of the development's founding ecological principles reminds us that nominal collectivity in

60. This glaring weakness of the cycle is also explored by Gergely (2013) in the context of Anna Halprin's collaborative dance piece *Ceremony of Us* (1969). The project brought together a group of white dancers from the San Francisco Dancers Workshop with a group of black dancers from Studio Watts, a collective located in an area of Los Angeles that had suffered race riots in 1965. Halprin adopted the role of facilitator, rather than choreographer, offering the RSVP cycles to the group as a way to root and develop the piece in the experience of the group, and the tensions concerning race, class, and gender that inhered to that experience. Gergely states that, "[a]ccording to [Halprin scholar Janice] Ross and many of the Studio Watts performers, Halprin was unable to find a middle ground between not emphasizing race, and over emphasizing race. Furthermore, the African American dancers also felt disrespected when Halprin received a grant to have their workshop filmed, but put all that money towards the San Francisco's Dancers Workshop instead of distributing it evenly between both groups (Ross 2007, 281). Ross claims that as a result of this breach of trust several of the Watts dancers felt exploited,"their worst suspicions confirmed" (Ross 2007, 281)." (Gergely 2013, 32)

notation is no guarantee of symmetrical power relationships or real collaboration.[61] Even if the score had been more visible to Oceanic, as Halprin wished in his last valuation (1969, 146), it is unlikely that The Sea Ranch's corporate owners would have held the score's principles in higher esteem than their own bottom line.

Though The Sea Ranch was in many ways a successful and artistically groundbreaking project, Halprin's liberatory model of notation, and my proposal at the beginning of this chapter seems in this case to have failed.[62] Returning to the proposal with which I began this chapter,

Score + Response = Collaboration ≠ Liberation.

As ever, one must look beyond notation to the contingent particulars of its use. Apropos, let us now turn to the music of Richard Barrett, and explore his concrete use of notation for improvisers in the framework of the RSVP cycles.

Richard Barrett

A brief introduction to Barrett's unique artistic trajectory will help us situate his work. In contrast to many artists working with notation for improvisers, Barrett has been active at the extremes of "straight" new music and experimental improvised music for most of his career. His catalog of through-composed chamber, orchestral, and electronic music includes over 120 pieces; they have been played by some of the most prestigious soloists and ensembles in the field. Since the mid-1980s, he has also frequently performed as an improviser on electronics. Of particular importance in this vein have been his long-term collaboration with Paul Obermayer in the duo FURT and his work with the Evan Parker Electroacoustic Ensemble. Recent performances and recordings in trio with violinist Jon Rose and contrabassist Meinrad Kneer, and in the Belgrade-based collective Studio6, round out the picture.

His work in both areas shares many aesthetic traits: rhythmic irregularity and hyperactivity; dense, intricate textures; constant shifts of pacing and perspective; and precise, jagged formal architectures. However, until the late 1990s his public activities as a "composer" and as an "improviser"[63] were surprisingly discontinuous, if not to say mutually exclusive. On the one hand, his through-composed music from this time employs elaborate conventional notation, noteworthy for its rhythmic and timbral complexity and technical virtuosity. The scores' high information content indexes Barrett's use of post-serial mathematical and scientific models that often affect every parameter of musical expression. Superimposed indications relating to timbre, articulation, dynamics, rhythm, and gesture sometimes contradict each other, producing "ambiguities, imperfections, contradictions, and so on, which constitute what might be called the 'poetry' of notation" (Barrett 2002). One may surmise that notation is essential to the creative process in

61. See also composer and historical musicologist Martin Iddon's (2004) critique of Stockhausen's heavy-handed approach to guiding a workshop of his *Musik für Ein Haus* (1968): "Despite the superficially egalitarian basis of this course, [...] Stockhausen himself dominated its every aspect, and [...] the inclusive ideas of collective composition he put forward were entirely subverted by his actual actions." (Iddon 2004, 88)

62. Furthermore, the undoing of The Sea Ranch, as Halprin and his collaborators imagined it, reminds us of the difficulty of translating collectivity in sheltered art contexts to collectivity in the world of late capitalism that envelops them.

63. My use of the words "composer" and "improviser" here is purely conventional. It denotes in the latter case Barrett's activity as a producer of notated scores for other interpreters, and in the former case his activity as a live performer. I put no stock in any implied divisions between these terms, and neither does Barrett: "I don't oppose composition and improvisation: instead, I view improvisation as a *method* of composition, one which is characterised by spontaneous musical actions and reactions." (Barrett 2014, 1-2)

these pieces both for the structural precision it enables at the compositional level and for its unpredictable effects on performance.

On the other hand, his trajectory as an improviser through the end of the 1990s seems to have been marked by a commitment to the radical contingencies of that medium: the situatedness of the moment, for which no additional notation or articulated plan is necessary. Barrett:

> I would characterise what has become called 'free improvisation', or 'non-idiomatic improvisation' (to use Derek Bailey's formulation), as a method of musical creation in which the framework itself is brought into being at the time of performance, rather than existing in advance of it. [...] The possibility of improvising the structural-expressive framework of a piece of music comes into being, I think, as a direct consequence of the realisation that any sound may be combined with any other sound in a musical context. After this point, there is no further need to create or inherit the framework in advance of making the music – although of course there may be a desire to do so, for many possible reasons. (Barrett 2014, 2)

Barrett hastens to note that in his view the spontaneous emergence and re-working of improvised music's structural-expressive framework in performance does not "just happen" (2002). As do most contemporary improvisation scholars, he qualifies this immediacy by stating that it "depends to a crucial extent on external and internal conditions" such as tradition (Barrett 2002). Although Barrett, *pace* guitarist Derek Bailey (1993, 83), distinguishes free improvisation from improvisation within "fixed and/or pre-existent framework[s]" (2014, 62) such as baroque music or jazz, in fact Barrett's improvisational trajectory has centered on a rich microtradition of its own in FURT. Over the course of several years of working together, the duo has evolved not only a "group sound" in the general sense, but also a tightly coupled way of working reflected in shared tools[64] and sample libraries. Barrett and Obermayer:

> We tend to think of FURT as one person rather than two; while our musical preferences and activities outside the duo don't coincide precisely (though almost), in a FURT context they do, so that for the most part disagreements don't occur. One of its most important aspects is that it encourages both of us to think in terms of more extreme ideas, or solutions to musical issues, than we would do individually or in playing with others. [...] We mix our performances from the stage, and fiddle around with each other's output levels without bothering to ask. Synchronisation is one of those things which takes its course; both of us deciding simultaneously to do something, or to change something, or to stop something, can be taken for granted as an outgrowth of the general symbiotic situation which obtains in a FURT performance. (Barrett and Obermayer 2000)[65]

Thus, one may gather that, in the era before he worked with notation for improvisers, Barrett's moment-centered view of the structural-expressive framework of improvisation included collaborative relationships developed over time.

64. Barrett and Obermayer tend to downplay the role of technology in their work, often underlining the group's humble origins: "At that time [1986] our instrumentation consisted of such things as electric guitars, trombone, percussion, crumhorn, synthesisers, voices, cracklebox, vacuum cleaner, effects pedals, cassette recorders, and anything else within reach, which we improvised on and overlaid in various extremely lowtech ways; live performance as a duo would have been almost impossible and definitely precarious, but an aesthetic was emerging through the murk of bad amplification and tape-hiss [...]" (2000). Despite their allergy to technophilia, however, it is useful to examine the close connection of FURT's present instrumentarium to their performance practice: three networked laptops and identical MIDI keyboards and faders at a shared table. This clearly supports the idea that the group works "as one person rather than two" (Barrett and Obermayer 2000). The significance of this in the context of the scores for *fOKT* will be addressed below.

65. Barrett notes that the duo's identity is also "invariably treated as a single unit by Evan Parker in the schematic scores for his Electroacoustic Ensemble" (Barrett, personal email to the author, 23 August 2016).

Barrett's Notation for Improvisers

With *transmission IV* (1999), the fourth of six movements for solo
stereo electric guitar and electronics, these two strands of Barrett's
musical life began to intertwine on the page. The score looks much
like its through-composed antecedents, with one major exception:
between the densely notated fragments, the guitarist may impro-
vise.

> The lacunae may be occupied by silence and/or improvisation.
> Improvisations may or may not be extrapolated from the notated
> material (or the notated or improvisational playing of the other
> performer, or even material from outside the work, though the latter
> option should be approached with the utmost care and sensitivity),
> and are completely free with respect to timbre, dynamic and so forth.
> (Barrett 1999, introductory notes)

In an essay on *CONSTRUCTION* (2011), a cycle of pieces that
contain strategies similar to those explored in *transmission IV*,[66]
Barrett locates the origins of his engagement with notation for
improvisers in a profound experience of performing Cornelius
Cardew's *The Great Learning* (1972). Cardew's mammoth verbally
notated work, based on texts by Confucius, was written for the
Scratch Orchestra,

> an experiment in collective musical creativity of which Cardew was
> a founder member and whose aesthetic identity was to a great extent
> defined by *The Great Learning*. This work consists of seven *paragraphs*
> corresponding to the division of the original text, and the longest of
> these is Paragraph 5 [. . .]. The second half of Paragraph 5 is a free
> improvisation [. . .].

> Something that stuck in my mind about this experience was the
> way that this improvisation, despite being in many different senses
> "anarchic", was somehow informed and imbued with particular
> qualities by the actions which preceded it, and by their disciplined
> nature, without Cardew having had to say anything in the score
> about *how* the performers should approach it. [. . .] This seemed to
> me, as it no doubt seemed to Cornelius Cardew, to be trying to say
> something about how a society in balance with itself might become
> self-organised, so that the idea had resonances far beyond addressing
> the relationship between improvisation and preparation in narrowly
> musical terms. (Barrett 2011)

Barrett's turn to notation for improvisers was thus motivated not
only by technical or aesthetic concerns, but also by political ones.
The social relationships within collective music making – what Born
calls the "microsociality" of performance (2017, 52) – were the crux
of that turn. Barrett aimed for contingent performer choice not
merely to shape the musical structure, but to co-constitute it:

> a composition will have clarity without being defined in advance to
> the point of giving instructions to performers, instead providing the
> performer with a precisely imagined common point of departure and
> thereafter leaving them to use their imagination and responsibility.
> (Barrett 2011, 1)

66. For a discussion of these strate-
gies, which Barrett calls "seeded
improvisation", see Barrett 2014.

Regarding this point, we see a number of clear connections to Halprin's motivation for developing the RSVP cycles. Both Barrett and Halprin take pains to distinguish their views from chaos and anarchy; both emphasize the responsibility of participants; and both caution against the destructive potential of determining results in advance of the process. In many ways, their ideas on the nature and power of notation in collective creativity fit hand in glove.

Nevertheless, their deliveries differ. *The RSVP Cycles* is saturated in the idealism of 1960s San Francisco counterculture, and the communalism that Halprin sought to bring to The Sea Ranch from his experience on a Kibbutz. A close parallel can be found in the work of designer, systems theorist, and fellow "hippie modernist" (Castillo 2015) Buckminster Fuller (1895-1983). By contrast, Barrett's edgier approach bespeaks his coming of age in – and overt resistance to – the repressive conservatism of what Derek Bailey has called the "Thatcher Winter" (Bailey 1987), during which many of the UK's public services and cultural funds were systematically dismantled.[67] Such connections are hard to miss in Barrett's head-on critiques of the musical culture in which the microsociality of his music is embedded. The following conclusion of an essay on *Blattwerk* (2002a) is, for its frankness on this subject, worth citing in its entirety:

67. For more on this note, see "Thatcherism, Big Brum, 'Existence'" (Bond 2013), an interview with playwright Edward Bond, whom Barrett cites below.

> Finally I would like to return to my reasons for wanting to explore regions beyond the purview of the 20th century composer/performer relationship. My reasoning could be summarised as follows:
>
> (1) My personal experience of listening to contemporary music is that, with few exceptions, the art of composition, as it is "understood" by the institutions which purportedly exist to promote and nurture it, is moribund in comparison with what is being achieved and developed in the context of improvisation.
>
> (2) I believe this exhaustion in the world of composition has straightforwardly political roots in the way that the accepted social model of this art mirrors the structure of the society which generates it, that is to say, it is characterised by dehumanising economic/power relations. It is therefore no wonder that composers (to name only these) seem to have only two choices before them: to capitulate to commercial interests and become small-business entrepreneurs in the music industry, or to turn inwards, towards a "group-solipsism" where they and their peers can convince each other that their creative impoverishment is actually something vital and significant. I feel it is necessary to reject both of these standpoints as different forms of *fin-de-siècle* pessimism, neither of which can produce a visionary art worthy of the potential of human imagination and intelligence.
>
> (3) Nevertheless, there is nowhere else to go; and, as I hope to have made clear, I believe that the art of composition in the widest sense is not exhausted. Most of the work I have done in recent years has had as a fundamental motivation a search for ways to "make it work", in the context of various collaborative and collective musical activities. This isn't the place to enumerate these activities, nor is it yet the time, at least for me, to assess them. For

the present I would merely like to suggest that *Blattwerk* is intended to take its place in this process, or at least in defining some potential directions it might take. Every musical score embodies a question, to be answered by its performer(s). (Most composers seem only interested in receiving the answer YES.) What I am trying to do here is put that question in the musical foreground, in the hope that when the performer makes his/her music in response to it, some opening-out of the imagination comes into being which might not have occurred in other circumstances, and in the hope that this process communicates itself to activate the imagination of the listener. This may seem like a tall order; but in the words of Edward Bond, "clutching at straws is the only realistic thing to do." (Barrett 2002b)

Despite the overall acrimony of this text, Barrett presents a ray of hope in point (3) that brings us back to the proposal I outlined in the introduction to this chapter: "a question, to be answered by its performer(s)" – an invitation to collaborate on something *in particular*. By conditioning the open-ended processes in his notation for improvisers with a "precisely imagined common point of departure" (Barrett 2011, 1), or "seeding" them (see Barrett 2014), he goes a step further than clutching at straws. He takes responsibility for his authorship – making his *own* position visible – and addresses what I consider to be the major problem with the RSVP cycles: its failure to represent power relationships.

On that note, we now turn to a case study for a new proposal:

Invitation + Question + Response = Collaboration = Liberation (?)

FURT, fORCH, fOKT

1. (R)

The first three installments of *fOKT* (2005) were written for a bespoke ensemble of eight improvisers entitled fORCH.[68] The genealogical origin of the project can be traced to FURT, Barrett's electronics duo with Obermayer:

> fORCH was initially formed, at the invitation of Reinhard Kager,[69] for the 2005 New Jazz Meeting of the SWR (South West German Radio), which consisted of a week of intensive rehearsing and recording followed by four concerts. [...] Expanding FURT into a new kind of "orchestra" (hence the name fORCH) had been an objective for many years, and the SWR project created an opportunity to establish such an ensemble, in which the electronic duo was combined with vocalists and instrumentalists, all leading players in the world of improvised and experimental music who have developed their own unprecedented sounds and techniques. (Barrett and Obermayer 2009)

The players chosen for the SWR event – which included four concerts in Baden-Baden, Karlsruhe, Basel, and Stuttgart – were John Butcher (saxophones), Rhodri Davies (harps), Wolfgang

68. Six versions in total were written between 2005 and 2009. In 2012, Barrett also co-composed a piece with Obermayer for fORCH entitled *spukhafte Fernwirkung*.

69. According to Barrett, Kager was at the time "in charge of the jazz department at SWR; one of his last acts there before the restructuring of the company impelled him to resign and return to his home two of Vienna was the commissioning of *spukhafte Fernwirkung*, so that he's been involved in fORCH for its whole history so far. The inclusion of Wolfgang Mitterer in the original lineup was his idea. I hadn't met Wolfgang before the initial sessions but was aware that his work in some ways followed a comparable path to my own" (Barrett, personal email to the author, 23 August 2016). As we will see below, Kager's organization was a crucial factor in the evolution of the project, and can be very much considered a "Resource" in the RSVP cycle.

Mitterer (prepared piano), Paul Lovens (percussion), Phil Minton (voice), Ute Wassermann (voice), Richard Barrett (electronics), and Paul Obermayer (electronics). As Barrett and Obermayer note, all of these musicians were experienced improvisers; two of them, Lovens and Minton, had rarely worked with notation.[70]

The ongoing practice of FURT; Barrett's wish to expand its principles to fORCH; the rehearsal phase and concert tour made possible through the SWR New Jazz Meeting; and the ensemble members' backgrounds all form the initial (R) of the project. It is important to note that they do not behave as discrete items on a list. Rather they form an integral *situation* from which subsequent steps in the cycle emerge. Just as the personnel, landscape, creative wishes, and history of The Sea Ranch were dynamically linked, so do the components of (R) in *fOKT* condition the next step in the cycle together. Some of those conditions:

- A long, intensive rehearsal period meant the score would not need to be comprehensive; there would be plenty of time for personal communication and experimentation.

- The score(s) would need to be written in a way that Minton and Lovens would respond to – i.e. not in conventional notation – if they were expected to pay it any heed.

- The players would all bring their diverse, idiosyncratic methods and sound worlds to the piece. The ensemble would therefore not only passively extend FURT's history and identity, but also actively transform and potentially confront it.

2. (S) – Entextualization

The first three scores for fORCH, *fOKT I-III* (2005), were prepared by Barrett before the week of rehearsal in Baden-Baden. Though each was meant to be performed on a separate concerts of the tour – they comprise a unified bundle. Each score makes use of a similar notational format and refers to the same legend, instructional modules, and musicians. According to Barrett, "the first set of fORCH scores served to short-circuit a process whereby FURT's aims and methods would infuse the whole group" (Barrett, personal email to the author, 5 August 2016). The scores of *fOKT I-III* can thus be considered an entextualization of FURT's improvised praxis.

In my chapter on Ben Patterson's *Variations Double-Bass*, I introduce the term *entextualization* as "the 'process of rendering a given instance of discourse as text, detachable from its local context'" (Barber 2007, 30). In *fOKT*, as in *Variations*, improvised discourse precedes the written score; it is therefore important to consider how the score reflects and mediates rather than defines it.

What aspects of this praxis are entextualized, and how? To begin with, we may note some superficial traces. One of these is the predominance of vocal material. As Barrett and Obermayer note,

70. Minton: "I would have used conventional notation for learning music, back in history. Now I prefer no notation and I very rarely get asked to sing proscribed music, its more like"do what you want here! And stop around here!" (Minton, personal email to the author, 2 August 2016)

A constant strand in our output has been the appearance of diverse vocally-derived materials, using our own or sampled voices, which seem primarily to be engaged in the (often desperate) attempt to articulate a message whose import remains out of reach. (Barrett and Obermayer 2000)

Ute Wassermann and Phil Minton are, of course, no ordinary singers. Their extraordinary command of noisy and extreme vocal techniques is a fundamental part of their work as improvisers, which both complements and extends FURT's virtual manipulations of vocal samples.

Another immediately recognizable mark of FURT on *fOKT*'s notation is the fact that Barrett and Obermayer nearly always play together; I recall their comments on synchronicity (2000) when remarking how much more often their modules coordinate in comparison with the parts of the other musicians.

Barrett's use of physical gestures to cue other players is a third entextualized element. Barrett and Obermayer:

Extra-musical communicating in performance generally involves one of us reminding the other that something important ought to be about to happen. We did have a repertoire of signals, which were eventually discarded because they were never used. (Barrett and Obermayer 2000)

Although these signals may never have entered FURT's microtradition, the group's "attempt to articulate a message whose import remains out of reach" (2000) seems to be embodied in Barrett's highly kinetic presence on stage.[71] This is extended into *fOKT* not only through hand signals at the beginning or end of larger sections, but also in "coordinated modules" (see below) where Barrett and other members of the ensemble gesture to musicians spontaneously to trigger textural changes.

FURT's aims and methods are most deeply and dynamically reflected in *fOKT*'s timeline-based score, with "tracks" that correspond to each player. The track notation shares in common with conventional notation a vertical distribution of parts that correspond to particular voices; players read their tracks from left to right. But unlike in conventional notation, material consists not of pitches, rhythms, and specified sound events, but rather of modules that refer to eight event types within which the players improvise for a rough duration.

Event types include (1) Textures, which "describe a point of arrival or departure for a process" detailed on a case by case basis; (2) Duos, which link specific players as a subgroup within the ensemble playing one of two loosely defined material types; and (3) Coordinated Events, in which Barrett's "unambiguous hand signal[s]" cue different types of designated behavior from "explosive bursts" to guided solos that suddenly change character. Event types (5-8) refer to microsocial relationships of a given player or subgroup to others in the ensemble. This category includes (4) Solos, (5) Accompaniments, (6) Perturbation, and (7) Transitions. Free improvisation

71. See for example `https://www.youtube.com/watch?v=7sc/_fh0M9v8`.

is also included, represented by an infinity symbol (). (1-3) are often combined with (5-7).

Specific modules refer to sound objects (T4: Points – "almost exclusively short sound with longer silences between", or D3b: "breathy and consonantal sounds"); individual processes (Transitions – "gradual or stepwise transformations within or between any of the other types of activity"); and socially distributed processes (A: "as it were the opposite of Solo [. . .] affected by everything else which is going on at that point relating"). These are often combined in a single module such as C3:

> C3: Ute/John/Phil: begin sustained, interwoven sound at first cue
> (like T3 "submerged" material but generally louder); everyone
> changes sound (in timbre, pitch etc.) instantaneously at each cue
> as if switching between radio stations or CD tracks." (Barrett 2005,
> "Coordinated Events")

That the modules' material, subjective, and intersubjective modalities overlap is a distinguishing feature of *fOKT*'s notation. Timeline-based notations in general are common in notation for improvisers (see Bob Ostertag's *Say No More*, Werner Dafeldecker's *Small Worlds* (2004), or John Butcher's *somethingtobesaid* (2008)). Asking performers to "do what you want here! And stop around here!" with loose guidance, as Minton suggests (see fn. 70), is indeed a practical and transparent way to compose for and/or with musicians who may not work, or wish to work, regularly with notation. But whereas Ostertag's, Dafeldecker's, and Butcher's timeline notations simply describe who should play with whom and/or roughly what kind of material should be employed at a given point, Barrett's case is more complex than Minton suggests.[72] The majority of Barrett's modules ask each performer to be aware of several levels at once (much as his through composed music does), and often multiple modules occupy the ensemble simultaneously. This results in a meshwork of cross-referenced sounds and contingent processes, potentially tethering the players in subtle and unpredictable ways.

The multidimensional aspect of the modules reflects and extends FURT's unique approach to sampling, in which multiple layers of sound objects are processed in real time, often beyond recognition. Barrett and Obermayer explain their first discovery of samplers in 1986:

> Sampling was obviously the way to go – but, crucially, with the
> purpose of extending (as far as our imaginations would stretch)
> the accessible sonic repertoire of the duo without dragging around
> a truckload of instruments and growing several extra arms each,
> rather than buying into a postmodern world of undigested quotation.
> That was clear from the start, and has become ever more clear; once
> a sampled sound has found its way into a FURT performance we
> seldom have any idea ourselves as to its origin. Sometimes we sit
> around at home listening to a CD and are shocked by the surprise
> appearance of a FURT sound in somewhat unfamiliar (ie original)
> form. (Barrett and Obermayer 2000)

72. To clarify: I consider notational and/or aural complexity to be neither a virtue nor a vice; it is simply a unique feature in this case. I should also point out that the simpler notation in Ostertag's, Dafeldecker's, and Butcher's pieces do not necessarily result in simpler music.

In *fOKT* the modules act as conceptual "samples", assigned to the performers who "process" the material according to their own radically different methods and sound worlds. When multiple modules are played at once, and begin and end at different times, their individual identities are positioned for scrambling in the dynamic polyphony of the whole. The kaleidoscopic mashup that is likely to ensue – a FURT trademark – is different in kind from the effects of notation and sampling in *Say No More*, for example. Despite all the ways in which Ostertag distorts and recontextualizes material through processing and transcription, he maintains the identities of the four instrumental voices consistently. Furthermore, he reinforces their integrity through a vocalist/rhythm section dynamic – something rather unthinkable in *fOKT*, where individual identities are perpetually refracted.

3. (R) = ($R_0 \rightarrow V_0 \rightarrow P_0$ ↻) – *Remapping*

Considering the particular process that the score entextualizes, it is somewhat misleading to map *fOKT*'s first steps on the cycle simply as (R) → (S). A richer and more exact mapping nests aspects of FURT's ongoing practice in (R) directly. FURT's practice constitutes its own ur-cycle, which does not use written scores: $(R) \rightarrow (V) \rightarrow (P)$:

Figure 4: fOKT – (R) remapping

- (R): sample library, jointly chosen instruments and software, synchronicity and duo history
- (V): preparation and experimentation with samples, individual live processing and decision making process during performance
- (P): collective improvisation in concert

Adding subscript 0 to designate that the ur-cycle is prior to *fOKT*, and a sign to denote that the cycle is repeated (↻), we have $(R_0 \rightarrow (V_0) \rightarrow P_0$ ↻). If we nest this ur-cycle back in (R) and combine it with (S), its entextualization, we obtain the following new mapping:

What this operation makes visible is that the feedback of FURT's microtradition remains in movement, and the score emerges from it: an invitation to collaborate on a concrete question. This is a far cry from modeling the first stages of *fOKT*'s inscription as the linear process (R) → (S), which suggests that (R) becomes frozen or absent during (S). Neither of these is the case, as FURT's work grew from within the process of composing and performing *fOKT*; indeed one may infer from Barrett and Obermayer's comments that this was precisely the point of the project.

4. (V) – *Rehearsal*

In my discussion of the explanatory potential of *The RSVP Cycles* above, I claim that in order to understand the social dynamics of a score for improvisers, one must look beyond notation to the contingent particulars of its use. In the case of *fOKT*'s rehearsal process,
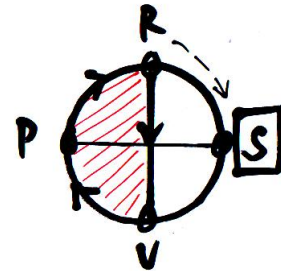
(V), this is a difficult standard to uphold. I was not myself a performer or composer of *fOKT* (as I am in most pieces included in *Tactile Paths*), nor did I perform ethnographic research in Baden-Baden in the week prior to the premiere. Furthermore, there is no extant documentation of this phase to work with (as there is for The Sea Ranch). I shall thus offer a few brief speculations on what (V) might have entailed, working forward from the structure of the notation and backward from subsequent steps that I can observe in recordings.

The performers, we can assume, began the project with the score. This can be inferred from the fact that Barrett had prepared the score in advance, and that the project as a whole had no previous history or "shared language" to build upon. (Most of the players, however, had worked together in different constellations before, so a certain degree of mutual familiarity would have been in play.) Since the recordings of *fOKT II* and *fOKT III* correspond fairly closely to the structure specified in the score, we can also assume that the players worked with the notation in good faith.[73]

The notation is sufficiently complex that it would have required the performers to study the score, both in order to memorize the nomenclature, and to understand how their own modules linked to other players. But the pace of change between the modules in individual parts is not so fast that it would have required substantial, if any, individual practice. Barrett was of course also present during rehearsals as a performer, so other performers might have shortened the learning curve by clarifying doubts with him personally. Indeed, it seems clear that the notation is geared toward group learning, and (V) would have occurred mostly in the context of playing together.

5. $(P) = ((S \to R) \to (V \to (P) \to (R) \circlearrowleft) \circlearrowleft)$ – *Recontextualization*

Here I would like to address how ensemble performance of *fOKT* traverses the RSVP cycle in both rehearsal and concert performance. In the same way that I nested FURT's ongoing microhistory, or ur-cycle, in (R), it seems appropriate to nest another feedback loop in (P). We assume again the performers start with (S).

In a conventionally notated score whose material is given, performers generally proceed to (V) (in dialogue with (R)) on the way to (P), as I explain in my expansion of Halprin's Bach example. Even though Amirkhanian's graphic score *Serenade II* does not prescribe materials, it shares the same path, for according to him and Halprin its indeterminate symbols are in any case semantically "interpreted" directly as sound and action. While the bandwidth of possible interpretations is perhaps wider in *Serenade II* than in the Bach example, movement on the RSVP cycle is the same in both cases.

fOKT is different because of the multivalent nature of its mod-

73. This cannot be taken for granted in all notation for improvisers. Derek Bailey, for example, blithely ignores the rules in John Zorn's *Cobra* (2002). In personal conversation, he told me once that he initially refused Zorn's invitation because he had no wish to play the score; Zorn, ever the iconoclast, then accepted that Bailey would free improvise anyway. Likewise, the quartet Mostly Other People Do The Killing makes a deliberate show of their disinterest in "interpreting" *Treatise* in Wooley 2015b. In both cases, the lesson is that highly indeterminate notation will not always be dealt with scrupulously by performers whose practice does not depend on it. (Nor does scrupulous reading always yield the most interesting musical results.)

ules, in which players choose the material themselves. The path therefore first passes back through (R). (R) here consists not only of the inventory of conditions that I mention above, and FURT's ongoing practice, but also the resources of the ensemble. What do these include?

First and most obviously, they include the individual performers' resources: the unique embodied sound worlds and methods for which they were invited to participate in the project in the first place. Even where material is given in the score – and sometimes, as with pure[74] event types (4-7), it is not – it is so loosely defined that it acts more as a suggestion or filter on the performers' own material, rather than as a prescription *per se*.

Second, if the performer does not begin the piece with a solo (as Davies does in *fOKT II*), unpredictable activity in the rest of ensemble will also constitute an element of (R). To be sure, group interaction is usually present in any collective improvisation, but its centrality is unavoidable here when the score couples players to cues, specific subgroups, and group textures.

A third aspect of (R) within (P) is the evolving performance practice of fORCH itself, or what percussionist and composer Burkhard Beins' calls "collective spaces of possibility":

> Collective spaces of possibility already begin to establish themselves when the same group constellation meets for a second time after having formed some initial common experiences. Through continuous collaboration and by being repeatedly revisited [...] their shape and content become ever more clearly defined and increasingly differentiated. This phenomenon appears to take place whether those who are involved are actively aware of it or whether they tend towards appreciating or rejecting such developments. (Beins 2011, 171)

Without my having been present with the musicians in 2005, it is difficult to assess how the microtradition of fORCH emerged (or how it was fORGED so to speak), and "whether they tend[ed] towards appreciating or rejecting such developments" (Beins 2011, 171).[75] However it seems fair to assume that the intensive rehearsal period and concert tour would have fostered a collective space of possibility that was at least recognizable. It is telling and poetic in this sense that Barrett and Obermayer begin the performance *fOKT III* with samples of what sounds like a fORCH performance from the previous days.[76]

From (R), performers proceed to (V) on the way to (P). As I mentioned earlier, valuation for an improviser can take place in real time as she mediates what she hears as she plays. In *fOKT*, (V) serves this function as well as managing the implementation of processes that pass through (R). That is, the performer simultaneously evaluates and acts on both the contingent and empirical aspects of (R) I mention above, and the indications of the score that condition them. This dual function of (V) may manifest in simple tasks, such as checking in with the timeline in the middle of an ongoing module. Due to the internal multivalency of the indications themselves,

74. By "pure" I mean not combined with event types (1-3), as in T1(A), the second module of Barrett's and Obermayer's part in *fOKT III*.

75. Barrett: "Fairly early in the rehearsal process it became clear that octet improvisations were a possibility, which I hadn't dared to put into the original schedule. The subsequent concerts in London, Aberdeen and Huddersfield followed the format of a fOKT piece plus a free octet improvisation of about the same length (Paragraph 5 [from Cardew's *The Great Learning*] rearing its head again!)." (Barrett, personal email to the author, 23 August 2016)

76. Barrett adds: "At the end of each rehearsal day we had sessions with each of the other performers – except Lovens who wasn't prepared to submit himself to this – where we recorded solo improvisations from them to use as the basis for our more or less processed sampled materials. These then played a central role in the trios for FURT+x which featured in each concert, on the fORCH double album and on the [2008] CD *equals* which consists only of six of these trios plus a FURT duo completely constructed from samples of the other fORCHists. sF [*spukhafte Fernwirkung*] then contains within itself such a trio, featuring Lori Freedman who was the new member of the group on that occasion. Maybe it should be added that Paul Lovens had relaxed his rule against 'being sampled' by the time the sF rehearsal/preparation sessions came along." (Barrett, personal email to the author, 23 August 2016)

it may also manifest in more complex tasks, such as negotiating when to make a given transition, or how to "ignore" another performer who is instructed to "interrupt" (see Wassermann's and Minton's first modules in *fOKT I*).

(P) itself may be thought of as a complex intersection and recontextualization of all the paths I have just described: the concrete materialization and interaction of individual (R)s and (V)s. The richness of this step in the cycle, the musical "now" so to speak, again challenges Halprin's own characterization of his model, in which he defines performance as "the resultant of scores and [. . .] the 'style of the process'" (Halprin 1969, 2). His definition suggests a linearity and fixity which, in my opinion, is fundamentally at odds with the dynamic structure of both the cycle and performance. After all, if one conceives of performance as the end of the cycle or a mere "style of the process", the RSVP cycle might as well be an RSVP line segment.

In *fOKT*, and indeed in all improvisations, what comes out of the process goes back in. Every sound and action produced in performance becomes a new resource for the group, to be valuacted upon by others. As a performance goes on, and as performers become more familiar with the mechanism of the score in repeated rehearsals and performances, the notation is likely to recede. For as in any written piece of music, the cumulative process of internalizing rules and relationships represented by (or in this case entextualized in) the notation renders the representation itself increasingly redundant. The score gradually becomes a satellite, a possible resource for ongoing improvisation.
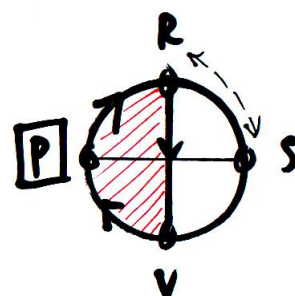

Figure 5: fOKT – (P) mapping

6. (R) = (R → V → P ↺) → (S?) – fOKT IV-VI *(2007-2009) and* spukhafte Fernwirkung *(2012)*

The central feedback loop that occurs in (P), $(V \rightarrow P \rightarrow R \circlearrowleft)$, has also occurred over the life of fORCH; the ensemble's "collective spaces of possibility" (Beins 2011) – its microtradition – has outgrown both the overt influence of FURT and the use of elaborate notation. As one may see, the scores of *fOKT VI* and *spukhafte Fernwirkung* (co-composed, it should be noted, with Obermayer) are so bare as to be hardly necessary; like Barrett's *codex VII*, they serve more as mnemonic devices than as genuine interfaces.

Minton's recollection of *spukhafte Fernwirkung* is revealing: "From what I can remember of richard and pauls [sic] piece it was like above ["do what you want here! And stop around here!", CW] and all the cues where [sic] audio" (Minton, personal email to the author, 2 August 2016). The role of notation in these projects was so minor, in fact, that Barrett was unable to fulfil my recent request for a copy of *fOKT V* because he had lost them! Nonetheless Barrett and Obermayer have remained members of the ensemble, and fORCH, in theory, lives on.
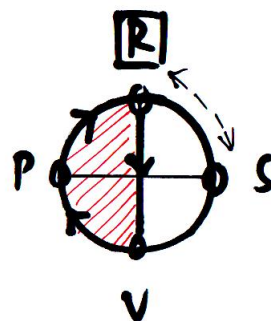

Figure 6: fOKT – (R) mapping

Conclusion – Valuaction

What lessons about notation, improvisation, and collectivity can we draw from the examples of *fOKT* and The Sea Ranch? In both cases, scores "energize" the collective creative process (Halprin 1969, 191); they stimulate and condition group interaction. However the nature and degree of the notation's impact on the process changes over time. At the beginning of the process, scores tend to have a more active role, directly mediating interaction between individual participants, or between the participants and other contingent elements of their performative environments (e.g. in Halprin's case the landscape, and in Barrett's case, instruments and temporal form). As the process evolves over time, however, activity energized by the score takes unpredictable turns and follows its own trajectories. That unpredictability stems not only from microsocial dynamics within the group, but also from factors not represented in the score – particularly the higher order socialities in which the creative process is embedded. Local feedback between participants becomes enmeshed with larger-scale environmental feedback, generating situational structure that diminishes the importance of the notation. Nevertheless, participants still use scores to agitate and reflect on the process in later stages.

The consequences of these principles, with respect to the political issues touched upon in this chapter, were very different for *fOKT* and The Sea Ranch. On the one hand, Halprin was forcibly removed from the creative process he set in motion by a participant whose power was not represented in the entextualization of that process; the motivation for his removal was greed. The main resource produced through the performance of the process – The Sea Ranch itself – was thus severed from Halprin's ecological principles and lost much of what made it a humanistic endeavor and profoundly original work of art. The Sea Ranch lives on, but its legacy is ambivalent. In a 2013 reflection on their work together, Halprin's fellow The Sea Ranch architect Donlyn Lyndon asks,

> What should our position be now? Pay attention widely to what's been built and to how it has affected individuals and community. Architecture should be considered as a form of thought, as well as a path of action. Examine how existing building patterns can be experienced and understood in place, to be criticized, advanced, countered, but not simply disregarded. The fruitful interchange between architecture that is thought differently and architecture that has familiar resonances can bring spirit to a place most effectively when it connects to what nature and culture have already invested there. (Lyndon 2009, 88)

In *fOKT*, Barrett articulated his position of power in the creative process by entextualizing FURT's performance practice. He then removed himself from it by setting up and taking part in a process of collective recontextualization. As a consequence, the resources produced through the performance of the process – multiple concert performances and recordings of *fOKT* – were severed from Barrett's

authorship and gained a life of their own. fORCH lives on, and in addition to having stimulated FURT, its legacy is a testament to the socially constructive power of scoring. What could the position on notation for improvisers in collective settings be now?

- Pay attention to what performers already play and how it has affected individuals and community.
- Notation should be considered as a path of action, as well as a form of thought; in Cobussen's words, an "invitation to make music together" (2016).
- Examine how existing microsocial patterns can be experienced and understood in new contexts, to be criticized, advanced, countered, but not simply disregarded.
- The fruitful interchange between theory that is thought differently and theory that has familiar resonances can bring spirit to music most effectively when it connects to what musicians have already invested there.

Invitation + Question + Response = Collaboration = Liberation.

Q.E.D.

Say No Score: a Lexical Improvisation after Bob Ostertag

A Score can become a notch cut or line, an account kept, number of points made, set of twenty, a topic, piece of good fortune, worst in repartee, and much more. And not to forget a Partitura from the Latin Pars indicating both partial, direction and task. It sounds like music but really isn't.[77]

I imagine these musicians meeting not to read scores but to improvise from available scores, as was common in the Renaissance. A recording of the music will become the basis for further improvisation by future musicians. [...] The basis for such music making is an original score, a program, a set of rules. But using recordings of recordings of recordings, this score will soon disappear behind the horizon of musicians who are improvising with continually reprogrammed memories.[78]

Introduction

Notation for improvisers calls much entrenched musical vocabulary into question. "Notation" and "improvisation", as I explain in "Chapter 0", are the most obvious cases, but also "compose" (see Ben Patterson's "new variation" in *Variations for Double-Bass*), "interpret" (see Cornelius Cardew's semantic vacuum in *Treatise*), and "read" and "write" (see Malcolm Goldstein's *Jade Mountain Soundings*) are among them. Because these pieces tend to dwell in liminal regions of musical labor, they challenge the way we usually conceptualize and talk about them.

In one way notation for improvisers encourages us to find new terminology that reflects contemporary practice. Perhaps for this reason, composer-improvisers such as Anthony Braxton (1985; 1988), Malcolm Goldstein (1988), Wadada Leo Smith (see Oteri 2014), and Cecil Taylor (1966; see also Bartlett 1995) have made colorful musical wordsmithery an important part of their work.[79] I myself have attempted to develop two new verbal constructs relevant to notation for improvisers in this dissertation. In "Entextualization and Preparation in Ben Patterson's *Variations for Double-Bass*", I borrow the term *entextualization* from anthropologist Karin Barber (2007). This helps to shed light on how Patterson embeds the contingencies of his own improvised performance practice in the score. In "Invitation to Collaborate – Répondez s'il vous plaît",

77. Eric Andersen (Andersen 2012, 79).

78. Vilém Flusser (Flusser 2011, 162).

79. Verbal creativity can also have its problematic side. Consider the first lines of an interview between Braxton and music critic John Corbett: "[M]y work in the past twenty-five years has sought to erect a trans-idiomatic context for exploration, and along with that context to create a tri-metric architectonic unit that could serve as a basis for recognition in the postnuclear continuum. I feel the quartet is an excellent example of a postnuclear, tri-metric unit that demonstrates stable logic information, mutable logic information, and synthesis logic information in one time-space, where there is one individual having extended open improvisation and in that same space there is a logic containing two musicians working together [...]" (Corbett 1994, 209). Such idiosyncratic writing makes it difficult for performers and scholars with whom Braxton has not worked directly to penetrate the meaning of his scores, many of which use abstract graphical notation (see Lock 2008). But one can imagine that this barrier is (at least in part) strategic, for two reasons. First, its nontransportability requires interested parties to come closer to Braxton personally, in effect building a community based on oral tradition. Second, the quasi-cosmological character of Braxton's language (and of his notation as well) might be likened to that of musicians such as George Clinton, Lee "Scratch" Perry, and Sun Ra, whose "black science fictions" (Corbett 1994, 19) articulate resistance to the music industry and white hegemony more generally. (For related thoughts on the nexus of jazz, racial politics, and language see Monson 1996, 73-96.) I would have liked to include Braxton's work in this dissertation, but I had neither the resources to spend time with him in person nor the time necessary to decode his writings thoroughly (particularly *Tri-axium Writings* (1985) and *Composition Notes* (1988)). Thus, I felt it would have been impossible to arrive at an authoritative result.

I adopt architect Lawrence Halprin's concept of *valuaction* (1969, 2) to explore how realtime self-editing modulates the improviser's interpretation of notation in performance.

But the music discussed in *Tactile Paths* can also encourage us to rethink and reinterpret old terminology. Indeed it is an important objective of mine to encourage readers to reconsider, and not simply discard, more familiar musical vocabulary and what it represents. The hope is that practitioners and scholars might thus see different, perhaps more, connections between various practices than are apparent from other discourses around music. Classical musicians, for instance, might recognize improvisational openings in notational elements that otherwise appear fixed and finished, such as articulation and ornamentation; and dyed-in-the-wool free improvisers might warm up to the potential of scores for diverse reasons, such as minimizing clichés in their own music.

With this objective in mind, I dedicate the present chapter to a brief exploration of a word that I have elsewhere used somewhat irresponsibly: *score*. In the other chapters of the dissertation I use the term almost interchangeably with *notation*, primarily in an attempt to refrain from numbing the reader with repetition. It is also as a result of my embeddedness in the world of practical music-making, where the two words differ very little in meaning. Beyond day-to-day usage, however, there are subtle but important differences between the meanings of these words that lead to deeper issues in the study of notation for improvisers.

Notation is often referred to in its uncountable form, like love or water. To me it has a casual, almost benevolent character; it makes communication possible. We use it to observe or "note" things that happen. We build, or improvise, on existing knowledge by "annotating" texts.

> Notation: The methods of writing down music so that it can be performed. (Rutherford-Johnson et al 2012a)

Scores on the other hand are countable, definitive, regulatory. The modern conventional score includes all the parts, or voices, arranged and synchronized in vertical order like soldiers in file. The score marks winners and losers in competitive sports. It defines success or failure in tests. Creditors keep a score of debts and payments. Scores are boundaries, the containers of notation.

> Score: A music-copy that shows in ordered form the parts allotted to the various performers, as distinct from 'parts' which show only that of one performer. (Rutherford-Johnson et al 2012b)

The English word "score" most likely has its origins in the cuts with which medieval scribes would rule blank parchment to prepare their manuscripts.[80] In close proximity to the word *score* are its equivalents *Partitur* in German, *partition* in French, and *partitura* in Italian and Spanish. As Fluxus artist Eric Andersen mentions in his quote at the beginning of this chapter, these words derive

80. "Until the twelfth century, most manuscripts were ruled in hardpoint, that is, with blind lines scored with a stylus or back of the knife. Scribes ruled hard and sometimes cut through the parchment by mistake." (Department of Medieval Studies, Central European University 2016)

from the Latin *pars*, or part. What Andersen does not mention is that they specifically derive from *partitus*, past participle of the verb *partire*, which also means to share. This collective sense of the score contradicts the top-down allotment of parts suggested by Rutherford-Johnson's definition of the word. Yet another sense of score is suggested by the common score form in jazz: the chord chart, a rough harmonic structure with or without melody that players improvise on. Nominally this term connotes greater freedom for the performer with respect to notation than score, but it also carries a tone of fixity which counterposes itself to the improvisation itself, like the sailing chart here described by anthropologist Tim Ingold:

> The marine navigator may plot his course on a chart, using a ruler and pencil, but the ruled line forms no part of the chart and should be rubbed out once the voyage is completed. (Ingold 2007, 85)

So: if *notation* for improvisers is processual, contingent, and unfixed – as I characterize it throughout this dissertation – what is a *score* for improvisers? Where are its boundaries? What does it contain? Herewith I would like to improvise on these questions through the lens of composer, electronics improviser, and historian Bob Ostertag's *Say No More* project (1993a; 1993b; 1996). *Say No More* offers ample opportunities to ruminate on these questions, for its score – which consists of both notation and recordings – is at the same time fluid in meaning and rigid in form, rich in suggestions and poor in details. Its notation and language are highly conventional, yet they point to an ensemble dynamic and a sounding music which are anything but.

In the following sections, I will unpack its themes and genealogy through three different notions of the word *score*: a cut, an index of a game, and a record kept. In doing so, I hope this lexical improvisation will lead us to a broader notion of what, and whether, scores for improvisers bound and contain. I will reflect on what these notions tell us about the potential for the medium of notation at a time in which the practice of writing music is, as Ostertag's project shows, increasingly obsolete.

1. Cutting and Pasting (back together) the Performer-Instrument Coupling

The *Say No More* project transpired over four "generations" throughout the 1990s:

1. Studio: *Say No More* and *Tongue-Tied* (1993)

2. "Live"/Live: *Say No More* and *Tongue-Tied* (1994)

3. Studio: *Verbatim* (1996)

4. "Live"/Live: *Verbatim Flesh & Blood* (2000)

The first generation began with unreleased solo recordings by three veteran improvisers: drummer Joey Baron, contrabassist Mark

Dresser, and vocalist Phil Minton (also a member of Richard Barrett's fORCH, an ensemble I discuss in "Invitation to Collaborate – Répondez s'il vous plaît"). Ostertag initially asked each player individually to record a solo improvisation with no prompt as to the type of material, style, or duration to be performed. According to the composer, the only information given to the players – other than a disclosure of the fact that these recordings would be heavily edited and integrated into a tape piece – was to

> play! I told them that I wanted them play their music, and that I didn't want a catalog or an inventory of things they did... you know, not little samples of this and that. But if they could somehow cover the range of their vocabulary as an improviser, [...] that would be what I would want. (Ostertag 2016)

Ostertag received a 30-60 minute recording from each of the performers and edited the material primarily in linear timeline-based audio software (the first version of Pro Tools). The primitive and delicate state of this technology at the time, according to Ostertag, allowed him to chop up and overlay his material, but not to process it. (By "process", I refer to alterations that cannot be achieved through fragmenting and/or layering the sound file, such as pitch shifting and time stretching.) When this was desired, Ostertag loaded the sound files onto an Ensoniq ASR-10 sampler and recorded himself "playing" the alterations on the sampler back into the Pro Tools session. This technique can be heard at 9:30-13:30 of the *Tongue-Tied* recording (1b) in the repeated upwards "smear" *glissandi* in the bass part. As one can hear, the tape collage takes the solo improvisations far out of context. Ostertag often fragments the source material to an atomic degree, rending it from the kinetic totality of its originary performances – the time and physical effort involved in creating it.

Here is the first cut of the *Say No More* project: Ostertag *scores* the coupling of the players to their instruments, of material to physical process. As I explore in "Seeing the Full Sounding", a key aspect of the improviser's practice is her physical relationship to her instrument. Instruments are not merely a means to the end of producing sound; they are structured environments from which musical materials emerge and against which they are developed.[81] They are a fundamental part of the recursive process of thinking, producing, and perceiving music both in real-time discoveries on stage and in the development of a personal "sound" over longer periods of time. Composer and digital instrument designer Newton Armstrong summarizes this neatly in the language of enactive cognition:

81. For further comment on the physical coupling of improvisers and instruments, see Oliveros 1984; Denley 1991; Bailey 1992, 98-102; Iyer 1998, 2008; Sudnow 2001; Neumann 2011; and Borgo 2014.

> In a sequence of on-going negotiations between performer and instrument, the performer adapts to what is uncovered in the act of playing, continually developing new forms of embodied knowledge and competence. Over a sustained period of time, these negotiations lead to a more fully developed relationship with the instrument, and to a heightened sense of embodiment, or flow. (Armstrong 2006, 6-7)

Whatever "flow" may have been present in the unedited recordings by Baron, Dresser, and Minton is throughly interrupted by Ostertag's edits. One can observe this even in the first minutes of *Say No More*, a drum solo followed by a bass and drums duo. Both the solo and the duo include looped fragments of high physical intensity. But they contain no trace of the physical work – the lifting of the arm, the recovery of the bow – required to have produced these sounds. Sectional divisions are hard-edged, with not a semblance of transition between Baron's positions at the drumkit or Dresser's changes from pizzicato to arco – all of which require time in the physical world. The relentless intensity of the material and the lack of physical preparation and release give the virtual instrumental parts a superhuman quality that renders them technically unperformable by humans playing physical instruments; this had important consequences for the next generation of the project, in which the players were asked to attempt this impossible feat.

However in addition to decontextualizing these improvisations, Ostertag also creates a new context for the material by combining the performers in a virtual ensemble. Although the original tracks were recorded in isolation from each other, the rhythms, dynamics, and types of material in each part often fit as if they had been performed together. At times, the virtual groove shared by Baron and Dresser is so tight that they sound like a live rhythm section – e.g. *Say No More* (recording 1a) at 5:15-6:30 and *Tongue-Tied* (1b) at 4:20-5:00. Paradoxically, this new treatment gives the performers' original material a kind of stylistic familiarity that it may not have initially had; notwithstanding the fragmentation of the players' individual tracks, the overall impression is one of a cyborg "studio band".[82]

While the technical nature of Ostertag's cut in (1) may seem exceptional among scores for improvisers, or improvised music more generally, technology scholar Aden Evens reminds us that the

> [g]eneration of resistance is essential to creative improvisation; the body must be made to feel awkward in relation to the instrument, the known must be un-known. [. . .] At some point in the musician's training, the instrument ceases to offer an adequate resistance. The interface between player and instrument becomes too smooth, and familiar patterns are so comfortable as to discourage the invention or investigation of any other possibilities. To escape the trap of their own training, some improvisers alter their instruments, taking them apart, adding pieces on, and in general ensuring that their practiced playing techniques are either untenable or will generate unfamiliar results. (Evens 2005, 154)

In my opinion, Ostertag also aimed to generate resistance to – or cut and reassemble – performer-instrument couplings in the first generation of the project. Rather than altering his performers' instruments directly, though, he encourages the "invention or investigation of new possibilities" through the means of studio editing. In this first generation of the project the performers themselves were not directly affected by the process. However, in the second

82. The term "studio band" refers to another more common form of virtual ensemble in commercial music, whose players do not play together at the same time in the studio, but rather are overdubbed and mixed in the final production to simulate having done so. The sound of music made with this recording technique differs from that of a band playing together in physical space primarily, though not only, in its lack of a unified "room sound" – bleeding between microphones placed on musicians in the same space – and/or subtle interactive inflections between musicians (as heard, for example, on the band Steely Dan's 1977 record *Aja* – see Crowe 1977).

generation Ostertag's cut took on a new meaning when he asked the performers to reproduce the recording in person.

2. Index of a Game

In the next phase of the project, Ostertag brought together a live group to play (1) in person. *Say No More In Person* illuminates the ludic notion of the word *score*: the "record or register of points made by both sides during the progress of a game or match; also the number of points made by a side or individual".[83] Ostertag's score indexes, or points to, a game with no clearly defined rules or playing field.[84]

Indexicality distinguishes Ostertag's notation from many other musical game scores. Pieces such as John Zorn's *Cobra* (see Brackett 2010 and Cobussen 2016), Vinko Globokar's *Individuum-Collectivum* (1979), Iannis Xenakis' *Duel* (1959) and *Stratégie* (1962), or Robin Hayward's *Borromean Rings* (2011), written for my duo with him entitled Reidemeister Move, all make the rules in advance and define fields of play. The score of *Say No More*, on the other hand, points to (and occasionally mediates) a game happening outside it. How so? Of what does that game consist?

Some answers can be found in the interim between (1) and (2). After composing the first generation of *Say No More*, Ostertag invited Baron, Dresser, and Minton to perform a live version of (1) together. But drummer Joey Baron declined the invitation, expressing reluctance to perform the distorted Baron 2.0 that Ostertag had created in the studio. Ostertag frames Baron's hesitance in terms of the drummer's perfectionism:

> Joey called me up and he said, "I've listened to it several times, which is fantastic, and I love it, but I can't play it." I said, "Well I know you can't play it, but that's not a problem! The point is not to play it note for note – the point is to use this *process* to generate an ensemble repertoire of music that's organic to the way you all play. We don't have to reproduce the recording – that's OK." Joey just said, "Yeah, but we can't play it. You've made the perfect realization of this, and all we can do is fuck it up." [...] Joey's a perfectionist you know, he wants to play it *right*. So that was fine, and at that point he dropped out. (Ostertag 2016)

Baron's desire to "play it right" would of course have been in conflict with Ostertag's *scoring* of performer-instrument couplings in (1), in which the composer wished

> to highlight the tense and problematic relation of human and machine. In effect, the players were put in front of a machine-made mirror of themselves. It was not a perfect mirror, but more like the digital equivalent of a funhouse mirror that was curved, with wacky lenses that distorted the image into something superhuman. In the performances the musicians tried to keep up with their digital reflection, a task at which they could only fail. (Ostertag 2009, 138)

Here is the heart of the game: keeping up with one's digital reflection. What makes it a game, rather than simply a celebration of

83. Oxford Dictionaries , s.v. "score", accessed 02.09.2016. `http://www.oed.com/view/Entry/173033?rskey=EqgMSQ&result=1&isAdvanced=false`.

84. In this sense *Say No More* might be compared to buzkashi, the national sport of Afghanistan in which horse-mounted players try to drag a goat carcass into a scoring circle. According to Fluxus artist and design scholar Ken Friedman, "Buzkashi has few rules, perhaps none. The field has no boundaries in the legendary tournaments of years gone by. A horseman may do nearly anything on the road to victory" (2016, 9).

failure? The *Gestalt* here is different in kind from authentic celebrations of failure, as for example in early chamber music by Richard Barrett. In Barrett's music, the spectacle of the performer failing at transparently complex tasks is conceived as an exposition of the absurdity of performance itself, and of the art of composition in the age late capitalism (see Fox 1995). There is no development of failure, there is only "the void" (see Hewett 1994).

By contrast, Ostertag's score is ultimately a kind of sympathetic dare, a way of catalyzing the second stage of the game, in which collective creativity takes over. As Ostertag reveals in the previous interview fragment, "the point [was] to use this process to generate an ensemble repertoire of music that's organic to the way you [Baron, Dresser, and Minton, CW] all play" (Ostertag 2016). Instead of the word "organic", we might also say "hyper-organic", to highlight the playful tension Ostertag sought to embed in this new repertoire.[85] Ostertag's sense of the game echoes an important aspect of play brought up by improvisation scholar Marcel Cobussen: the opportunity to stretch one's competence.

> "Baby reaching for a toy, pussy patting a bobbin, a little girl playing ball – all want to achieve something difficult, to succeed, to end a tension" (Huizinga 1970: 29). This element of tension arises from the innate compulsion to expand one's own skills; any game requires the development of competences, be they physical, mental, or social. (Cobussen 2016)

Such an opportunity must have appealed to Dresser and Minton, as well as drummer Gerry Hemingway, who accepted Ostertag's invitation to take Baron's place. This change in personnel brought a new dimension, a new challenge to the project. It added complexity to the task of recreating Baron's part, as Hemingway would not have had intimate knowledge of the original recording session and the techniques Baron 1.0 used to produce the material given to Ostertag. Hemingway and Dresser also had a long history together. They had been friends and collaborators since at least the early 1980s, as pillars of the by that time well-known community of iconoclastic improvisers in New York's "downtown" scene (see Lewis 1996 and Brackett 2010). (Ostertag had also been a part of that community before temporarily leaving music and moving to central America for most of the 1980s (Ostertag 2009)). The bass and drums team had also worked together for several years with Braxton's "classic quartet", which included pianist Marilyn Crispell (see Lock 1989).

What role did notation play in this game? Relatively little. The two scores of (2) are ostensibly a transcription of the two tape pieces from (1), plus parts for Ostertag on live sampler. But the notation is not a transcription in the usual sense – a preservation, documentation, or reorchestration of an existing piece or performance. Rather, it behaves as a "road map" (Ostertag 2016) to the tape itself:

85. This it shares with Barrett's more recent compositions for improvisers, such as *fOKT*, which extends and amplifies the resources of his duo FURT.

> I don't really think of it [the performance of (2), CW] as performing
> transcriptions because really the score is the tape. I don't think the
> transcribed score would make much sense if you couldn't hear the
> tape. And the idea was to make the transcribed score as minimal as
> possible [...] you want to put a piece of paper in front of them to
> remind them of what goes where, when you do what, but really they
> should learn it by listening to the recording. (Ostertag 2016)

To this end, Ostertag's notation clearly marks sectional divisions
(with capital letters); players' entrances and exits; repeats; gen-
eral qualities of materials in each section; and, where appropriate,
specific pitches and rhythms. None of the "ambiguities, imper-
fections, contradictions, and so on, which constitute what might
be called the 'poetry' of notation" (Barrett 2002) are really at play.
The medium of notation is accorded no extra meaning that might
detract or distract from the musicians' game of recreating their su-
perhuman/superorganic selves. From this, one can infer that (1) is
not only *a* part of the score, but its most important part. As I will
show, this has provocative consequences for (3).

Ironically the first performance of (2) was not on stage in front of
a concert audience, as one might expect from a project that thema-
tizes the "tense and problematic relation of human and machine"
(Ostertag 2009, 138). Rather, the band first came together to record
the pieces "live" in the studio of Austrian National Radio (ORF),
whose radio art producer Heidi Grundmann had commissioned
Ostertag to produce *Say No More In Person* for her *Kunstradio* broad-
cast. The recording session, and the days of rehearsal leading up
to it, were fraught with logistical difficulties and political battles
within the radio station, which ultimately led to creative hurdles:

> This was in the early days of *Kunstradio* and the ORF was not sup-
> portive of her [Grundmann, the producer of (2), CW]. There were
> actually people trying to kick her legs out from under her very
> strongly. So we all arrived in Vienna, and we were supposed to
> have three or four days of rehearsal and then this recording session,
> [...] and the powers that be at the ORF had given the studio time
> to somebody else. So then we had to take a train to Innsbruck [a
> small city in western Austria, CW] to have a place to rehearse. We
> got to Innsbruck, and the [regional office of the, CW] ORF had also
> given the studio time [to someone else, CW]. So then we had gone
> to another town – there was still no place to rehearse – and they said
> there was this garage that a local rock band played in and we could
> rehearse in this garage. We went over there at night and dropped our
> instruments off [...] it was the middle of winter, and there was no
> heat in the garage and the idea that we were supposed to rehearse
> in this cold place – it was just insane. We came back in the morning
> and the whole street was full of firetrucks because the garage was on
> fire [laughs]... Mark's bass was in the garage, and that was when
> Mark turned to me and says, "Ostertag – you got my number in
> your book? Cross it out!" So then we had to go back to Vienna and
> record with no rehearsal. It's the first time we've [Ostertag, Dresser,
> and Hemingway, CW] met, we were supposed to have had days of
> rehearsal and we didn't have any, and it was all on the fly. They put
> us in this recording studio – their first digital recording studio [...] –

and it was recorded to hard disk. But they wouldn't give her [Grund-
mann, CW] an engineer; they were really trying to shut her down.
The only engineer she could get was a guy would did radio theater,
and he'd never miked a drumset, and then they wouldn't give us
the good mics – they said the good mics were only for the musical
engineers. [. . .] You know that first piece is particularly tense, par-
ticularly for Phil, and Phil said, "Bob, I hope you like the first take,
because I can't do this more than once in a day." We got four-fifths
of the way through it and the whole studio crashed. All the data was
lost. [laughs] So that was hardly an optimal situation. That CD was
made with no rehearsal, second take, everybody in a grumpy mood,
bad microphones, the engineer doesn't know what he doing. [. . .]
If you're going to make music that's outside the box, then you have
to accept the circumstances that you get. And they're never optimal.
(Ostertag 2016)

I include this story not only for entertainment value, but to show
that the game indexed by the score also included Ostertag himself.
By inserting himself into the process, rather than simply challeng-
ing Dresser, Hemingway, and Minton from the outside, Ostertag
accepted the challenge set to his bandmates as a performer, plus
the additional challenge of stretching his own competence as a ban-
dleader, much like Zorn did as the conductor of *Cobra*,[86] or Braxton
did while on tour with his classic quartet in the 1980s (see Lock
1989).

86. See https://www.youtube.com/watch?v=yp-oZbmsQVw.

To bring the human/virtual cycle of (1) and (2) to a temporary
conclusion: thinking of scores as containers of rules and regula-
tions, or as boundaries of notational matter(s), limits the view of
what may actually be happening between players and their instru-
ments, and between each other – both of which are fundamental
to the dynamics of improvisation. Thinking of scores for improvis-
ers as cuts and reassemblies of performer-instrument couplings, or
as indexes of games, puts a focus on how they interact with rich
performative activity beyond notation's immediate purview.

3. A Record Kept

Like (1), the third generation of *Say No More*, entitled *Verbatim*, was
made in the studio from fragments of recordings by Ostertag's col-
laborators. Unlike (1), which began with solos recorded in isolation
from each other, (3) began with fragments of collective recordings
made during the production of (2). The raw material consisted both
of tracks taken from *Say No More* (2a) and *Tongue-Tied* (2b), as well
as a free improvisation recorded in the studios of ORF at the same
time:

At that same session [(3)] after we recorded the pieces, we did a
free improvisation. My idea was [. . .] for the next go-around, [. . .]
instead of fragments from solos, I wanted an ensemble improvisation
with the tracks broken up so I could isolate the different components
and mix them together in ways that they weren't played together at
the same. (2016)

Even before he had finished (2), then, Ostertag had already conceived of the project in long-range terms, along the lines of Ben Patterson's *Variations for Double-Bass* or Richard Barrett's *fOKT*. But by the time of composing (3), the project consisted not only of an ensemble-specific repertoire, but also of a concrete constellation of individuals with its own history and methods – a *band* in the emphatic sense. Ostertag:

> By this time now we actually had gigs, we toured, and it was feeling much more like a mature project. Very, very fun band. [...] That was my first band – I'd never had a band before. For your first band to have Gerry Hemingway and Mark Dresser – it's kind of crazy. I would regularly just start laughing on stage. I would be playing and I would think, "Wait a minute – is this my band?" (Ostertag 2016)[87]

Like all bands, the quartet developed through life experience offstage, and inevitably this experience influenced the musical material, as we see in the Austrian odyssey related by Ostertag above. This underlines that *Verbatim* is a record of collective evolution above and beyond a compositional intervention. If we consider the recording to be itself part of a score, (3) is shown to be an entextualization[88] of the band's life and music practice as a whole, a new opportunity to further refract and reflect upon it.

It could be argued that all recordings entextualize, and it is in the negative sense of entextualization – its erasure of a singular, non-repeatable, generative context – that many an improviser has criticized the recorded medium. Guitarist Derek Bailey, for example, has critiqued "the loss during the recording process of the atmosphere of musical activity — the musical environment created by the performance" (1992, 103). Philosopher Gary Peters argues that "[a]s a generalisation, free improvisers show little interest in tape, in the analogical or digital freezing of performative flow [...] largely because improvisation's big idea is the realization of future possibilities in the unreproducible now of the 'in the moment' moment" (Peters 2014, 9-10). Both Bailey's and Peters' positions are reflected in the following comment by Cornelius Cardew, who gives them a relevant twist by triangulating improvisation, recording, and scores:

> [w]ritten compositions are fired off into the future; even if never performed, the writing remains as a point of reference. Improvisation is in the present, its effect may live on in the souls of the participants, both active and passive (i.e. audience), but in its concrete form it is gone forever from the moment that it occurs, nor did it have any previous existence before the moment that it occurred, so neither is there any historical reference available. Documents such as tape recordings of improvisation are essentially empty, as they chiefly preserve the form that something took and give at best an indistinct hint as to the feeling and cannot convey any sense of time and place. [...] What a recording produces is a separate phenomenon, something really much stranger than the playing itself, since what you hear on tape or disc is indeed the same playing, but divorced from its natural context. What is the importance of this natural context? The

87. There is no extant list of live performances of (2), but when I asked Ostertag about *Say No More in Person*'s performance history he recalled "off the top of my head: tour of japan, angelica festiavl [sic], mulhouse festival, numerous club dates in europe, kunstencentrum voruit in belgium, merken [sic] hall in nyc, calperformances in berkeley, Moers Festival, Bimhuis in Amsterdam, Taktlos festival" (Ostertag, personal email to the author, 2 August 2016). The Taktlos Festival performance is discussed in a chapter on Ostertag's music in Wilson 1999.

88. For a more thorough discussion of the term *entextualization*, see "Entextualization and Preparation in Patterson's *Variations for Double-Bass*".

natural context provides a score which the players are unconsciously interpreting in their playing. Not a score that is explicitly articulated in the music and hence of no further interest to the listener as is generally the case in traditional music, but one that co-exists inseparably with the music, standing side by side with it and sustaining it. (Cardew 1971, 126-128)

To distill Cardew's position: written composition belongs to the future,[89] improvisation belongs to the present, and recording belongs to the past. This is a conventional schema which I have deconstructed in various ways throughout *Tactile Paths* – particularly in the cases of *A Treatise Remix*, in which I improvise over time in the studio with a collection of historical recordings, or Barrett's *fOKT*, which, like *Say No More*, makes extensive use of sampling. It would therefore appear to bring us no closer to understanding how *Verbatim* challenges this received wisdom. However, Cardew's formulation opens up considerably through his attention to the "natural context" of improvisation as a score.

By calling this context "natural", Cardew initially suggests that it is somehow external to the act of playing, or given in advance. But he adds that the context "co-exists inseparably with the music, standing side by side with it and sustaining it", revealing a resonance with the ecological view of notation for improvisers that I have advanced throughout this dissertation (see my discussion of architect Lawrence Halprin's *RSVP Cycles* in "Invitation to Collaborate – Répondez s'il vous plaît!"). In this view, the "context" of improvised performance – or the "field of musical improvisation" as Cobussen calls it – is not fixed or determinate. Rather, it co-evolves with the improviser through performance, or, in Bailey's words, it is "created *by* the performance" (1992, 103, my italics).

Whereas I claim that scores are but one element of this environment, changing and being changed by other elements through improvisational practice, Cardew claims that the environment *is* a score – a subtle but intriguing difference. For when we consider the recording of (3) to be a (principle part) of a score, the score to be the environment, and the environment to co-evolve with the improvised performance, we have a feedback loop that in fact describes the *Say No More* project rather well: performances nested in recordings nested in scores played in performance, the whole of which (re)constitutes the environment in and over time. Rather than a static documentation – "the digital freezing of performative flow" (Peters 2014, 9-10) – the "record kept" here is an intractable knot within a knot, an inherently dynamic performative tool.

4. Final Cut – The Future of (Musical) Writing in the Age of Digital Reproduction?

Verbatim Flesh and Blood, the fourth and final generation of *Say No More*, reanimated the third generation, *Verbatim* – as the second generation, *Say No More In Person*, reanimated the first, *Say No More*. As I suggested in the previous section, (3) and (4) differ from the

89. Or, as Benjamin Boretz would say, "composing is oddly positioned as a speculative notational act prior, and abstractly general in its relation, to the actual musical act itself of realization in sound, performance." (1981-1982, 82)

project's earlier incarnations in that the band had established a voice of its own. One can hear this immediately when comparing (4) to (2): there is a much greater fluidity in the interaction between players, and at the same time a greater proximity to (3), particularly with respect to section timings. By this time, the band had learned how to play together, and had mastered the medium of self-impersonation on which the project was founded. The awkwardness of (2) – apparent in Gerry Hemingway's nervous drum solo at the beginning of (2a) – is gone. In its place, a kind of tortured flow has emerged. The recording of (4) can thus be seen as a "final cut" of the project in the filmic sense: the definitive final product, the ideal image, of a long and complex collaborative process. But is it really? And what does the success I confer on *Verbatim Flesh and Blood* say about the relationship of scores and/or notation to recording in the *Say No More* tetralogy as a whole?

In a book chapter entitled "The Future of Writing" (2002, 63-69), philosopher Vilém Flusser discusses the changing historical relationship between images and writing in order to articulate an empowering vision for writing in the techno-imaginative culture of the postmodern era. According to Flusser, "the original purpose of writing was to facilitate the deciphering of images" (64). He conceives of images as "mediations between man and his world, [. . .] tools to overcome human alienation: they are meant to permit action in a world in which man no longer lives immediately but that he faces" (65). In order to make sense of these images as tools, he argues, "one must learn the conventions that give them their meaning [. . .]. For example, the 'imagination' that produces road maps is not the same as the 'imagination' that produces cave paintings and projections. Explaining images with the help of texts may therefore be useful" (65).

More importantly, he goes on to say, writing helps to break down the "idolatry of images" (65). By this Flusser refers to the power of writing, particularly as "historical consciousness, linear, rational thought" (65), to counteract decontextualized images' tendency to cover up the terms of their use, to reify into idealized (and/or ideological) objects, thus making man a "tool of his own tools" (65).[90]

I think Flusser's dialectic presents an uncannily rich way to view the relationship of notation and recording in *Say No More*. Ostertag began the project in (1) with a recorded "image" of a superhuman virtual trio, "meant to permit action in a world in which man no longer lives immediately" (65) – the "imaginary" world of recording. He then used notation in (2) to explain the recording to the players and direct them to its potential as a "tool to overcome alienation" (64). Although this notation may seem impoverished or haphazard on paper, in practice it played a fundamental role in indexing the game – inviting the performers to play with superhuman images of themselves, rather than be replaced by them. In other words, notation is not only the technical means by which

90. Here Flusser centers exclusively on the visual. In a rare discussion of the auditory, from which I took the quote at the beginning of my chapter, he states: "As the reader will surely have realized with surprise and annoyance, I have excluded everything to do with ear and mouth, with sound and words, from my thinking" (2011, 164). Nevertheless his analysis of writing – common both to visual and musical practice – is useful for reasons I elaborate below.

Ostertag represents salient elements in the recording to be reproduced, but also a device that enables his parodical critique of the myth of recording as an ideal performance. In this sense, he goes a step further than Flusser by questioning the presumed divide between the world of recording and the "live" world in which man lives "immediately".

But this is not the end of the story. Flusser acknowledges that "the rise of the new image culture" – exemplified in our times by television, advertising, the internet, and music videos – may be traceable to writing's own historical failures: "It is against the threatening lunacy of formal rationalism, of a meaningless existence amid speculative, opaque explanations, that the rise of the new image culture must be seen" (66). In this new image culture, unlike in prehistoric images such as cave paintings or tapestries, texts are no longer used to explain images, but rather to feed and support the image machine:

> The easiest way to imagine the future of writing, if the present trend toward a culture of techno-images goes on, is to imagine culture as a gigantic transcoder from text into image. It will be a sort of black box that has texts for input and images for output. All texts will flow into that box (news about events, theoretical comments about them, scientific papers, poetry, philosophical speculations), and they will come out again as images (films, TV programs, photographic pictures): which is to say that history will flow into the box, and that it will come out of it under the form of myth and magic. From the point of view of the texts that will flow into the box, this will be a utopian situation: the box is the "fullness of time," because it devours linear time and freezes it into images. From the point of view of the images that come out of the box, this will be a situation in which history becomes a pretext for programs. In sum, the future of writing is to write pretexts for programs while believing that one is writing for utopia. (Flusser 2002, 67)

Recording culture has, like image culture as here represented by Flusser, radically changed the nature of musical literacy in our time, as it no longer privileges or even requires written scores. The idolatry of recordings goes unquestioned in an age when one has almost all music at one's fingertips in one's phone or through the internet; there is a radical gap between the speed and rhizomatic nature of music consumption in the 21st century, and the slow pace and linear process of producing music with scores. As composer and electronic music scholar Nicolas Collins states:

> [M]usic notation as it has been known for several centuries — dots and crochets on five lines — is becoming ever more marginalized as a world language. Most music today is produced, distributed and heard through digital technology — computers, iPods and cell phones. Notes can be picked out on a keyboard and samples grabbed from existing recordings, then corrected, sequenced, layered and orchestrated as easily as words can be processed. We're living in a Cmd-X/Cmd-V world; it's no longer essential to know how to read and write music notation in order to function within this new paradigm, unless you're a member of that ever-dwindling percentage

of musicians who play scored compositions on acoustic instruments. (Collins 2011, 6)

So if one is among the dwindling few to acknowledge the continuing value of scores for contemporary music, how does one contend with their seemingly unstoppable obsolescence? As *Say No More* shows us, notating music in conventional scores is no longer the only option. Composers and performers can use the very medium of recording (or video or software, for that matter – see Collins 2011) to communicate with each other, and using such nonwritten media can open possibilities for different kinds of communication – some of which may "speak" to improvising musicians more directly than conventional notation. A reactionary return to the internal complexities of writing is in any case unnecessary.

At the same time, *Say No More* shows a possible way forward for written notation: improvise with the context in which it is used. Ostertag exposes contingency and assigns notation a limited but strategic role in a musical environment where people, rather than disembodied sounds, are the subject matter. In so doing, he shows how written notation – and here I explicitly also include "conventional notation" – can be used to interact, play, negotiate, and challenge performers, who may even ignore it if they know the game to which it points. He not only offers an alternative model of the score, but also suggests a path to rethinking the often unfulfilling relationships between scores, recordings, and performances in our time.

Chapter Ω

The End?

Tactile Paths is modular in nature; as I mention in Chapter 0, its
constituent chapters, or paths, can be traversed in any order. It
might therefore seem odd to offer a conclusion, since readers are
encouraged to wander the website as, and as long as, they please.
But despite the fact that the dissertation may not have a linear
internal structure, the reader's experience does, and her own path
on and through it is bound to end at some point.

At the same time, embedded within this dissertation is a tempo-
rality – or rather multiple temporalities – of inscription. The writing
has taken around four years to complete. Fits and starts of in-time
improvisation occasionally bubble up to the surface of the website,
particularly in creative work such as *Seeing the Full Sounding*, *A
Treatise Remix*, and my performances of Ben Patterson's *Variations
for Double-Bass*. If one looks and listens closely to these little bangs
(1999), as pianist and composer Frederic Rzewksi calls them, one
can observe that *Tactile Paths* is an entextualization of continuous
activity, and not only an assembly of modular parts.

Hidden within that ongoing activity is a minor narrative. The
research process began explicitly with practical investigation, and
the arguments of early chapters ("Seeing the Full Sounding"; "A
Treatise Remix Handbook") foreground creative media. "Entextu-
alization and Preparation. . . ", written next, takes personal artistic
experience as an object, but does not use it as a discursive partner
to such a high degree. "Invitation to Collaborate. . . " and "Say No
Score. . . ", written toward the end of the research process, do not
deal directly with my own practice; rather, they part from perspec-
tives developed through practice in earlier chapters, centering on
a more theoretical approach. (More on this below in "Unexpected
Turns".)

For these reasons, it seems both fair and potentially profitable
to work with linear experience here rather than ignore it, and find
an ending. That is what I shall attempt to do in the remainder of
Chapter Ω. I do so in full embrace of the fact that the reader might
begin with this chapter, just as she might end with Chapter 0, or
never read it at all. But no matter – what interests me here, follow-
ing philosopher Gary Peters, is finding new beginnings again, and
again. . . eternally (2009, 170). So, without further ado. . .

Review

In this dissertation, I have explored a range of experimental and contemporary musics that employ notation for improvisers. Much of it I have played and/or composed; where this is not the case, my theoretical approach to the work has proceeded from the perspective of a practicing artist. This has enabled me to access information about notation for improvisers on the ground that might otherwise be obscured.

The diverse examples I have analyzed – pieces by Malcolm Goldstein, Cornelius Cardew, Ben Patterson, Richard Barrett, Lawrence Halprin, Bob Ostertag, and myself – do not by any means exhaustively represent the field of notation for improvisers. Nor do they represent, as I explain in Chapter 0 ("Objectives and Criteria"), the potentially infinite number of subcategories imaginable within the field. Rather, I believe they reflect a cross-section of issues relevant to a much wider field of artistic practice than that of these artists alone. The hope is therefore to stimulate discussion among a wider variety of readers than if I had attempted an overview.

My explorations of the examples mentioned above have been guided by the following research questions, first set out in Chapter 0:

- What aspects of improvising can be fruitfully addressed through notation?

- In what ways and to what extent can notation incorporate improvisers' unique and embodied performance practices into the compositional process?

- If, for the improviser, music is fundamentally unscripted – or unscriptable – why would she compose or perform with notation at all? What kind of scripts fit in her environment?

- How can composer-improvisers use notation to share, challenge, or transform their own ways of improvising? How does this affect and transform my practice?

- How does notation construct, deconstruct, or reconstruct improvisers' relationships to each other? How do performers listen to each other differently with and without a score?

- How does music involving notation for improvisers encourage us to rethink the way we conceptualize and talk about musical labor?

At the beginning of the research process, each question was tethered to a particular chapter, and by extension, to a particular piece or project (in order): *Apples Are Basic* (Chapter 0), Goldstein's *Jade Mountain Soundings* and *on and on and always slowly nowhere*, Cardew's *Treatise*, Patterson's *Variations for Double-Bass*, Barrett's *fOKT* and Halprin's *The Sea Ranch*, and finally Bob Ostertag's *Say*

No More. Working through these cases, I came to the following conclusions:

- The richest aspects of improvisation that can be most fruitfully addressed by notation reside first and foremost in the improviser herself – or, borrowing from anthropologist Tim Ingold, the wayfarer (2007, 75) – for whom the practice of improvising is not an on/off switch but rather a way of being in the world. Improvisers embrace the contingencies of their instruments, each other, and other aspects of their environment as creative resources. Therefore composers of notation for improvisers would do well to focus on and respect these contingencies, as well as account for how scores themselves might be used differently and thus change in the context of actual practice. In *Tactile Paths* I have shown several examples of composers who have (already) done so.

- One way in which improvisers' unique and embodied performance practices can be incorporated into the compositional process is by foregrounding the physicality of both notation and improvisation. As a kind of ground zero for improvisation, the dynamic kinetic coupling of performers to instruments provides an important resource for notation; it is most accessible through notation that shows rather than tells. Such scores highlight the performative capacity of notation – i.e. its ability not only to transmit, but to co-produce meaning in interaction with the performer. Just as a score is "encountered," "played," or "manipulated" by a performer, the performer is "affected," "influenced," and "directed" by the score. [91]

- Improvisers often choose notation in order to transform or expand their own materials and methods. Thus, scores that question and create more possibilities for those materials and methods fit best within improvisers' environments. A basic respect and sympathy for the score is necessary for this transformation to occur; however, integrity in performance cannot be measured on the axis of faithfulness to either symbols on the page or performers' own musical identities. Rather, integrity consists in a rigorous exploration of the process of transformation itself.

- In order to share, challenge, or transform their own ways of improvising, composer-improvisers entextualize their ongoing improvisatory practices, rather than simply prescribing or preserving them. Notation need not generate an improvisational situation in order to engender or inflect one. This understanding has brought me to engage and reflect a more experimental, improvisational attitude to conceiving and preparing music as both a composer and performer, beyond improvisation in concert performance.

- Notation constructs, reconstructs, and deconstructs improvisers' relationships to each other by plugging into their own tacit

91. The performativity of musical scores is a rich topic that I have dealt with in a book chapter entitled "Three Performances: A Virtual (Musical) Improvisation" (Maschat and Williams 2016). Musicologist Mathias Maschat and I argue that even before public concert performance occurs, scores (and written texts more generally) can exhibit liveness by spurring interaction with the reader through structural tensions and ambiguities. Likewise, the reader can engage in a "performance-reading" of certain scores by making temporal sense of them in ways that require actively navigating or supplementing the text.

microsocialities (Born 2017, 52), or social relations during performance. It can challenge and enrich existing collective performance practices by re- or decontextualizing them. Scores may create resistance between improvisers initially, but after some time the resistance might diminish or become productive. Nevertheless, even after performers internalize the mechanisms of a score, they may still use notation to reflect on or alter group dynamics as necessary.

- Music involving notation for improvisers encourages us to rethink the way we conceptualize and talk about musical labor by playing with the role of written notation in project- and performer-specific ways. Scores may not only consist of notation *per se*, but also of other media and the environment of performance itself. In scores for improvisers the work of composition and performance is constantly blurred.

Unexpected Turns

Over the course of the research process, these insights – and retrospectively the research questions – have overlapped to an unexpected degree. For example, whereas I began considering Goldstein's music mainly in the light of physicality, I later discovered the relevance of questions around entextualization brought up by Patterson's *Variations for Double-Bass*. And vice-versa: although I initially chose Patterson's work as an occasion to investigate the role of improvisation in notation itself, an examination of the physical work that went into my performances of *Variations* revealed a stronger affinity to Goldstein's music than I had imagined. Readers will find such orthogonal connections throughout *Tactile Paths*, and the circular structure of the website (including Topics, or tags) is meant to reinforce them.

This thematic interpenetration can be taken as a consequence of greater familiarity with the material in a general sense; as my own knowledge deepened, finer and more plentiful connections arose. This is, one would think, to be expected. But it is also closely related to a drift in my methods that occurred while carrying out the research – the minor narrative I mentioned above. As I moved gradually from a practice-based approach in earlier chapters toward more speculative theoretical reflection in later chapters, critical distance afforded a broader scholarly context for my objects. All the same, later chapters are still firmly rooted in practical experience, which was in turn sharpened through reflection and exegesis in the earlier chapters. Ultimately, then, both ends of the drift, first-person immersion and external observation, enrich each other. Furthermore, they are essential to portraying a body of work that includes but is much larger than my own music.

Ironically, being enmeshed in these issues from multiple perspectives has not increased my commitment to composing with

or performing notation for improvisers as such. Certainly the research has refined my sense of what this body of work has to offer and how to work with it; this music remains an integral part of my artistic life, and I intend to continue advocating for it. But the more urgent aggregate takeaway has been a renewed emphasis on the continuity and value-neutrality of notation and improvisation as parts of a larger creative landscape. In other words, I feel as free as ever to notate and improvise, together or separately, or not, as a given creative situation demands.

As an artist I am involved in many types of projects outside notation for improvisers, such as through-composed chamber music, radio art, curating concerts, and producing sound experiences in non-artistic contexts. Even during the writing of *Tactile Paths* I worked on several such projects. For example, I composed, toured, and recorded a piece with Charlie Morrow based on a book by André Breton entitled *Arcanum 17*, which brings together sustained-tone music in just intonation for contrabass and tuba, field recordings, and texts in a 3D sound system.[92] I also composed a coffee ritual performance based on cave paintings for and with the experimental music theater group Maulwerker.[93] In February 2016 I co-composed and performed in a radio piece recorded on trains in the Czech Republic with sound artist Christina Kubisch.[94] Since October 2016 I have been pursuing an immersive sound project for the remodeled San Francisco airport.

None of these projects meaningfully employs notation for improvisers in the senses put forward in the dissertation. However, they do in their own ways touch on themes of ecology, distributed memory, and/or the magic of inscription; my understanding of all these themes has been developed through writing *Tactile Paths*. Having brought the core of the present research project to a (temporary) close, I now wish pursue these threads further, and see how they might loop back to the methods covered here on their own.

The final surprise discovery made through the research process concerns the name of the dissertation. I had originally envisioned the notion of *tactility* (along with its sister terms embodiment, physicality, and sensuality) to comprise one of three main topics which together would form a kind of thematic umbrella over all the work analyzed here. (The others were group performance practice and time.) Toward the middle of writing the dissertation, however, it became increasingly difficult to separate this notion from the other two. As improvisation scholars Vincent Meelberg and Vijay Iyer have pointed out, physical movement and awareness are tightly coupled to group performance practice (Meelberg 2014) and in-time experience (Iyer 1998) in improvised music, reflecting how improvisers "think" through their bodies with each other in real time. Tactility's near ubiquity in this music – with or without notation – and its embeddedness in the other themes led me to abandon the three topics as a central axis. Although I have chosen not to elaborate the concept of tactility a great deal *per se*, I have examined

92. *Arcanum 17* `http://www.arcanum17.wordpress.com`.

93. *What Hole Is This?* `http://www.christopherisnow.com/portfolio/what-hole-is-this`.

94. *Groundwave Rondo (Magnetic Travelling)* `http://www.rozhlas.cz/radiocustica_english/project/_zprava/christina-kubisch-christopher-williams-groundwa`

tactility's presence and impact in the context of individual pieces and projects at length. For this reason, I believe *Tactile Paths* remains an apt title.

Political App-/Implications

Within the sphere of contemporary music, I believe many of the insights described above can help undo a debilitating conventional opposition of notated and improvised music in institutions and musical culture. Particularly in Germany, where I have lived since 2009, a division between the worlds of contemporary through-composed new music and (free) improvised music persists in festivals, education, funding structures, and GEMA (the national authors' rights organization). This division hangs in large part on the positioning of notation as an (in my opinion imaginary) buffer between the perpetually contested categories of composition and improvisation. While some practitioners and cultural actors may not see this as a problem, I do. In my opinion this gap both fails to reflect the hybridity of current contemporary and experimental music practice, as evidenced by the music discussed in *Tactile Paths*, and deincentivizes shared discourse across stylistic and method-ological boundaries. The negative economic effects for artists and the negative social effects for audiences wrought by such a separa-tion must be redressed. I hope the findings of this research catalyze change in some small way, by showing – not only on a theoretical plane – how notation and improvisation are compatible and mutu-ally beneficial.

Beyond the musical sphere, notation for improvisers also has a social-metaphorical value that should not be overlooked. Much contemporary literature on experimental improvisation prizes the role of empathy, mutuality, processuality, a community-centered ethos, and democratic values. I agree with aspects of this literature, particularly in the cases of writers who take practical knowledge seriously and are careful not to romanticize or uncritically over-state the virtues of improvisation as a force for good in the world. Nonetheless, as emphasized in "Invitation to Collaborate...", I strongly disagree with practitioners and scholars who argue for these qualities in opposition to notation, which may be explicitly or implicitly cast as elitist, hegemonic, and/or rigid by its very nature.

The music in *Tactile Paths* clearly refutes this characterization by showing that notation can expand, deepen, and pry open new spaces for improvisation. In this sense it deepens and challenges the emancipatory discourse around improvisation. Rather than framing improvisation as an inclusive, non-hierarchical, self-sufficient *alternative* to regulatory, hierarchical, discriminatory written laws, we might think of notation as a tool with which im-provising communities navigate, inflect, and potentially change the existing order. Notation can be thought of as paths that enable community building or agreements between neighbors that lead to

lasting peace.

To be sure, I do not wish to stretch the social-metaphorical aspect of notation for improvisers *too* far, but others are welcome to pick up this thread. I would point out to any such politically minded scholars that the conditions of empathy, mutuality, etc. mentioned above are rarely a guarantor of aesthetic success. Often these conditions are prerequisites, but ultimately successful employment of notation for improvisers, as in most music, depends on a host of other factors both internal and external to the work and working process. These include personnel, materials, technical questions, the circumstances of preparation and presentation, and – as we see in Bob Ostertag's case – many other factors beyond the artists' control or awareness. Thus, I am of the opinion that aesthetic success should be measured as often as possible on a case-by-case basis. Perhaps this statement has direct political relevance after all.

I can only hope that readers are also inspired to bring the insights achieved in *Tactile Paths* to bear on their own practices and lives in ways I have not foreseen. If they do, I will consider my metascore to have worked... for now.

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