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GENERIC CATASTROPHES:
CASE STUDIES ON THE USE OF LANGUAGE IN POST-WAR SOUND ART

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Abstract

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Generic Catastrophes: Case Studies on the Use of Language in Postwar Sound Art

This dissertation explores linguistic and narrative structures in the sound of Robert Ashley, Michel Chion, Trevor Wishart, and my own art practice. It situates these practices in the broader context of 20th century sound art, and further makes a case for the affordances that cognitive and neuroscientific approaches to mind (particularly those found in the Catastrophe Theory of Rene Thom and Wolfgang Wildgen) hold for describing and organizing artworks more generally.

1. Generic Catastrophes: On the Use of Language in Postwar Sound Art

One of the most useful perspectives constructed in recent (as of 2017) art criticism-- mainly articulated in the work of Suhail Malik[1] and Peter Osborne[2]-- is the identification of contemporary art as not simply art that is made *right now*, in the present moment, but as a discrete genre unto itself, emerging roughly towards the mid 1970's. Contemporary art is most commonly found in large biennales and art fairs, although it can be seen in smaller private galleries as well. Like any other genre that has been naturalized within art history (cubism, pop-art, etc.), contemporary art has specific, identifying characteristics, much of which are conditioned by (and reflective of) the political-economic regime of its time. However, unlike classicism or modernism, those identifying characteristics can be ordered and grouped not so much

[1] Malik, Suhail. "On Art's Exit From Contemporary Art." Filmed June, 2013. YouTube video, 38:54. Posted June, 2013. https://www.youtube.com/watch?v=fimEhntbRZ4

[2] Osborne, Peter. *Anywhere Or Not At All: Philosophy of Contemporary Art* (London: Verso, 2013.

by formal similarities, but more by sets of socio-discursive behaviors and theoretical commitments.

A few behaviors of contemporary art as a global phenomenon include: a valorization of public participation (seen most saliently in the genre of "relational aesthetics"); an explicitly philosophical commitment to indeterminacy (also called "becoming," the "liminal," "the event" and "deterritorialization"-- all terms selectively peeled off from 20th century Continental philosophers: Derrida, Foucault, Deleuze, and Badiou); the claim/aspiration of art and/or artists to "critique" the present historical moment by "inhabiting" or stylizing its reproduction and/or re-performance; and a material/practical agnosticism (embodied in the oft-repeated truism that "anything can be art.")

We can discern a trend in a significant number of gallery, art fair, biennale, and academy supported art practices towards *art that makes sense*, that can be read and often is asked to be read as propositional.

In the first decade of the 20th century, much contemporary art begins to go to great lengths to telegraph and make legible its investment in conceptual and philosophical language, with that critical language starting to appear more and more within the artworks themselves. It would be unusual, now, for a contemporary artwork to contain dialogue or narration that does not, in the end, function as a cipher for the conceptual themes that the artist is nominally engaging.

This characterization of contemporary art's relationship with systematic modes of theorization is not meant as critique, but more as description; many

engaging, thought- provoking works have been produced according to these coordinates, and this trend has often productively extended the boundaries of what constitutes philosophy, criticism, and art practice. The aim here is not to judge the theoretical or aesthetic "value" of these behaviors, but to stratify them in order to better understand the current landscape in which the relationships between art and language (both critical discourse and language play in art practice) unfold.

As an artist and as a scholar, the relationships between art practice, language, and theory have long been of interest to me as well. Indeed, much of my own early video work and my collaborations with The Otolith Group contained much of the narrative language described earlier, and my writing and lecturing similarly insisted upon the critical thinking immanent to the works art that I attempted to unpack and described.

In my own practice (which has come to primarily take the shape of sound installation and performance pieces), the relationship between the theory that I am interested in and the art that I make has grown increasingly diffuse and non-illustrative. I am inspired by my research into sound, language and cognition, but I do not claim that the the art I subsequently make is an instantiation or illustration of those theoretical interests.

Like the artists whose work I describe in this dissertation, my work does not claim to be nor aspires to be systemic. Further, my artworks contain large amounts of language and dialogue (some narrative, some not), but that language is not particularly informative; it does not confess, or testify, or *tell a story* as such. Rather,

language is used more for the full range of *effects* it can produce by experimenting with its structure, syntax and form.

In this dissertation I examine how the sound- and language-based artworks of Trevor Wishart, Michel Chion, Robert Ashley, and I diverge from dominant language uses in contemporary art. In their work and mine, complex and abstract structures of language and sonic design are deployed in order to shift states of mind in relation to language and meaning, and to generate new perspectives on narrative world- building. Language, in these works, does not *transmit* information so much as re- orient and multiply our perspectives on a narrative space, re-engaging how we think, feel and perceive.

An examination of this use of language in modern and recent sound art (sound art already being, at the time of this writing, a relatively young subfield of study within art history) remains unwritten. In recent years, there has been a proliferation of monographs and exhibitions on sound art (not to mention an uptick in the production of sound art itself), though the origins of "sound art" as an art historical phenomena stretch back through the fluxus and conceptual art movements of the 1960's to Italian futurism and Erik Satie's "furniture music" of the early 1900's. The first book exclusively dedicated to sound art criticism appears in 1972, with the publication of *Sound Sculpture: A Collection of Essays by Artists Surveying the Techniques, Applications and Future Directions of Sound Sculpture*[3], followed

[3] Grayson, John. *Sound Sculpture: A Collection of Essays by Artists Surveying the Techniques,*

shortly by Wishart's own *On Sonic Art*[4], published in 1975.

In the ensuing decades, a series of tropes have come to dominate the study of sound art. These tropes include: the distinction of sound art from musical composition and performance[5]; debates over the materiality vs. the ephemerality of sound[6]; the architectural/spatial/"site specific" aspects of sound-based installation art[7]; sound's "escape" of the biases of vision and visual culture[8]; ontologies of "noise"[9]; sound as an "ecology"[10]; and attempts to articulate a generalized philosophy of sound art[11]. While discussions of the use of the human *voice* have emerged (however sparsely) amongst these writings (perhaps most notably in Douglas Khan's *Noise Water Meat*, to which we will return in our study of Michel Chion in Chapter 2, and in Wishart's writings), discussion of the use of *language* is conspicuously absent.

One might draw a variety of different conclusions about the reason for this absence; my own conjecture is this may have something to do with the long shadow that high modernism tends to cast over both the production of and writing about sound art. In exhibitions of sound art, such as MoMA New York's 2013 show *Soundings*, there is an noticeable bias towards "architectural" sound installation and

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Applications, and Future Directions of Sound Sculpture (Vancouver: Aesthetic Research Center of Canada, 1987).

4 Wishart, Trevor. *On Sonic Art* (London: Routledge, 1985).

5 Licht, Alan. Organized *Sound* 4:1, April (2009: 3-10).

6 Kouvaras, Linda Ioanna. *Loading the Silence* (London: Routledge, 2013).

7 Demers, Johanna. "Field Recording, Sound Art and Objecthood," from *Organized Sound* 14: 2009, 1-3.

8 Cox, Christopher (ed.) *Audio Culture: Readings in Modern Music* (New York, Continuum Press, 2004).

9 Brassier, Ray. "Noise and Capitalism," from *Multitudes* 28, 2007: 1-10.

10 Schafer, R. Muray. *The Tuning of the World* (New York: Random House, 1977).

11 Cox, Christopher. "Philosophy of Sound," from *Realism Materialism Art* (Berlin: Sternberg Press, 2015).

field recording. Perhaps this is because such works lends themselves readily to the logics of contemporary art-- the minimalism of and artist like Carsten Nicolai seems just *rigorous enough* to insinuate deep thinking, yet at the same time apply a generic formalism that readily allows the viewer and critic to project whatever they might wish to imagine upon it.

This, to me, constitutes a major art- historical lacuna and a missed opportunity for interdisciplinary criticism. Ashley, Chion, and Wishart all engage language use in ways that are as radical and particular as any to be found in post-WWII literature, cinema, performance, or conceptual art, and many other artists that have been excluded in this study similarly deserve attention for their unique syntheses of linguistic and sonic experimentation. For a genre that is constantly referring to its relationship with the mechanics of perception, why is there so little writing on sound art that actually engages how sound makes us hear, feel, and imagine?

As Ashley, Chion, Wishart and I all share an interest in the relationships between sound and environment, as well as varied approaches to sonic abstraction, would not two of sound art's most common discourses-- “reduced listening” and “site specificity”-- be of use to this analysis? I contend that both are inappropriate for our study. The debates over Schaeffer's “phenomenological reduction” and “how to accurately figure a place in sound” are effectively one in the same: one side proposes a naïve- modernist “pure” formalism (we can “objectively” cognate sound as sensual, non-indexical material), while the other side advocates for a social realist, documentarian ethics of representation.

We can crudely formulate this as a debate around *abstraction* vs. *representation*. This debate, however, is predicated on a false choice: it is precisely the fluctuating dynamic between the ruptures of abstraction and the reconciliations of representation that we are interested in. I am interested in narrative sound art that avails itself of both these sonic epistemologies, one which draws them into confrontation with one another.

Why, then, do I feel a strong artistic affinity with Ashley, Chion, and Wishart? Despite sharing some technological similarities (such as Wishart approach to vocal processing), the work of all four of these artists displays vastly different aesthetics and atmospheres, and each artist works or worked within relatively separate artistic milieus. Further, Wishart's art veers more towards the formally abstract, while Ashley and Chion both demonstrate more dramaturgical and poetic tendencies. This diversity of artistic vision is an important aspect of their influence, as a major motif in my work is is the presence of radical jump cuts in affective tone we encounter on a daily basis (clicking from a news article on famine immediately to a “cats on trampolines” best- of YouTube, for instance), and free combinations of modes of artistic address that are rarely if ever mobilized together (such as narrative dialogue and heavy physicality (extremities of volume, pitch, etc.)

While these differences are consequential and are examined at length here, the impetus for nominating this cohort as my elective affinities arises from 1) how all four can be said to be *experimenting with the structures of language* in the medium of sound to produce non- linear narrative “spaces” rather than linear story lines; and 2)

how this experimentation occurs mainly in the form of fragmented speech and vocalizations set to abstract electro- acoustic and digital “landscapes” and sound design.

Another characteristic that also unites these artists and their influence on my own practice is a productively unresolved tension at the heart of their work. Ashley, Chion, and Wishart all share an affinity for science- based perspectives and arguments towards aesthetics of language and mind. Yet, much of what is compelling about their work, and much of what I feel compelled towards in my work, is what is in excess of and/or in antagonism with these “research objects.” Ashley professes an abiding interest in anthropologist and psychologist Julian Jaynes and mathematical formalism, yet his work draws heavily on American mid 20th-century pop culture references and his characters frequently undergo reincarnation (not to mention Ashley's longstanding interest in involuntary speech, which we will discuss later.) Chion retains much of his mentor Pierre Schaeffer's quasi- scientific “phenomenological reductionst” approach to sound and listening, yet his work clearly draws upon the legacies of poetry, surrealism, and psychedelia in it's queasy, almost David Lynch-like night-terror qualities. Wishart goes to great lengths to explicate his interests in evolutionary anthropology and cognitive science, yet his theoretical work is, despite its “formal” aesthetics a) not particularly systematized and b) chiefly concerned with “prelinguistic” phenomena of screams and cries: visceral indicators of extreme mental states. Further, Wishart's compositions and performances can be characterized by the breakdown of descriptive language in them, with Wishart's

sputtering, fleshy vocalizations desperately trying to communicate something intensively or affectively beyond the scope of his intentional vocabulary.

For all of the overtures made by these artists to formal, systemic, or scientific knowledge systems, their writing and compositions are perforated by eruptions of what can be described as a *romantic* impulse. By romantic, I mean in the art historical sense, developed by critic Morse Peckham[12]. For Peckham, a series of "coping strategies" were developed by artists in 19th-century Europe in response to the dissolution of major ideological and explanatory regimes, which Peckham locates as beginning with the dissolution of the French Revolution. The most enduring of these strategies is that of *alienation*, described as an agnostic refusal of meta- or high- level functional descriptions of the world. Peckham argues that this embrace of perspectival navigation rather than a fixed conceptual orientation is a point of contact between 19th-century romanticism and scientific and mathematical outlooks: a continual paring away of background assumptions and perspectival hierarchy towards more and more detailed descriptions of the occluded structures of experience. In Ashley, Chion, Wishart and in my own work, there are oscillations between the registers of reason and romanticism; not by stacking or suturing of these two poles, but by dramatizing the topological twistings and deformations of reason and romanticism as *zones at two ends of a continuum*. In this orientation, "real" structures can be discovered through intuitive or romantic gestures, and scientific and mathematical abstraction can betray latent romantic drives. This navigation between

[12] Peckham, Morse. *Romanticism and Behavior: Collected Essays II.* Duram: University of South Carolina Press, 1977.

the zones of "reason" and "feeling" play out in the strategies the artists under examination here deploy to upend linguistically-rooted perspectives without ever fully destroying them, and in the general trend among these artists to make the navigation of perspective the dramatic engine of their work.

For the most part, the language in these works does not, in any traditional sense, "communicate." Even the operas of Robert Ashley, which contain the most legible forms of characterization and performance that we will study, are semantically "abstract" by any measure. The narrative functions of these works are characterized less by the *comprehension* of their language than by the *experience* of their language, of the dynamic *behavior* of their language. That is, in the compositions of Ashley, Chion, Wishart, and myself language is not to be "read" or interpreted. There are no declarations of intent. Language, rather, is something to be experienced. It acts as the "germ of a virtual catastrophe in the mind of the beholder,[13]" causing a break in our normative pattern recognition and stimulating cognitive activity and engagement. There exists a dynamic tension in these artworks between the construction and destruction of forms (linguistic, sonic, narrative, subjective)-- there are no stable forms, but *processes*.

Due to their slipperiness of form, It is not easy, upon first encounter with the artworks discussed here, to say exactly *what* is happening in them. The sonic landscapes that the characters inhabit are spatially abstract and "active," in the sense

[13] Thom, Rene. *Structural Stability and Morphogenesis* (Massachusetts: W.A. Benjamin, Inc., 1975), 316.

that the sounds which indicate space are always changing dimensions, duration and texture, and the delivery of vocal sounds and language similarly is never static or linear. Yet, over time, vivid "scenes" and worlds are conjured, even if the causalities that link them are not immediately obvious; this semantic indeterminacy, in fact, is a primary function in what makes these works so stimulating: they are not arbitrary, but nor are they overdetermined.

Due to the complexity of this work and the small amount of scholarship on this topic, I found it necessary to supplement the existent sound art criticism pertinent to it with insights from a number of proximate disciplines. This use of theories exogenous to sound art criticism is not so much in the service of making claims about the artworks, but to help us to listen to them and describe them both at the semiotic and purely sonic levels. The use of "theory" in this case is not for the sake of explanation, but as a descriptive resource. Each of these artists (and a close, selectively- chosen group of interlocutors) have all produced large bodies of essays and interviews describing their conceptual orientations, all of which make explicit overtures to theoretical/philosophical writing, and subject those theoretical and philosophical concepts to what are effectively aesthetic and romantic processes.

To better describe these artistic and critical bodies of work-- as well as to provide a glimpse into the conceptual undercurrents animate my own, I have drawn upon selected theoretical inputs from sound art history, Catastrophe Theory, and perception studies. I have done so in order to 1) demonstrate the evolution of the environment/technology/language/mind motif in sound art before its crystallization in

our case studies, 2) explicate some of the dynamics of signification that occur in them and 3) identify some the perceptual and cognitive structures that are involved in our listening to these works.

Why Catastrophe Theory?

In 2013, while researching LED screen and liquid image technologies for *Anathema*-- a video installation produced in collaboration with the Otolith Group for the Lyon Biennale-- I came across a visual encyclopedia of fluid dynamics. I was fascinated by the variety of forms, how evocative simple turbulence could be. *Anathema* was also concerned with eruptions of non- normative speech patterns in mundane/everyday/formal linguistic scenarios, and it was only years later did I realize that the two-- material dynamics of the physical world and the cognitive foundations of language-- had much to do with one another. One aspect of Ashley, Chion, and Wishart's work that is inspiring for my own is the suggestion in their art that *cognition* and *language* undergo all the phase states that characterize the world that the mind and language attempt to know.

Thus, in order to better read our artworks, we need a frame that allows us to understand the forms that occur within them-- in particular (but not only) the linguistic forms-- as dynamical *processes* rather than objects or units.

This encounter between sound art and a dynamics-oriented study of signs (semiotics) does not just furnish art criticism with new perspectives, models and metaphors: it also suggests that, conversely, the study of language can benefit from

paying attention to the structures that artists often intuitively discover (whereas most studies on language focus primarily on it's normative behaviors.)

A formalist approach to linguistic structure-- such as Chomsky's theory of phonology[14]-- would need to search for the basic independent "unit" of linguistic signification (in Chomsky's case, the phoneme) and try to explain how those discrete units build upon one another form ascending levels of complexity. Such an approach, however, would not be fully adequate for our purposes. For one, while our artists (particularly Wishart) do make aesthetic use of phonemes (minute, discrete mouth sounds), those phonemes are deployed for their intensive, affective qualities, and not as building blocks. Further, these artworks make sensible the *dynamics* of signification, and significance arises in them only from *relation*; their behavior refuses the idea of there being meaning inherent to language outside of the responses it generates. What is worth studying, then, are the linguistic dynamics and gestures that link one sign to another.

A second theoretical option, and then one embraced here, is an anti-reductionist approach that seeks to identify structures of syntax rather than computational units. This "structuralist" approach, famously pioneered by semiotician Ferdinand de Saussure, asserts that linguistic structures are only defined by internal differentiations in phonemes[15]; it is only in the relation of difference that meaning is produced. This anti-reductionism is crucial for our case studies (and remains a formative influence on my own work), though here I have turned to a successor of

[14] Chomsky, Noam and Hale, Morris. *The Sound Pattern of English* (New York: Harper & Row, 1968).

[15] de Saussure, Ferdinand. *Course In General Linguistics* (Chicago: Open Court Books, 1998).

Saussure's, mathematician and semiotician Rene Thom.

Saussure's model of the sign as composed by a relation between signifier (the form a sign takes) and signified (the concept it represents) is limited by it's dyadic, static nature. In Thom's theorization of the dynamical nature of semiotics[16], discrete semantic units are dismissed in favor of *topological forms and dynamics that underly sentence structure*; the structure of a functional system of relations is more important than the physics of its elements. These topologies of meaning, which Thom refers to as *catastrophes*, are generic dynamical models for how forms (including and in particular semiotic forms) are created and destroyed. Thom also argued that these catastrophes allow for the perception of isomorphisms between changes in cognitive, linguistic, and material states.

Thom referred to his model for the emergence and dissolution of form as *Catastrophe Theory*. The keystone work of *CT* is Thom's most famous book, *Structural Stability and Morphogenesis*[17]. While *CT* was originally a mathematical formula, in the late 1970's and early 1980's, Thom utilized it as a perspective on biology and linguistics. CT is fundamentally interested in structures, particularly how the accumulation of small, local irregularities can cause large-scale ruptures at the global level. (Real-world examples of this could be the way minute variation in gene expression can cause drastic changes in how a person physically takes shape, or how seemingly sudden mass geological turbulences are the catalyst of gradual, sub-perceptual pressure shifts.

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[16] Thom, *Structural Stability.*
[17] Ibid.

In CT, the universe is characterized by flux and the dynamics of interaction. There are no "things," but processes. How, then, is there form and relative stability in spite of this? Thom proposed that there are a limited number of catastrophes that occur across the physical, biological, cognitive, and linguistic domains. These catastrophes can be described by a finite number of essentially geometric and topological shapes, from which novel forms emerge and recede.

A key concept in CT is the relationship between the dynamics of predator/prey relationships and human symbolic thought and activity[18]. These relationships are argued to occur along a set of meta-archetypes. To summarize Thom and Wildgen's hypothesis: in animal predator/prey dynamics, the predator goes through a cycle of mental alienation in pursuit of the prey. The predator must temporarily displace its relatively stable identity and "think like" or "become" its prey in order to anticipate and preempt the prey's movements. As Thom puts it: *the nervous system is an organ of alienation*[19]. This subjective estrangement reaches its apex in the consumption and metabolism of the prey by the predator, at the end of which the subjective stability of the predator is restored. In the elemental abstraction and alienation of predation, the precursor to symbolic thought emerges.

For many years during the early hominid era, humans were no exception to this original condition of the predation loop-- both as predator and as prey. However, CT argues, this does not mean that humans eventually broke free from predation loop

[18] Thom, 297.
[19] Ibid., 304.

interactions; instead, Thom suggests, humans became a *predator of concepts*[20]-- animals that consume ideas and signs. As in other types of animal predation, this involves a temporary passage of stable identity alienation (a "change in mind" or thought experiment), and humans have seized upon this alienation-via-concept-consumption to develop more robust and complex epistemic perspectives. We hunt signs in search of productive alienation, extensions of who and what we are, and who and what we still could be.

If we continue the thought experiment of selecting predation as the origin of symbolic thought, this also situates the predation loop as a heuristic for analyzing narrative dynamics in art: the construction of narrative itself can be understood as conceptual or semiotic predation. In the following chapters, I have approached Ashley, Chion, and Wishart's individual strategies (and my own strategies) for constructing narrative spaces, zones, and topologies in terms of these predation dynamics, and will shortly discuss the affordances of such a perspective. We might also view Ashley, Chion, and Wishart's relationship with their "research objects" (evolutionary anthropology, cognitive science, mathematics, etc.) as another form of conceptual predation at the meta- level: artists who take up conceptual and explanatory writing, consume it, discover a new perspective, and follow a material and/or creative hypothesis or speculation from that perspective.

There is another motif in *CT* that is of both analytic and aesthetic interest, and one that can be discerned in the work of our cast studies: there is a gap acknowledged

[20] Ibid., 313.

between physical reality and its phenomenological presentation. The world is continuous; language is, for the most part, not. This fracturing of perception into language has always been the case, and CT argues that more dimensionally complex syntax may hold the key to recovering the continuum, or making the continuum more phenomenologically available to us. In CT, the evolution of sentence structures is part of the more general process of the morphologies of natural forms (a claim echoed independently a decade later in Manuel DeLanda's *A Thousand Years of Nonlinear History*.)

CT appears to argue that language should study the structural forms of the things its seeks to describe, and attempt to arrange itself using those forms. This epistemic experiment is clearly more important than ever-- art can still permit us the opportunity to experience language and thinking that is as dynamic, complex, and unpredictable as the world it inhabits and states of mind it seeks to dramatize.

Thom wrote relatively little about art, but a short mention of its cognitive function from *Structural Stability* reinforces this compatibility: Thom argues (to re-introduce a phrase from earlier) that t*he work of art acts like the germ of a virtual catastrophe in the mind of the beholde*r[21], provoking a disruption of normative cognitive and conceptual forms. Wolfgang Wildgen, Thom's main student of CT, argues that *the departure from standard conditions of perception creates a catastrophe impact and a sudden rise of informational value... because such*

[21] Ibid, 316.

perceptions are rare and have a low probability.[22] In other words: the perturbation of mind by unusual dynamics or structures potentially allows us to temporarily perceive at a higher definition, and to integrate this experience back into language. Wildgen identifies surrealism's "astonishing transitions between visual subspaces" as an example of catastrophic transitions between signification spaces. What we find in CT, then, is an understanding of art and language use *as incitements to cognitive activity*.

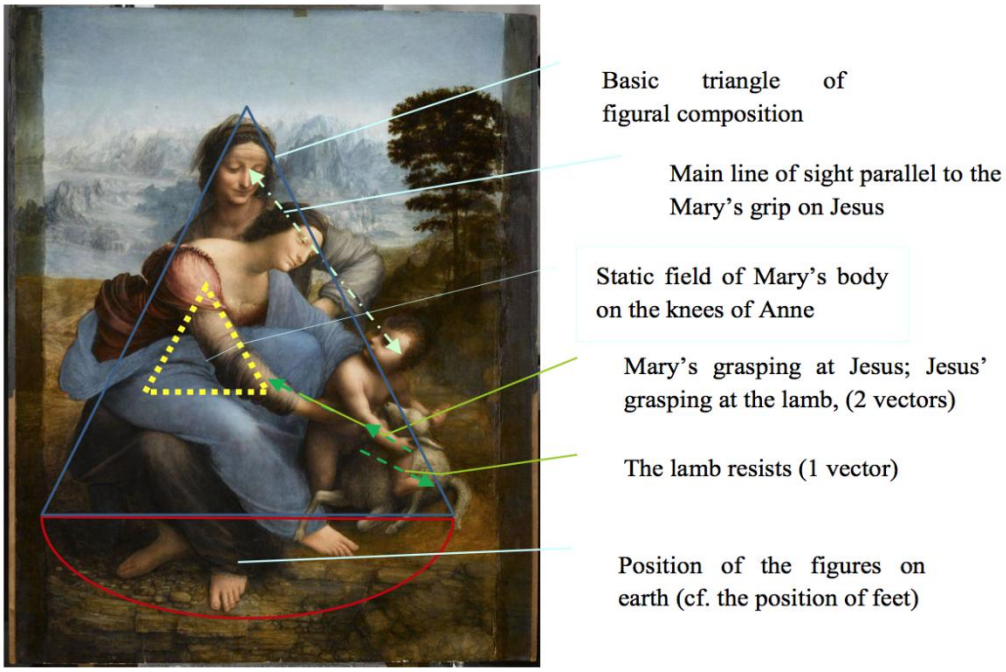
But what, exactly, makes the motifs of CT useful as perspectives for understanding the works under consideration here? As mentioned above, catastrophe theory already explicitly regards artistic practice and play as methods for inducing more plastic and flexible states of mind, and this is a useful orientation for analyzing and describing works of art that aim for linguistic, spatial, and narrative disorientation. Further, Thom's vision of language as a repertoire of interactional (and often inter- subjective) dynamics rather than combinatorial units is a useful descriptive language for the largely non- normative language uses in our case studies.

However, it is not only Thom's general, conceptual understanding of art as cognitive plasticizer and language as structured by interactional dynamics that holds appeal for the analysis and description of art. Catastrophe Theory is essentially a mathematical-- and to be more specific, *topologica*l-- model. Because of this, it involves a certain degree of abstraction: bodies, characters, and narratives are "compressed" into geometric forms; but there are affordances to be found such

[22] Wildgen, Wolfgang. "Intellectual revolutions in philosophy and art: continua and catastrophes," invited paper submitted to: Lo Sguardo. Rivista di filosofia, Edizioni di Storia e Letteratura, Milan, March 2016.

abstractions-- of temporarily assuming a perspective that prioritizes the generic dynamics of interaction. This thought experiment, I would argue, gestures to the broader potentials (to vast and complex to be properly accounted for her) of using mathematical (and especially geometric) perspectives for the analysis of art. The relatively stable abstractions of mathematics-- shapes and spaces-- might allow us to see new dimensions and interactions latent in familiar works of art. Further, CT, like much modern and contemporary mathematics, furnishes us with novel ways of grouping, classifying, comparing, and analyzing the forms that structure forms; perhaps experiments with CT and other mathematical models might inspire art criticism to make new connections between works of art or bodies of work formerly considered to be unrelated. We can observe an example of such a possibility in Wildgen's[23] visual analyses of force fields and interaction in da Vinci's *St. Anne with Mary, Jesus and the Lamb:*

[23] Ibid., 20.



Mind, Sound, Perception

One type of speech that all four of these artists (and I) deploy is *involuntary* speech-- that is, speech in its animal, reactive modes, such as screaming, crying, or, in the case of Ashley, the unintentional utterances induced by conditions such as Tourette's Syndrome. These types of utterances are commonly considered to be based in nervous system reactions. We can see why the use of such language would appeal to our artists, as these speech acts evoke the deepest, most foundational, and most dynamics of human vocalization.

Furthermore, while we have until this point focused on the use of language from a semiotic perspective, Ashley, Chion, and Wishart are all *sound* artists whose sonic world- making rivals their use of voice and text. The physio- biological processes involved in how we hear language, how we perceive all of the different

types of information present in one or multiple voices, is an equally important dimension of their work. As these artists all manipulate the aural texture of the speaking voice, it is also important to understand *what* exactly, is happening to us when we listen to them.

Both the use of involuntary utterances and the manipulation of language perception at the level of sonics compel us to drawn upon studies of perception to better understand what those basic features of perception are, and how they influence how we listen to them.

The theoretical and empirical study of human perception is a vast, interdisciplinary field; I have selected a small amount of studies of how the human brain organizes aural information that is eventually reconstructed and modeled in the mind (particularly with reference to language and voices), and to research on the evolutionary influences on language development.

Here I am indebted to a two part argument made by Wildgen[24]): 1) language is a "relative latecomer" in human evolution, and therefore most of its principles "refer to contexts of selection prior to the existence of spoken, grammatical languages"[25] and 2) the neural dynamics of the brain that language makes use of are not "hard wired," but are rather "the result of spontaneous, complex and adaptive brain processes. They are not rule or schema governed."[26] What we gain by taking seriously Thom and Wildgen's CT conception of art is a theoretical orientation that

[24] Wildgen, Wolfgang. "The 'dynamic turn' in cognitive linguistics," in *Approaches to language and cognition*, Helsinki, 2008.
[25] Ibid, 3.
[26] Ibid, 3.

approaches art not as a literary text to be analyzed, but as a catalyst for expanded modes of perception. What Thom and Wildgen both suggest is a mode of encounter with art that is less concerned with interpretation of content and more concerned with how the syntactical dynamics of artworks potentially allow us to, however temporarily, experience action within a world in a more robust, more intense way.

While much writing about sound art valorizes the experience of sound as more direct, more immediate, more sensual than visual art, what this literature provides us with is an understanding of aural and linguistic perception that, despite sound's undeniable immediacy as a physical experience, involves layers of cognitive mediation, decoding, and and modeling.

In all of my work, I have been concerned with how an environment shapes language. This emphasis on the environmental pressures on language and auditory perception *does* form a point of contact with one of the aforementioned tropes of sound art criticism-- that of the *soundscape*. However, the sound-as-environment meme has yet to account for artworks mobilizing language. What if language can also be approached as its own ecology, as a multi-dimensional topology to be entered into rather than a linear path to be followed?

I've also drawn upon the work of writers who argue that functions of mind are inextricable from physical embodiment and our sense of space. The primary resource for this is Alain Berthoz's landmark book *The Brain's Sense of Movement.* To unpack the subjective consequences of a CT approach to narrative and character development, I also refer frequently to neurophilosopher Thomas Metzinger's *Being*

No One, where Metzinger argues that our sense of being a "self" is effectively a mental model, and that when normative cognitive structures break down, our sense of being "us" can become undone. The anti- essentialist approach to language in Ashley, Chion, and Wishart results in a anti- essentialist approach to characterization, where, much like CT's models of physical phenomena and language, *identity* itself is presented as a fluid, dynamic, ongoing transformation, and Metzinger's work helpfully describes what the experiential consequences of that dynamic becoming sensible to us are.

More generally, I contend that the study of perceptual and mental structures for artistic practice/production (particularly with regard to sound art) is a fruitful dialogue still in its early stages within art criticism more broadly. While cognitive musicology has produced a robust body of literature, and there have been scattered attempts to formulate "neuro" approaches to cinema and literature studies, and attempts to bridge neuoscientific study with the humanities-- most notably *The Neuroscientific Turn: Transdisciplinarity in the Age of the Brain* (ed. Melissa Littlefield and Janell M. Johnson), sciences and philosophies of mind remain relatively exotic within art practice and history. By this, I do not mean the brain being the subject or object of art, but *using our understanding of how the brain works to structure and analyze art in ways that reflect the complexity of the world we live in today.* Indeed, there are precursors to mind-centric perspectives for the analysis of art, namely Howard Gardner's *Art, Mind and Brain: A Cognitive Approach to*

Creativity[27] and E.H. Gombrich's *Art and Illusion: A Study in the Psychology of Pictoral Representation*[28]. However, the ensuing three decades since the publication of Gardner's book have been decisively fertile for neuroscience and philosophy of neuroscience. During this time, the study of mind, as Metzinger insists, has discovered and formulated new problems regarding the experience of self and world; for example, how do we conceive of ourselves as rational or intentional agents in light of how provisional, piecemeal, and fragile our construction of "self" actually is on a neurobiological level? In what ways in the last three decades have we started to use technology to manipulate the mind (both intentionally and unintentionally), and what are the ethics of this manipulation? These open questions remain largely unreckoned with.

This, also, seems to me to be a untapped potential: if the experience of art is founded upon subjective and sensory experiences-- how we perceive ourselves and how we perceive the world-- why would it not be beneficial for artists and art critics to understand how those experiences come to be functionally possible in the first place? In the case of media studies, McLuhan's insistence that "the medium is the message" – that the *form* of information influences and determines aspects of its *content*-- has come to be a relatively commonplace critical position. But if we take this to be true, should not the hardware and software by which we *decode* the message-- *that is, our own brains and nervous system*s-- also constitute a fundamental

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[27] Gardner, Howard. *Art, Mind, and Brain: A Cognitive Approach to Creativity*. New York: Basic Books, 1982.

[28] Gombrich, E.H.. *Art and Illusion: A Study in the Psychology of Pictoral Representation.* Princeton: Princeton University Press, 1960.

perspective on media and art?

In addition to analyzing the work of Ashley, Chion, Wishart and myself through the theoretical lenses described above, this text is submitted in conjunction with documentation of my mixed- media work, *Dormant Assets*. While this work is constituted by many forms (performance, sculpture, sound installation), its nucleus is an audio play revolving around themes of utopianism and frontier rhetoric, and the relationship between environmental complexity and linguistic/affective complexity. This audio play was made consciously in the more "dramatic" style of Chion or Ashley, but using many of the more synthetic sonic techniques developed by Wishart. In the chapter *Dormant Assets,* I explicate the aesthetic and theoretical aims of the piece, the influence of Catastrophe Theory on it, and its proximity to and difference from the artists under examination.

2. Trevor Wishart

Just as we can imagine a landscape containing an utterance, so we can imagine an utterance containing a landscape. – Trevor Wishart[29]

The artistic and theoretical work of Trevor Wishart coalesces around how language, voice, and characters can transform across time. Wishart's work is defined by catastrophes (the creation and destruction of forms) and processes. His work can be understood globally with reference to the predator consuming and metabolizing its prey. The overall dynamics of this work operate by way of, as we will describe below, insistent predation. Wishart's sound compositions are in large part defined by how the sound of one thing (particularly a voice) can be transformed into another, can become one thing without there being a discernible marker of where one ends and the other begins. Rather than "linking" ideas through language-- much in the the way cinema uses the "cut" to emphasize a relationship between two images (a trait more present in Chion's work)-- Wishart never lets the listener fully "identify" the voice that they are hearing; we hear speakers whose subjectivity is always morphing into someone or something else.

Red Bird and *Globalalia* are rainforests of sound: not only in the literal inclusion of recordings of sounds one would encounter in the rainforest (as well as synthetic sounds that closely resemble ecological processes), but in the sense that the listener encounters them as disorienting and unstable sonic perspectives. Their syntax does not unite discrete differences, but instead presents language as a

[29] Wishart. Trevor. *On Sonic Art* (London: Routledge, 1985), 241.

continuum/stream of ongoing metamorphosis. Voices in these works constantly change shape and character.

Wishart's works are primarily composed of sampled concrete sounds and tightly- gated clips of of the human voice (sounding everything from language and post/proto-language to screams, cries, imitations of animals, and so on)-- both heavily treated with Wishart's own custom digital transformation software.

How we might understand *how* we hear these pieces? As Albert S. Bregman argues in his landmark work on how the human mind perceives and organizes sound, *Auditory Scene Analysis*[30], "natural sounds" are harmonically complex, lending them their sense of texture. When more than two natural sounds occur simultaneously, all of their timbral information is received by the listener at once. Bregman notes that inaccurate grouping of sounds can result in misidentifying or imagining their sources: the complexity of natural sounds, including the voice, can cause the "what" and the "where" of those sounds to be confused by the brain.

In the compositions *Red Bird* (1978) and *Globalalia* (2003- 2004), Wishart seizes upon this textural complexity and the potentials for misidentification in natural sound, in particular the human voice, as a resource for forging a virtual narrative space whose syntax subject to sudden trans- and de-formations.

Analyzing the narrative spaces of these works is, at first listen, a challenge to the speed of our typical, everyday rates of aural perception-- harkening to Wildgen's assertion that exotic or volatile conditions dilate our perceptive faculties. Wishart's

[30] Bregman, Albert. *Auditory Scene Analysis* (Boston: MIT Press, 1990).

work develops at a rapid clip, with sounds occurring at a breakneck speed; those sounds are most often small fragments of mouth sounds or utterances, often transmitting only the "tone" of the human voice. The sounds in *Red Bird* and *Globalalia* are, further, materially abstracted through the uses of audio processing techniques such as granular and spectral synthesis (the breaking down of sound into "clouds" of small grains), vocoding (the passing of the content of one sound through the fine structure of another-- think Stevie Wonder and disco), and the manipulation of impulse responses (the sonic impression of a space created by sweeping it with a sine wave; this impression can later be used as a post- production reverb, creating the aural illusion of events happening in architecturally specific spaces, but which in actuality never occurred there.)

While these compositions can be perceived and analyzed as streams of information produced by constant sonic activity, it is equally if not more important to attempt to perceive their global structures in order to better understand the processes of capture at work in them. As I will discuss shortly, we can understand these works as, among other things, experimenting with the relations between "local" and "global" aural perception, e.g. hearing individual voices in a crowd vs. hearing the general "shape"of the voice(s) of a crowd, and what happens when the *scale* at which we perceive language and the voice is not stable.

Globalalia

The perception of sound by the brain is a *heuristic* process: that is, in order to

both separate out and group the sources of sounds, the brain groups simultaneous auditory streams, inferring the provenance of sounds by matching frequencies and timbres; the brain then infers the proper groupings of those frequencies and timbres in order to figure and organize their morphologies in the scene in which they occur. That is to say, there is always something intrinsically *creative* in the act of listening, a *what if* function. According to Thom, this *what if* is also characterized by our *identifications with* what we perceive.

If the cues that *Globalalia* provides us are no more than slivers of phonemes (and often less than that), a "narrative" form in the strictest semantic sense cannot be extrapolated from it. That being said, I argue that *Globalalia,* instead of "telling a story," constructs a narrative space of processes to explore. It does so by way of a method that is closer to the way choreography signifies behavior and relationships through the constant re- positioning of bodies in space. Wishart describes this method as *gestural thinking.*[31]

Instead of listening to what the voice says to infer what is happening, the dramatic action in *Globalalia* can be heard in its choreography of vocal transformations-- in the spatial, temporal, and timbral transformation of utterances. We are invited to listen to how the voice can shift its affective and emotional expressivity-- how it can communicate intensity-- without a single full word being said.

In its first thirty seconds, *Globalalia* opens with a string of less- than- a-

[31] Wishart, Trevor. *On Sonic Art* (London, Routledge, 1985), 109.

second- long recordings of the human voice-- the effect is akin to a radio or television frantically switching stations. The voices are occasionally, and briefly, time-stretched (lending them a "smeared," insect- like quality) and re-pitched both higher and lower than the original recording. The voice recordings vary in equalization quality and room sound, creating an asymmetric spatiotemporal effect. Despite their brevity, it is still possible to discern various modes of address and affect in the voices: informative, panicked, serene, crying, laughing, yelling, grunting. The sound of a global crowd, of many competing semiotic environments, experienced remotely.

At 0:45, the space of the scene shifts, initiated by a long- decaying recording of a man screaming. The voices reappear, only they are arpeggiating, decomposed into rhythmic/tonal flecks through the use of phaser (bringing a double of the recording in and setting it off from the original by microseconds, creating a swirling effect) and ring modulation (which reduces the bit- rate of the original recording and emphasizes its pure harmonics.) This short vocal polyrhythm is soon perforated and dispersed by the reintroduction of more intelligible, less effected utterances.

Beginning at 1:19, the voices increase in harmonic complexity with the application of phaser, taking on a bell- like timbre and accelerating in speed, as if the voice recordings were becoming gaseous and evaporating. At 1:44, the voice samples are rendered so small as to no longer indicate human origin at all-- their timbre metallic and flinty, the sound of the voice compressed into raw data transmission streams; they are circularly panned around the stereo spectrum, creating the effect of the sound spiraling around one's head.

A time- stretched recording of a woman's voice appears at 2:04. The slowing down of the phonemes of her voice, which have been matched with approximate neighboring tonalities, results in the speech acquiring a vaguely melodic, “singing” quality.

As the sample size of the voice recordings slowly dilates, the voices begin to link to one another by consonant groupings. Thus, for example, at 2:37, a stream of rolled “R's” initiates; clearly, the voice in each of these samples is speaking a different language than the one that preceded it, and the same elemental utterance is “transformed” in pitch, speed, timbre, etc. not through digital processing, but by a kind of comparison montage. A musical analogy to this effect could be the way in which Feldman used subtle symmetry breakings (notably in *String Quartet 2*) across the repetition of chords to emphasize multiple competing perspectives on what is nominally the same material.

That cascade of consonants is interrupted at 2:50 by the sound of a breath being swallowed, followed by the return of the melodic time-stretched voice, which is then transposed with the earlier quickly toggling clips of speaking. The clips of speaking begin to become tighter and tighter, filtered so that the voice transforms into what sounds like rushing water. Simultaneously, the time-stretched voice begins a long, slow downwards glissandi, while morphing from human vocalization to pure sine tones. At 3:41, the voice retracts back into a stuttered, insistent phoneme loop; at 4:03, that loop arrests, and, on the final beat, time stretches and disperses while fading in volume.

In the wake of that stretched out mouth noise, another grouped stream of multi-origin consonants protrudes, “Kl,” which gradually ramp up in pitch and sample length, EQ'ing into smoother tonality, and re-emerging as a stream of “La.” This is then broken off at 4:45 by a looped woman's voice uttering the word “One,” with each repetition producing a new version of the loop that is lower in pitch than the one that preceded it-- this scene is distorted over time by a gradual decrease in its bit- rate, blurring it into an ominous swarm of aggressive FM synthesis.

These strategies for vocal manipulation-- the heavy gating of the sample, hard and swift cuts between scenes, the grouping of phoneme sounds across a multitude of accents and languages, granular synthesis, and the application of LFO (Low Frequency Oscillator) controlled filters (the effecting of sound triggered in correlation with another audio event)-- constitute the remainder of *Globalalia*, articulating, re-structuring , and deconstructing these patterns with minor variations. What kind of scene can we infer from how the voice transforms across time and scrambles the narrative voice's subjective stability in Wishart's piece?

(It should be noted that relatively recently, Juan G. Roederer, in *The Physics and Psychophysics of Music*[32], has explored the neurophysiological foundations for the cognitive “landscaping” operative in Bregman's *ASA:* “...the incoming sound pattern (in time) is projected as a pattern space on the basilar membrane-- the result is a spatial image, much like the spatial image projected on the retina[33].” This is to say that, per the opening quotation from Wishart, the cognition, grouping, and analysis of

[32] Roederer, Juan, *The Physics and Psychophysics of Music* (Springer: London, 1995.)
[33] Ibid, 194.

sonic information by the listener is always in some ways tied to the space that it models that information in.)

First, however, we need to describe the concepts operative the landscape of *Globalalia*. In his book *On Sonic Art*, Wishart provides us with some clues as to how we might group and analyze the types of vocal sounds described above. For Wishart, analyzing human utterances requires specialized categories in order to more intelligibly divide and group what he calls the "repertoire of the human voice." Here[34], in developing these categories, Wishart draws heavily upon Bateson[35], arguing that kinesics and "paralanguage"-- what Bateson calls "iconic communication"-- serve semiotic functions that voluntary, intentional language is ill-equipped to effectively transmit. (In writing pedagogy, this would be aphorized as "show, don't tell.") According to Wishart, utterances span the continuum of language: proto-language, natural language, and post-lingual expression.

Wishart arranges utterances into three classes of involuntary speech: **involuntary physiological indicators** (coughing, sneezing, yawning), **extremal indicators** (primarily screaming, but including other high-volume, high-pitch indications of distress or arousal) , and "**other**[36]." This "other" category, Wishart explains, are involuntary vocal acts where the involuntariness of the *structure* of the signal can no longer be assumed (as in songs particular to specific species of birds or insects, for instance.) These vocal acts indicate a "group membership," such as, to use a human example, national anthems. Wishart notes that Stockhausen's work, *Hymnen*,

[34] Wishart, *On Sonic Art*, 260.
[35] Ibid, 261.
[36] Ibid, 261.

experiments with degrees of alienation from such recognizable, socially-binding forms.

Globalalia contains all three classes: Involuntary physiological indicators (most often gasping) are deployed in the composition as sharp punctuation to either halt or initiate more frenetic clusters of vocals, and extremal indicators similarly serve to break up the flow of denser passages, commonly in the form of a scream or shout. The voice indicates constant catastrophic phase shifts in mind and affect.

The "other" class operative in *Globalalia* is of particular interest, as it comprises the majority of the piece. As mentioned earlier, at intervals throughout *Globalalia*, Wishart groups brief samples of speakers vocalizing the same sound in different languages and accents. Over time, this repetition/variation of sounds suggests a kind of poetic, generative syntax-- evoking generic shapes that form links across multitudes of languages; a synthetic common language formed by the common gesture of phoneme utterance. It is as if Wishart is attempting to affectively simulate this experimental paralanguage by bootstrapping the local and specific (the evolutionary origin of vocalization) to the global and continuous (universal shared vocal shapes.)

The involuntary physiological indicators and extremal state indicators in *Globalalia* can be heard as dramatizing the introduction and destruction of those provisional semiotic forms, catastrophe points in the global landscape of the piece. These moments of involuntary utterance as perforation of normative language structures suggest that, despite our accomplishments in developing language, primate

behaviors in the brain still exist and assert themselves.

In its use of *voice as landscape*, *Globalalia* suggests that the links between the local and the global (a fundamental narrative and perceptual dynamic) are not only found in intentional and descriptive content, but in vocal/speech acts without nominal semantic content as well. One could make a visual analogy in the topologic-dramaturgic differences between Renaissance painting and Chinese *gongbi* painting: whereas the former figured the relationship between body and landscape through fixed horizon points and the centrality of the subject to create a narrative, the latter, like Wishart, "arranges" elements in a landscape (water, hills, architecture, humans) without granting perspectival superiority to any single one of them.

Red Bird

If *Globalalia* serves as our primordial entrance point into artistic and compositional manipulations of the voice-- a piece entirely constructed with samples of human utterances-- Wishart's *Red Bird* (1978) expands that template to include signifiers of the world to which human utterance is responding. However it would be too simple to say that the voice in *Red Bird* is only responding to or indicating the non- human elements in the piece: in *Red Bird*, the border separating human speech (communication via intentional semantic content and involuntary utterance) and birdsong (coordination via pitch and rhythm) is made porous by the ways in which the voice and other sonic materials relate to one another both in their unfolding over

time, and through the ways in which Wishart sieves them through one another via vocoding and convolution. That is to say, the way every sound captures and predates on another.

Before delving into the landscape of *Red Bird* as a whole, this last technique warrants further focus, as it plays a large role in Wishart's practice more generally.

In *Red Bird*, Wishart frequently deploys what is called *auditory chimeras*. Auditory chimeras are, as Delgutte et. all explain in *"*Chimaeric Sounds Reveal Dichotomies in Auditory Perception[37]," created by pressing the fine structure (second- to- second pitch and texture) of one sound through the envelope (overall attack, sustain and decay profile) of another. Delgutte et all describe how, in the auditory system's de- and re- composition of sound, the envelope is the primary factor for the reception of speech, while the "fine structure" is linked to the perception of pitch and sound localization. Sound here, instead of differentiating space and objects, combines them in unusual ways.

In the hybrid sounds of auditory chimera, "the sound of speech is heard at a location determined by the fine structure, but the words are identified according to the envelope. This finding reveals a possible acoustic bias for the hypothesized *what* and *where* pathways in the auditory cortex."[38] In other words, chimeric speech events activate a momentary symmetry breaking-- a catastrophe-- in the auditory system, causing normative stream segregation of incoming sounds to become confused, tangled, mixed.

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[37] Delgutte et. All. "Chimaeric Sounds Reveal Dichotomies in Auditory Perception." *Nature*, March 7 (2002): 87-90.

[38] Ibid, 1.

In *Red Bird*, the sonic "bodies" of human utterances are reshaped to move in ways and into places the voice typically does not venture. If the relationship between a voice and a landscape is one of the primary relationships and structures of dramaturgy, what kind of scene is pictured when those relationships are continuums rather than self/other? When their identities are liquid and contingent?

Earlier, I tried to establish that the perception of sound is not a direct, unmediated stream from sound source to audition, but a cognitive process of de- and re-composing sound's constituent elements. That is to say: the perception of sound involves the transparent assembling of a virtual model (or models) of to where and to what that sound belongs. Wishart's compositional approach in *Red Bird*, particularly his use of chimeric convolution techniques, identifies a narrative affordance in the confusion and abstraction of those cognitive models. If we were to reverse-engineer these abstract vocalizations, the question then becomes: to what kind of characters or subjects would they belong?

Wishart's understanding of aural and linguistic cognition in *Red Bird* suggests possibilities of perception, address, and semiosis that are contiguous with and/or parallel to the neuroscientific subject as proposed by philosopher of mind Thomas Metzinger, in particular his book *Being No One*[39]. Metzinger argues that the experience of "having a self" is not located in any one particular part of the brain. Rather, that sense of *being me* is a transparent phenomenological self model,

[39] Metzinger, Thomas. *Being No One* (Cambridge: MIT Press, 2003.)

produced by various regions in the brain, which undergoes constant reconstruction. While the content of this model is cognitively available to us, the fine structure of this model, its architecture, is not. Thus, much like we perceive sound as an unbroken flow of sensory information, yet it is really a cognitive best- guess model, our sense of subjectivity-- emotions, memories, affect, etc.-- that feels so convincingly *us*, is actually an on- line virtual representation, something akin to a flight simulator. Our sense of self is plastic, moldable. For Metzinger, the psychological equivalents of auditory chimeras are conditions such as out of body experiences, phantom limb syndrome, lucid dreaming, and psychedelic states-- experiences which disclose the plastic nature of the brain's, and thus the plastic nature of subjectivity.

In *Red Bird*, the human voices that populate the piece are not a singular subjects narrating scenes or events, nor "characters" as such describing their experiences. Rather, through Wishart's digital voice manipulation and rapidly associative editing style, the voice is always shape- shifting into new forms and identities; voices capture and consume each other, metabolize each other.

The piece begins with the heavy breathing of a woman's voice before that voice erupts into a scream; at 0:05, that scream suddenly morphs into the percussive sound of a woodpecker's beak followed by the bird's song; at 0:07, the female voice re- enters as a spoken whisper, intoning rhythmic glossolalia, and then gradually adopting a barking cadence, which is joined by a chorus of human voices (the original voice sampled and re- pitched) mimicking the sound of dogs; at 0:25, the cacophony of human/dog voices are strafed by the sound of gunshots firing into the pack; another

human gasp emerges from the violence, which chimerically morphs into the sound of a bird alarming its flock of danger. It is as if whatever the speaking subject perceives, they become-- their syntax not describing what they perceive, but mimicking the structural dynamics *of* what they perceive. The "subjective economy" of dramatic embodiment in *Red Bird* is a volatile and shape- shifting one.

Wishart himself describes this approach : "...using concrete metaphors (rather than text), we are not telling a story in the usual sense, but unfolding relationships and structures over time[40]." Like Thom, Wishart places great emphasis on dynamics, relationships, structures, and how the forms of each undergo transformations.

The sonic metaphor in *Red Bird* is the transformation of one sound (usually the voice) into another. While the *fact* of a relationship between two or more sonic images in *Red Bird* is globally established by their proximity to one another, on the local compositional level the vividness of the sonic metaphor is also reliant upon the method and characteristics of the sonic transformation itself. The technique of passage between one sonic state and another in *Red Bird* is crucial for imaging its landscape.

Take, for example, the bridge between the two broad halves of *Red Bird*. While the first roughly 15 minutes of the composition is largely comprised of distinct, dry recordings of human exclamations, machinery, and rainforest sounds cut with sharp editing, its latter half is more diffuse, dreamier, the sound sources (which rely more on animal sounds than human voices, as the first half does) more smeared and

[40] Wishart, *On Sonic Art*, 166.

diffuse. The transformational bridge between the two, however, warrant closer attention.

At 16:00, *Red Bird* is churning, a low din of human voices replicating animal noises and recordings of actual animals. These sounds are both time- stretched to sound like wind and water (the voice once again delineating the topoi in Wishart's work), and they are convolved/vocoded/chimerized with one another, creating a continuous stream of identifications: the scream is the call is the song is the gunshot is thunder and so on.

At 17:37, a distinctly human voice emerges. This voice is low in pitch, clipped in decay, and aggressive in affect; it forms no intelligible words. What *is* discernible in this voice is the sound of it wrestling with its own expression, agitated at its inability to communicate more clearly, and attempting to break out of semantic deadlock by sheer force: snarling, rounding and elongating vowels, barking the consonants. At 18:30, the recording becomes hitched on a single, repeating particle of that still-struggling voice, stuttering overtones that blur into choral- like auditory mirages; at

18:40 these overtones are displaced sharply into the sound of shattering glass; this glass sound gradually lowers in pitch and undulates in volume and LFO filtering; the overall aural image is that of a character attempting to express themselves and the character "breaking up" under the duress of their attempts.

In the syntactic chain of *voice: singing: glass: gas,* the semiotic/narrative development of the piece from image to image is propelled by a progressive *softening*

of the voice. The voice attempting to *make sense* through force fails; its wrestling curtailed by editing it into resonant mouth sounds; those sounds are then destroyed by their convolution with the sound of a shattering bottle; those "shards" of the voice are then "liquified" by pitch modulation; which are then rendered even lighter by granular synthesis of the liquid voice particles.

According to Wishart[41], in order to understand what is going on with language in *Red Bird*, it is important to grasp the underlying "model" of the composition. For Wishart, *Red Bird* is about "the opposition between open and closed conceptions of the world." These two terms are defined here as antagonistic epistemologies: the "closed" image of the world is effectively a rationalist, teleological, linear perspective; the "open" image of the world (again, in Wishart's conception) is focused "upon the search, the breaking of new ground, and not upon consolidation or security[42]." I would contest that Wishart's valorization of an "open" image of the world aligns him closely with Thom's conception of art as catastrophe in cognitive activity and the syntax of change.

Wishart goes on to explicitly relate this open/closed archetype to language: a closed view of language would "regard meaning as residing entirely within the sphere of semantics[43]", and that questions that could not be formulated in this framework would be considered irrelevant, an attitude he ascribes to Wittgenstein[44]. The open

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41 Wishart, *On Sonic Art*, 168- 170.
42 Ibid, 172.
43 Ibid, 168.
44 This reading of Wittgenstein, however, is both selective and problematic: it relies on a narrow understanding of a position formulated in *Tractus* which Wittgenstein later recanted in his own turn towards pragmatism as he was working on *Philosophical Investigations*.

perspective on language (the push towards which is the primary narrative struggle in *Red Bird*):

...would regard semantics as merely a vehicle for the approximation of a person's meaning... Linguistic communication may involve paralanguage or the poetic use of assonance, alliteration or even song and none of these is arbitrary. Meaning can in fact be conveyed where the words cannot be found to express it. [45]

Or, in other words, "significance and symbolization is clarified through a symbol's relation to other symbols[46]," much in the way (as argued earlier) musical motifs attain both local and global metastability by way of their use and relationality. Pay special attention to how Wishart describes semantics as an *approximation* of a person's meaning-- this is a pragmatic approach to language, one which does not consider language (at any level) to have internal meaning, but which identifies the meaning of signs based on the reactions caused by those signs.

CONCLUSION

Wishart's use of 1) dialect-specific phonemes, 2) involuntary utterances, 3) convolution and vocoding and 4) complex associative structures all comprise an approach to sign relationships that is predicated on a dynamics and dramaturgy of transformation, and this approach permits fluidities in identity not otherwise found in natural languages. We might want to qualify Wishart's closed/open dichotomy with

[45] Ibid, 169.
[46] Ibid, 176.

regard to epistemology more broadly and language more specifically-- is there not a tension between his interest in scientific method and his fascination with what is in excess of "discursive" language?-- yet both *Globalalia* and *Red Bird* discover genuinely new narrative affordances in their dynamics of character transformation. Every subject in Wishart's world is a process made sensible.

3. Michel Chion

In the previous chapter, I identified some the concepts and methods deployed by Trevor Wishart. Wishart's approach to linguistic structure (both in his artistic output and in his theoretical texts) is evocative of the catastrophic moments of encounter between the voice, landscape, and technology that Adorno describes in our introduction; they construct narrative as a shape- shifting catastrophe flow, in which characters “develop” by turning into someone (or something) else. The dominant dynamic of Chion's work can be understood as the dynamic of a prey struggling and breaking free of the predator; it's dynamic of meaning is animated by internal material antagonisms. Text, voice, and space all shift in and out of attempting to possess one another, and yet can never quite fasten their grip at the crucial moments.

The “deep history” approach in Wishart's work is reflected in his theoretical interests, namely Rene Thom's evolutionary-anthropologic approaches to semiotics, and in his formal/aesthetic preoccupation with non-propositional uses of the voice (screams, cries, gasps, phoneme repetition) in early hominids. It is worth noting again that our approach distinguishes itself from Wishart's approach to involuntary vocalization.

Here, we are not as committed to a concept of vocal expression “outside” language; rather, it depends on a rather expansive and flexible definition of language, and it takes these paralinguistic expressions to be contain their own descriptive powers. This theoretical difference aside, Wishart's work still destabilizes the aural

sign/signifier dynamical relationship in his chimerizing of speech and the environment it is being triggered by.

Similar to Wishart, the voice- based radiophonic dramas of Michel Chion interrogate the generative affordances of dynamical relationships between sounds, or what could be called narrative counterpoint" However, whereas Wishart could be said to stimulate cognitive activity by fusing voices and characters together through fastening, transformation and coupling, Chion aims to do so by taking the opposite tack: *disjunction* and *rejection*.

Whereas Wishart's delirium is one of proliferating identifications and subjective affinities in the natural world, Chion's catastrophes results from the stubborn *dis*articulation of voice, text, and environment, which, in art, are more often than not meant to be transparently sutured together. To borrow from the biological metaphors favored by Wishart, his work proceeds by way of consumption and predation; Chion's work evolves via expulsion and differentiation.

This intentional friction between dramaturgic materials befits our move here into a more urbane, psychological, and electrified setting. The particular stakes of that setting are described vividly in *Noise, Water, Meat*[47], theorist Douglas Kahn's survey of post- WWII sound art. Here, Kahn argues that sound art practices from the latter half of the 20th century can be understood as being unified by three reoccurring symbols: *noise*, *water*, and *meat*.

For Kahn, the *noise* in sound art is both the literal use of "noise" (a

[47] Kahn, Douglas. *Noise Water Meat: A History of Sound in the Arts* (Cambridge: MIT Press, 1999.)

contentious term in the field, but which for our purposes we will define as "extramusical sounds"), as well as the thematic and theoretical preoccupations of many sound artists and composers with man- made catastrophes in the aural environment, namely, those of industry and war. *Water* is identified by Kahn as both the omnipresent "environmental" sound in many works, and as the elemental character of sound-as-signal-flow: liquid, fluid, malleable. Water also acts as metonym for the more general "ecological" orientation of much sound art, its continual return to deconstructions, syntheses, and forensics of space and place.

Finally, *meat* refers to the frequent presence in these works of pre- and post-lingual extremities of human expression (much like the utterances described by Wishart in Chapter 1): screams, cries, gasps, stuttering, the sound of flesh on flesh.

For Kahn, the industrial, ecological, and human crises of the 20th century saturate sound art and constitute an important part of its history; the alienation and abstraction between machine, landscape and voice are its primary drama (and where Khan echoes Adorno's thoughts from the introduction most clearly.) If the postwar crises that Kahn identifies are due, in part, to prolonged episodes of technologically-enabled violence upon psychology, ecology, and language, Chion's work produces a disjunctive syntax evocative of that alienation, in turn using it as a resource to prompt novel cognitive and affective connections to fill in the gaps.

Composer, theorist, and Groupe Recherches Musicales (GRM, France's original sound research center) associate Michel Chion's radiophonic *concrète* dramas-- *Requiem, Variations,* and *Nuit Noire*-- can be be profitably understood

within the context that Kahn outlines. Before turning our attention to each of these works in detail, it is worth noting that Chion, like Wishart, is as much a theorist as he is an artist. There is a key concept from Chion that enriches our search for narrative spaces and linguistic experimentation in his work: *synchresis*.

In his text on filmic sound design, *Audio Vision*[48], Chion coins the term synchresis to describe the cognitive effect of the disjuncture of sound and image in cinema. It finds kinship with CT in its emphasis on art as a virtual catastrophe that temporarily deranges sensory ratios in order to create novel links of relation. Thom argues that this turbulence in artistic play mirrors the fact that "the ego of the animal is not... a permanent entity, anymore than his space of vision is global... the territory of the animal is, in fact, an aggregate of local charts[49]."

Chion argues that, presented with a simultaneous sound and simultaneous image that do not bear an immediate causal relation, the mind engages in an "intuitive unfolding[50]." Further, in the introduction to *Audio Vision*, film editor Walter Murch (noted for his work on *Apocalypse Now*) asserts that the rupturing of these mental models "can open up a perceptual vacuum into which the mind of the audience must invariably rush[51]." The production of this effect, then, occurs in Chion's work via the *breaking* of syntax and sign relations, requiring the listener to reconstruct the scrambled subjectivities of its characters.

For Chion, synchresis can occur in mediums other than film; whenever there

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48 Chion, Michel. *Audio Vision* (New York: Columbia University Press, 1994.)

49 Thom, Rene. *Structural Stability and Morphogenesis*. Massachusetts: W.A. Benjamin, Inc., 1975.

50 Jacobs, Sarah; Rudy, Paul. "Noise, Dissonance, and the Twentieth- Century Spiritual Crisis: Synchresis in Chion's *Requiem*," (University of Missouri, Kansas Conservatory of Music, 2006.)

51 Chion, *Audio Vision*.

is an abstract relationship between sound and source, our mental models for figuring the scene from which the sound occurs are forced to reorganize, generating new chances for aesthetic counterpoint. This may occur either "vertically" (the simultaneous layering of sounds) or "horizontally" (the transformation or suturing of sounds.) In Chion's work, the severing between voice, sound and environment, while alienating, allows the voice to rise to a different register, where the breakup of of language becomes so intense that, perhaps, one can perceive even more subtle differentiations of emotion than normative, "sutured" listening allows.

Requiem

1973's *Requiem* is explicitly situated in its liner notes as a "modern-day funeral mass," with Chion inverting the usual purpose of the latin liturgy. Whereas traditional funeral masses are meant as song cycles of praise for the dead, Chion describes *Requiem* as a series of hymns for the living, those who feel the weight of both their own mortality and the memory of the deceased baring down on them.

The text spoken by the characters in *Requiem* is taken from traditional latin funeral mass texts (*Requiem Aeternam, Kyrie elieson,* and *Sanctus,* amongst others), and are recited in either the original Latin or Greek, and occasionally in French. Thematically, these librettos all concern acts of mercy for the dead: *Aeternam* asks for swift relief of souls from Purgatory; *Kyrie* pleads for forgiveness from earthly transgressions; *Sanctus* praises the unification of heaven and earth. The detournment of the contexts and uses of these texts in *Requiem*, as well as the harsh juxtaposition

of their textual content with their performances, evokes less a transformation in subjectivity through language than a pulling apart of the subject, or a subject that speaks but not with their own voice.

Requiem opens with a brief blast of percussive scraping noise, follow by a high- pitched sine tone. At 0:30, the sound of high-speed wind rushes into the aural frame, while the sine wave oscillates in pitch, occasionally threatening to overdrive into distortion. The wind is continually subject to varying applications of equalization and filtering effects, causing it to sound as if it is rapidly shifting distance, intensity and magnitude. At 0:41, the sounds surge in volume and quickly cut off, leaving only silence until two seconds later, when a man's voice, billowing in large-room reverb, begins to formally recite the *Requiem Aeternam*. At 1:01, a break in the text occurs, two sine waves return, only this time at far lower pitches, resembling a low-bit-rate synthesis of Tibetan monk chanting or Hindustani raga (these sine waves occasionally rise up one after the other and return to their original pitch, furthering the "alap" effect.)

At 1:34, a woman's voice enters, reciting the *Aeternam* in a soft, hushed French whisper, her voice gradually increasing in volume. Subtly, one of the sine waves morphs into reverberant water/bird hybrid sounds, which give way to lowercase wooden percussive jolts. At 2:07, an older male voice interjects, again reciting the *Aeternam* but this time in a paternal, rugged manner. The two voices phase in and out, in call- and response patterns, before they begin to overlap and entwine. At 2:23, "musical" elements appear in the form of ominous, minor- key,

staccato brass phrases, which unite with aggressive, distorted sine waves and granular noise at 2:37, and low sub-bass arpeggios at 2:49.

At 2:55, the woman's voice begins to take on an impassioned, breathy comportment, repeating *requiem aeterna*-- eternal life; this line is occasionally delivered in a sharper, hissing manner. At 3:13, the man's voice re- enters, now sounding shakier, trembling. At 3:40, the intensity of the sine tones is ramped up in tandem with a new element, the squelching of synthesizer chords. The two voices begin to speak the text in increasingly impassioned and aroused affect, suggesting that the encounter between the two characters has escalated into eroticism; this is accompanied by a simultaneous increase of intensity in clearly "synthetic," sharp sounds and processing, with the distinct presence of "transmission" and "interference" textures. At 4:08, a quickly-decaying bell swells to the forefront, silencing the electronic din.

For the remaining minute-and-a-half of the movement, the female voice assumes priority, still fever pitched, while the male voices recedes into background, now whispering. At 4:30, the voices cut out entirely, revealing an organic/synthetic rainforest mis en scene, replete with digital birds and insects. A looping horn phrase creates a polyrhythm with a distant, long- sustain gong sample. At 5:10, a chorus of men appear, chanting the *Aeternam*, strafed by granular noise; at 5:20, all sounds once again halt, with the sound of dogs barking in the extreme distance.

In this opening movement of *Requiem*, the synchretic/catastrophe point is in the fissures between text, voice, and setting. While the "script" being spoken is a

religious liturgy, the affect of the voices speaking the text are engaged in a distinctly corporeal drama of physical intimacy and emotional turbulence. This disjuncture constitutes this primary instance of synchresis in *Requiem*: while the *content* of the voice is concerned with immense theological and ontological themes, the *structure*/*action* that carries the content of that voice is far more personal and mundane; in setting the two in tension with one another, the encounter between voices/characters takes on an elevated, almost mythic quality. This insistence on separate deconstructs the typically stable semantic structure and mode of address of the dramatic or narrative voice, allowing for more dimensionally complex counterpoint between *what* is said, *how* it is said, and *where* it is said.

Musically, this drama is scored neither by traditional religious music nor any of the typical musical signifiers of threat, but by vague tonal motifs, suggesting but never overtly illustrating a state of ambient threat and unease. The mis en scene for these voice/text and action/music juxtapositions yet heightens the complexity of sign/subject relations by staging the action in an ever- morphing soundscape of "primitive" electronics (sine and saw waves, the basic building blocks of synthetic sound) and environmental sounds, suggesting a collision between environmental and technological catastrophe.

Further into *Requiem*, the movement "Sanctus" begins with the sound of rain and a Gregorian choir singing in what sounds far away-- the impression of slowly approaching and entering a church is established. At 20:20, a male voice, soft yet urgent, begins to repeat the phrase "sanctus"; his voice quickly ascends in both pitch

and volume, becoming more and more insistent until breaking out into an aggressive, desperate scream at 20:52; the voice begins to shred and lose its semantic content; at 20:57, the rain, choir, and voice cut out completely, leaving only silence; at 21:00, the voice reappears as a demonic, back- masked hiss, panning wildly across the left and right channels of the mix; at 21:09, a blast of discordant synthesizer stabs and ring-modulated concrete sounds enter; by 21:45, and ominous children's choir fades in amidst the bedlam.

In the short span of two minutes, with no "descriptive" language, Chion nonetheless summons a vivid scene of possession-- of a character disavowed of their own voice and taken over by another-- through the performance of the human voice escalating towards its physical and semiotic breaking points[52]: the single screamed word as indicator of the struggle to communicate unprecedented events and conditions, reducing the voice to sheer affect.

Requiem can be understood as a nonlinear narrative space in which the central drama is the human voice's very expressive capacity, and the struggle of language to cope with and adapt to the increasing violence and informational complexity of the world it describes. In this regard, Kahn rightly situates sound art in proximity to the work of late Beckett and Artaud, with their minimalist, percussive vocal arrangements performing the struggle to clearly express oneself in language.

In both of the excerpts mentioned above, we can hear characters searching to forge bonds with others: in the case of the *Aeternam* section, two voices parrying

[52] Thom, *Structural Stability and Morphogenesis*.

around intimacy; in *Sanctus*, a lone figure begging for communion with the group. In both instances, the performer's mood is agitated, desperate to make sense.

We can listen to the brief dramas strung together in *Requiem* as occurring under and responding to the historical situation that Kahn and Adorno describe; they are the sound of the voice and of language struggling to cope with and adapt to delirious overloads of noise (computationally- aided rushes of information), water (the large scale alteration and manipulation of the environment) and meat (the rise of both large- scale violence and human interconnectivity in the 20th century.) They dramatize the postwar subject's struggle to enunciate themselves in the face of political- technological onslaught. We can hear in them the processes of separating linguistic and vocal signs.

Through its use of synchresis, *Requiem* aurally dramatizes questions surrounding how social upheaval compels us to re- learn some of our most basic activities and habits: how do we speak to one another about the rapidly changing techno- social world we inhabit? How do we relate to one another when the language we use for identifying ourselves becomes increasingly externalized and multiplied?

Nuit noire

Nuit noire – originally conceived of as part of Chion's *Diktat* monodrama but later reformatted as a standalone work – is accompanied by a dedication to writer Philip K. Dick, an author whose work was similarly preoccupied with catastrophes of identity and epistemology. Chion writes of *Nuit noire*:

[it is] a nightmare, made up of a series of descents into different levels of dreaming, uneasiness and terror. But it could also be a wakeful night, a sleepless night of anguish leading up to death. As in my other monodramas, Le prisonnier du son or La entation de saint Antoine, Nuit noire centers around a single character who endures this nightmare. But in this piece, the anonymous hero can only be heard in moans, groans and sighs, and never emits a clearly articulated sound.

If *Requiem*'s choreography of the voice was at least in part defined by a large cast of "characters," *Nuit noire's* monodrama form derives its impact from the voice of a single character-- all vocal expressivity is sieved through the spontaneous sounds of an anonymous man, played by Chion himself. (This form positions *Nuit noire* close to late performance pieces by Wishart.)

NN opens[53] with the distant sounds of industrial construction (hammering, drills, the humming of power generators) intermixed with animal sound events (a dog howling, what sounds like a cheetah of puma purring, insects and birds buzzing.) At 49:39, a high wind gusts into the aural foreground. Low in the mix, a voice run through a harmonic resonator filter murmurs, lending the mumbling an iridescent, melodic mirage effect. Up until 50:00, the aural tableaux is one of a hybrid technologic/biomorphic landscape, populated by synthetic lifeforms, the patterns of their at- rest calls cascading across it.

At 50:00, a close- mic'd man's voice begins to stir from sleeping, slowly groaning. At 50:32, the voice starts to lazily form unintelligible vowel sounds. At

[53] *Nuit noire* is included on the CD edition as part of one unbroken track with *Requiem* and *Variations.* The time coding here reflects this.

50:42, an exhalation from the voice is immediately echoed by a reversed recording of that exhalation. As the voice gradually starts to roust, it is more and more distinctly trailed by a kind of sinister echo chamber, until the voice gasps at the sound of a door closing. The voice groans as if to sub-vocally wonder *what was that?*

At 51:14, the intensity of the landscape beings to increase: dogs resume barking, a heavy elemental presence of water and fire rise up in strength and volume (It is worth noting that the spatial relationship between the voice and the rest of the mis en scene remains ambiguous; it is unclear where, exactly, the action is occurring.) At 51:27, the voice emits what resembles a phrase of a song. The sound of a full storm begins to move in, and the voice can almost be heard to ask, again, *what is this?* The voice calmly rises and falls, almost in satire of the singsong affect of "sleep" mumbling or exaggerated snoring in cinema; it responds in the most minimal of gestures to the perturbations in the background.

However, as the piece continues, it becomes clear that the recording of the voice is being subject to pitch modulation, most often pitched lower than its natural state, giving it a sludgy, destroyed quality. This is the first indicator in *NN* that there is more at play than a man sleeping amidst the outside swarm of noises.

At 52:44, the man's voice begins to form more distinct phoneme sounds, until at 52:49, the voice sputters and stretches while the sound design becomes increasingly violent: clashes of metal and doors slamming; voicing intoning in low drones resembling Tuvan throat singing; high-pitched electronic noise; the intensification of rain sounds. Suddenly, the voice begins to sob uncontrollably, only

to abruptly halt and subside into calmer moans.

When the voice yawns at 53:57, the trail of that yawn is extended by the sudden application of a reverb that could not have possibly occurred in the room where this voice sleeps. This spatial uncertainty is not limited to the confines of the (we assume) bedroom. The dichotomy between "outside" and "inside" space in *NN* is continually undermined-- wind and water appear throughout the piece, but in each appearance they are positioned at different points within the stereo field, are given a radically different equalization treatment, and/or reverberate with dissimilar impulse response patterns. What is organic and what is synthetic is always unclear. As in *Red Bird*, the "natural" world here is figured as a contingent and unpredictable rainforest, eluding and eroding fixed perspectives.

At 54:40, the voice becomes more active. A gasp is refracted and distorted through various impulse responses and delays, generating a "hall of mirrors" effect; it then begins to sputter, spit, click, and pop with the lips, before giving way to a kind of minor vocal morse code made from quiet glottal stops, as if struggling to inhale.

The scene abruptly shifts at 55:52, where the sound of a train seems to pass straight through the bedroom (as with the environmental sounds, the exterior world continually incurs into the interior world, both domestic and mental) followed by the voice once again attempting to form words but only managing fragments: *ahhh*; *faaa; eyaaa; ohhh;* what sounds like the metal strings of a zither are faintly sounded towards the foreground. The voice screams, and is quickly followed by a glockenspiel ascending in scale, which then transforms into the sound of glass-on-glass, and which

is joined by the low oscillations of a large jaguar's purring. The glass-on-glass returns, only its pitch is now unpredictably ascending and descending, and a ghostly, ring-modulated second voice appears like a low- resolution apparition. The voice makes yet another attempt to enunciate, yet is cross-faded with the sound of steam, causing the enunciation to evaporate instead.

In the denouement of *NN*, the exterior/environmental sounds have fully overtaken the original domestic interiority the piece begins in. At 1:06:17, we hear the clamor of multiple types of wildlife, the radiator clanging, an insistent knocking; at this point, the voice is pitched to absurd, even more unintelligible depths, rendering it something between abstract sound event and large animal cry. What originally sounded like knocking occasionally and abruptly turns into drilling or jackhammering, which is then interrupted by discordant piano note clusters and another voice in the distance, filtered so as to be unintelligible. The stability of sound and speech-- their regular interactive patterns-- here are always threatening to escalate and eventually break apart.

In the final two minutes of *NN*, a woman's voice enters, once again whispering softly while the sound of machinery and animals continues to stir. After a blast of hammering noises, *NN* begins to fade out on the sound of the voice slowly breathing, with the breath transforming into the sound of wind and back again; the very last sound we hear in the composition is the voice issuing slurred, narcotic laughter.

To better understand the role of the voice in *NN*, it is worth returning to a small clue: the dedication of *NN* that Chion makes in the liner notes to Philip K. Dick.

Chion and Dick were mutual admirers of each other's work: Chion identified early on with Dick's penchant for iterative, disjunctive, and often delirious character development (what Chion describes as multiple viewpoints novels, those where each chapter we enter the skin of a different character), and how Dick understood language as fundamentally a medium of control and power.

The action of *NN* echoes the central theme of many of Dick's novels and short stories: the plastic nature of perception and subjectivity. PKD's novels are by and large populated by characters who can no longer discern if their own memories, stories, and experiences belong to them-- something akin to Thomas Metzinger's "view from nowhere" thought experiment, in which Metzinger wonders what kind of subjectivity would arise from agents who feel no ownership over their memories or sense of self. What kinds of narratives would arise in a situation where characters are unable meaningfully form new semantic links? What if we could not link one thing to another, one event to another, or ourselves to anything else? What would that sounds like? What would that feel like? Chion's audio plays can be heard inhabiting this thought experiment, heightening the experience of terror that would likely ensue from it.

NN concludes with no clear answers regarding the relationship between the involuntary utterances of the sleeping protagonist and the sounds that seemingly swirl around him (elements, animals, machinery, sound effects, etc.) However, in *NN*, in a related but far more reduced and insular manner than *Requiem*, we can discern a synchretic approach consonant with CT operative. There are multiple attributional

breakages in *NN:* we cannot see the protagonist, yet were are given (by way of vocal emissions) a sense of his physicality; his voice reacts to external stimuli, yet both his reactions and said stimuli are staged as unreliable, capricious, and unpredictable. The distentions and distortions of the texture and recording of the protagonists voice suggest that his attempt to negotiate the environment (real or dreamed) provokes not just a semiotic break, but a physiological overdrive as well. With dark humor, the laughter that concludes *NN* may be the sound of the delirium and catastrophe that Metzinger's thought experiment suggests.

The audio dramas of Wishart and Chion seem to be motivated in large part by a desire to lure the listener into collaboration; refusing to cast the voice as a grounding, orienting presence or to present a linear narrative, instead the voices we hear in Chion's work (and the environments they inhabit) force us to listen to subtle vocal gestures-- changes in pitch, upticks in physical exertion, etc.-- responding to abstract environments, compelling the listener to forge their own connections between and organizations of sound events. Chion's work (and Kahn's broader cultural situating of 20th century sound art) indeed engages the question of ecology and semiosis, but the ecologies of Chion's work are man- made, synthetic.

Thinking back to Adorno's assertion that the man- made environmental catastrophes of the 20th century have shattered our ability to explain and order the world in language, we can hear Chion's work taking place in an environment where-- despite being built *by us*-- the mediations between world and language has been

ruptured[54]. If, according to Thom, there exists an isomorphism between mental, linguistic, and physical/material dynamical structures, we can hear in Chion's work the psychedelic consequences of voices struggling to communicate about a catastrophic and alienated world. We, as a culture, have, largely through the use of language, taken over the forms that environments take, and these man-made environments impress themselves upon our language and minds that organic environments do not.

What Chion's work speaks to (sometimes in spite of its own theoretical commitments) is the ambivalent nature of this rupture. While the rupturing of evolutionary bonds between sound, environment, and bodies came about largely through upheaval and violence, and while the traces of that upheaval and violence remain in the fabric of social sign- production, it can also be said that, following Marshall McLuhan[55], those conditions also produced a bifurcation in language. For

[54] It is worth pausing here to ask if Thom's description of mind, language, and world as sharing some kind of geometric isomorphism is not simply a modern/mathematical revival of what Foucault describes in *The Order of Things* (New York: Vintage, 1996) as a 16th-century epistemology. In the medieval worldview, everything was considered to resemble everything else, and the world was ordered according to this resemblance: faces in rocks, heavenly "bodies," and so on; this was, according to Foucault, a kind of crude anthropomorphism. To fully address such a question-- or Foucault's critique of representation more broadly-- is beyond the scope of this dissertation, but there are two points to be raised initially in response. One, whereas the medieval worldview was fundamentally anthropocentric, a mathematical description of similarities in dynamics and morphology works in the opposite direction, by disenchanting the priority given to human cognition and situating it as continuous with the material world out of which it arises. Second, it is true that, in spite of this difference, Thom's vision rests upon a mathematical Platonism. I am agnostic about the ontological "realism" of mathematical Platonism-- I am more interested in it as an abductive, model- based heuristic device for generating perspectives-- but as Zalamea demonstrates in *Synthetic Philosophy of Contemporary Mathematics*, many mathematicians consider the abstract forms they "discover" to be "real" and to exist concretely in the world. I would argue that Foucault's archeology of medieval anthropomorphic epistemology is not mappable onto the trans- domain motifs developed in contemporary mathematics, which do not project human likeness into the world, but act as synthetic perspectives from which to discern *patterns as such*.

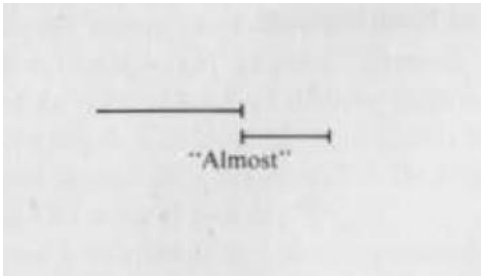
[55] McLuhan, Marshall. *Understanding Media: The Extensions of Man*. Cambridge: MIT Press, 1994.

McLuhan, the development of electric and electronic means of telecommunication caused a global shift in sensory ratios; that is, technological shifts in how we communicate changed our capacities to *know* the environment and *how we communicate about it*. For Chion, the drama is not so much in *what* the characters say, but in the struggle for them to speak in their own voice; language is used not to drive plot or character development, but to deconstruct the typical bonds and identifications made between voices, bodies and texts in narratives.

If the main dramatic motor in Wishart's work is the potential for cognitive scrambling in chimeric speech, in *Requiem* and *Nuit noire*, then, it is the opposite: in Chion's work, the narrative engine is the synchretic disarticulation, breakdown, and rejection between our biologically-constrained linguistic capacities and the unprecedented exterior and interior worlds that the characters are encountering. Instead of using vocalization to create novel mental hybrids, here we can observe the use of language to pry open a mental gap.

4. Robert Ashley

In this chapter, I examine the vocal performances and textual experiments present in the avant-opera project *Perfect Lives* by composer, artist and writer Robert Ashley (1930-2014.) I describe these uses of language and voice in terms of an overall behavior of *detour*-- that is, how Ashley approaches signification and storytelling-- the way he predates upon signs and how signs predate upon one another in the world-- indirectly and asymptotically. This dynamic tendency can be characterized by the "almost" morphology in *Structural Stability*[56]: generating relational meaning by never quite making contact.



While many scholars have noted that describing what, exactly, Ashley's work actually *is* can prove difficult[57], there is a consensus (endorsed by Ashley's own writings and interviews) on a qualified use of the term "opera," though the phrase "sound- text composition[58]" is a perhaps more accurate descriptor. And yet, even this term is not comprehensive, as Ashley's oeuvre also contains instrumental music and

[56] Thom, *Structural Stability*, 307.
[57] Gann, Kyle. *American Composers Series: Robert Ashley* (Champaign: University of Illinois Press, 2012), 1.
[58] "Liner notes for Perfect Lives," Lovely Music: http://www.lovely.com/titles/cd4917.html (accessed May 1, 2017)

installation art as well.

By comparison, the aural materials and conceptual approaches present in Ashley's work differ from Wishart and Chion's work in a number of significant ways (though he does share important commonalities as well). For one, it contains far more discernible and intelligible literary *text* than anything produced by the rest of our cohort. Due to the explicitly theatrical nature of Ashley's work, there is also a much greater emphasis on the *embodied relationship* of speakers to these texts (both in the performer's recitation of them and encouraged improvisation away from them), and there are figures in his operas that can be intelligibly understood as characters, however fluid the subjectivity and identity of those characters may be.

Further, Ashley's mature vocal pieces contains little to none of the concrete, sampled, or synthetic "sound design" of the aforementioned artists, favoring spacious, minimal arrangements that often include tonal music in addition to almost sub-perceptual electronic manipulation of voices and low-volume/low intensity synthetic sounds. In this way, it is also softer, more impressionistic, and less violent than works such as *Red Bird* and *Requiem*.

Perfect Lives is the only work under consideration here that includes multiple visual components (while still retaining a sense of being a primarily sound- based art object.) It would be erroneous to think that, despite the seemingly more "conventional" qualities of Ashley's work, it is any less radical in its interventions into language; these interventions are only achieved by different, more diffuse means. As Thom rightly argues in *Structural Stability*, not every catastrophe presents as

immediately “catastrophic.” There are indeed soft, diffuse, ambient catastrophes that happen gradually, over time, without us noticing its formation.

Whereas Wishart's narrative dynamics emerges from the motifs of *capture* present in his work, and Chion's syntax from his use of synchretic *rejection*, Ashley's work finds its semiotic activity in the “almost” or ***detour***, dispersing the character's language, subjectivity, and memory through many meandering paths. That is to say, instead of fusing voices and events together or radically decoupling them in order to evoke narrative action, the voice and the text in Ashley's work drifts, wanders, and repeats (with each repetition producing a variation); it frequently sounds as if the performers in *Perfect Lives* are attempting to scan and understand their environment *with* language, every repetition the equivalent of running one's hand over a surface to test its stability. There is a telling passage to this effect in *Perfect Lives*—one in which the content of the text mirrors both the techniques of performance and content of narrative action-- when the choir intones[59]: *Sound is a part of understanding/and among arrangements of sound/we have talk/which is a habit/well said.*

Similar to Wishart and Chion, however, Ashley's use of the voice (and language) generates a syntax that reflects mediated isomorphisms between environment and language, and is similarly developed to agitate our the character's subjective metastability.

Indeed, Ashley's personal definition of opera was concisely given as:

[59] Greenaway, Peter. *Four American Composers,* film, (1983; London: Transatlantic Films).

characters in a landscape telling stories musically[60]. From this perspective, his work can be heard as continually experimenting with each of the terms in that formulation (and with the relationships between each of those terms) to see what happens when classical Western dramaturgical conceptions of how landscapes, characters, stories and music behave are subjected to the syntax of television-- a highly excitable, immersive topological space.

I would like to argue that what happens is: language becomes, as Marshall McLuhan asserts[61], more "ambient," more akin to fog than a stream. As Thom asserts, language and meaning undergo the same material phase states as physical matter; thus, the way we "make sense" may become harder, more gaseous, etc. Television, at least until the advent of streaming services like Netflix, was for the majority of its history defined by interruptions and detours in the form of commercial breaks. At regular peak intervals in television programs, the viewer is suddenly taken to unrelated places, with unrelated messages. That is, the landscape of television as the setting for *Perfect Lives* allows Ashley to meditate on how language can be still signify in a more diffuse way, and that this diffuse use of language has major subjective and cognitive consequences for the subjectivity of its characters.

Ashley expressly conceived of all his operas for television broadcast, though only *Perfect Lives* ever actually made it to TV. Moreover, Ashley frequently emphasized that his work should be understood as taking place *within* the collectively inhabited imaginary landscapes of television, and that it is written using the formal

[60] Waterman, Alex. *Yes, But Is It Edible?* (Amsterdam: Sternberg Press, 2014), 9.
[61] McLuhan, Marshall. *The Playboy Interview: Marshall McLuhan* (Playboy Magazine, March 1969), 2.

languages indigenous to the landscape *of* television genres such as news broadcasts, soap operas, and, in particular, advertisements. As John Sanborn, director of the Kitchen- produced television version of *PL* stated: "...we wanted the structure of the content to be isomorphic with the medium that it's happening inside of[62]."

Personality Habits Well Said

To examine *Perfect Lives* requires a different approach than our previous artists. Part of this requirement arises from the fact that, as an object of study, it has assumed many forms, and, even within those particular iterations, its materiality is mixed and trans- disciplinary. *PL* began life as a series of live duo performances in the late 1970's featuring Ashley himself aided by producer Peter Gordon. Experimental performance space The Kitchen in New York City eventually produced the work in its entirety for television (to later be broadcast on Channel4 in the UK.) Subsequently, *PL* became the subject of a documentary by filmmaker Peter Greenaway, who also re- stages segments from the piece within the film.

In 2013, artist and Ashley scholar Alex Waterman produced a new spanish language version of *PL* (*Vidas Perfectas*) for the Whitney Biennale. As *PL* continues exists as a living work across these forms, it is suitable to approach it as a fictional space or world to enter, rather than as a single composition or art object.

PL also requires a different mode of listening than sound art made in the post-Schaefferian, *musique concrète* tradition. In prior chapters, I have discussed how

[62] Greenaway, *Four American Composers*.

Wishart and Chion favor discrete events in their compositions; sharp, determinate "cuts" in the aural montage enacted by sudden, short- decay sounds (explosions, doors slamming, exclamations, etc.) that can be mapped out onto a linear timeline. These distinct events are also often "vertically" complex, in that they often cast many simultaneous sounds and events all at once.

In contrast (and consonant with the thematic motifs in his work), Ashley's compositions-- like many compositions in pop genres-- rely more on their cumulative, global sonic and narrative experience for their impact. While *PL* is not as *sonically* "active" or "varied" as works by Chion and Wishart, there is, in Ashley, an abundance of literary, *linguistic* activity-- the text will switch subjectivity, perspective, and mode of enunciation-- and in a *performative sense*, as the performers will jump- cut their intonation, affect, and volume. Yet even the aforementioned "hard montage" techniques are smoothed out and given consistency by the almost-singing vocal style. *PL* does not strike; it meanders.

Ashley may be, in this cohort, both the most mathematical (particularly in his use of graphic scores and instructions for his performers) and the most intuitive/romantic (his interest in pop culture and the cheeky pastel art design in *PL*, his lifelong investigation of his interior states via automatic speech.) Ashley's work is, by a large margin, the most *pop* amongst our case studies-- it is colorful, wry, sometimes sentimental, and unafraid of moments of joy and beauty. In this way he is also an important example of an artist who has consumed heavy themes (American cultural identities, reincarnation, the breakdown of the bicameral mind) and who

traffics in highly "formal" compositional methods and structures, yet who enfolds these methods and inputs into a pop- adjacent language that contains non of the austerity and foreboding of, say, a Xenakis composition. Ashley stands as an important example of how "experimental" work need not conform to a codified set of self- serious aesthetics or affects. Ashley's work is, in other works, *playful*.

This playful, meandering register is worth keeping in mind when mapping and describing the world of *PL*. Play, along with art and delirium, is considered one of the "three important kinds of human activity[63]" by Thom, who argues that in the autopoesis of rule-based play, we may discover new dynamics and structures not available to normative perception. Play can produce new knowledge despite (and sometimes because of) its minimal systematization and ignorance- preserving capacities; importantly for artists, a vague hypothesis can eventually lead to a clear description or understanding.

For this reason, I temporarily depart from the more stratified, time- coded methods used in Chapters One and Two and rely instead on descriptions of reoccurring aesthetic and conceptual motifs within *PL*, with particular attention to the performance of the piece.

Perfect Lives has been famously described as "a comic opera about reincarnation[64]," and indeed aspects of the libretto are lifted and re-appropriated from *The Tibetan Book of the Dead*. Nominally, the story of *PL* revolves around two musician grifters, Raoul and Buddy, who take up residency in a Midwestern cocktail

[63] Thom, *Structural Stability*, 317.
[64] *Perfect Lives* liner notes.

lounge (*The Perfect Lives Lounge*) with a scheme to rob the local bank of its money and to hold it only for a single day, in order to "let the world know it was missing." A pact is made: if they get caught, it's a crime; if they get away with it, it's art.

In a manner consciously evoking soap opera, Raoul and Buddy become entwined in the lives of a number of local characters (though Ashley refers to them, with shades of Thom's "chreod[65]" concept-- which posits a world in which forms arise and are destroyed according to developmental pathways that underly the natural world-- as "archetypes")-- bank tellers, eloping high school students, the elderly residents of a nursing home-- and the conversations (and interior monologues) among the ensemble form the nucleus of the piece. There is not much in the way of "action"-- the characters spend most of their time discussing what they are about to do. It would not be entirely accurate to refer to there being a "plot" as such, either. Ashley once remarked that[66] exposition and plot felt to him like relics of an older, pre-WWII storytelling style, and *PL* exemplifies this psychedelic semiotic approach: there is no linearity or direct contact between characters within the work, only the drifting in and out of focus of impressions in the character's minds, which sometimes intertwine.

Performance and Text

This approach is finds its voice in Ashley's own performance as the narrator of *Perfect Lives* in the Kitchen- produced television version of *PL*. While short image

[65] Thom, *Structural Stability*, 320.
[66] Gann, Kyle. *Robert Ashley*, 56.

fragments of narrative tableaux appear throughout the episodes (each television episode of *PL* was 26:45, then the maximum time for a broadcast half-hour including advertisements) – a depopulated park, lovers sat next to one another on a bed-- the main visual aspect is an occasionally reframed medium shot of Ashley standing at a microphone; nattily dressed in a silver suit, silk scarf, and violet- tinted glasses, flanked by minimalist neon lighting design and backgrounded by a turquoise chroma-key screen. Ashley's play with color design knowingly riffs on the saturated hues associated with 60's psychedelic art.

Ashley's voice is shaded by near- continuous piano and synthesizer accompaniment played by "Blue" Gene Tyranny, and minimal percussive and electronic accents provided by producer Peter Gordon. Tyranny's piano and synth figures delicately reference disparate 20th century American musical forms: radio and television advertisement jingles, waiting room muzak, cocktail jazz, early experiments in synthesis, and Uptown minimalism. The tempo remains at a loping 72 beats per minute throughout, though the time signatures are complex and shift meter frequently. This use of tonal, pulsed music additionally distinguishes Ashley from our other artists.

The music in *Perfect Lives* doesn't "develop" in the traditional sense so much as obliquely associate from one theme to the next, cycling through the musical subconscious of the US, as if scanning terrestrial radio, modulating themes underneath the ensemble's voices. Gordon occasionally treats their voices with signal processing, but the effects tend to work as sonically "graphic" ways of aurally

stressing or highlighting a key word or phrase with a streak of delay or a glint of ring modulation. Think of the way the visual text of a catchphrase in a television advertisement might suddenly become engorged with color as a "stinger" at the end, or the eye- catching design of text in Pop Art and Brazilian concrete poetry.

Ashley's narrator is also occasionally joined by an ensemble of his collaborators, who provide brief, choral interjections and longer sung/chanted moments, but the dominant vocal presence is decidedly his. In addition to narrating, Ashley plays multiple characters, as do the other actors, sometimes swapping roles with one another from chapter to chapter. As mentioned earlier, this emphasis on group vocalization as a *social practice* distinguishes *PL* from our other artworks, and aligns it more closely with musical projects such as Cornelius Cardew's Scratch Orchestra.

For Ashley, a group coming together and learning to perform a text together is the basis of a community; in interview he once asserted that "music is a social artform before it is a sound object[67]." This stance, of course, is almost diametrically opposed to Schaeffer's influential concepts of the *sound object* and *reduced listening*[68], both of which demand an austere, high- modernist, phenomenologically reduced approach to composition and listening, and whose traces can be obviously discerned in Chion's and Wishart's work. The presence of performers attempting multiple types of variations on the text introduces a far higher degree of dimensional variables and contingencies.

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[67] Waterman, *Edible,*15.

[68] Schaeffer, Pierre. *In Search of a Concrete Music* (Berkeley: University of California Press, 2012).

Much of the diffuse syntax in *PL* is produced by the way the performers negotiate and deliver the text, though *PL* has no traditional written score. Instead (as documented in Greenaway's film), the performers face a battery of teleprompter monitors, sync'd to vertically scroll the libretto, with a margin cutting across the screen to indicate when to speak a particular line.

Sometimes the performers are familiar with the material, and other times they are presented with text which has been kept from them during rehearsal; one of the singers in *PL* says that "certain things are prescribed, certain things are not, and even the things that are prescribed are not guaranteed." In either case, following the *rhythm* of speech becomes the unifying vector for the performers. This group teleprompter technique can be heard to induce the affect of television newscaster presentation-- a "conversational" tone that is both stilted and exaggerated. It is a tone that does not permit immediate emotional identification with the performers.

When characters in *PL* express emotional content via interior monologue or in dialogue with another character, there's never anything "confessional" or naturalistic about the delivery (however, there is not pure disjuncture between voice and text either.) These vocal performances are more on the order of "representation" rather than "acting." It is as if the characters are attempting to assemble identities for themselves using phrases, quotations, memories (theirs and others) and images circulating in the landscape of television as the materials; that is, linguistic and vocal *detours* to subjection and signification. The characters in *PL* do not find subjective consistency in introspection towards an essence, but in their *behaviors*, in the ways

they return to and depart from different modes of being and speaking.

In his monogram on Ashley, composer and critic Kyle Gann writes, referring to the vocal performances in *Perfect Lives*:

...the singing technique used in these works is not what people expect from opera... in general, the lines are sung on and around a kind of reciting pitch, what Ashley calls a "character defining pitch," that is, a pitch somewhere in the singers range that forces a certain "character" to emerge.[69]

This "character defining pitch" may be the most striking aspect when encountering *PL* for the first time. Ashley's affect as narrator is not immediately intelligible; it has been compared to that of the late-night American radio DJ, and there is indeed an opaque, close-mic'd, vaguely Beat- era performance of cool about it. There is a wry humor in his delivery, which morphs between hushed, almost glossolalic murmuring, story recollections, deadpan outbursts of corporate jargon, and classicist philosophical dialogue.

Perhaps most importantly, in tone and timbre it feels poised somewhere between speech and song. Throughout *PL,* Ashley and the ensemble pitch their voices both slightly higher and slightly lower than their natural speaking voices (which is "felt" more than distinctly heard) just enough to sound as if effort is involved, and their recitation of the text drifts between this character- defining pitch and what obliquely approaches outright singing, though there is little melodic development in the singing melodies, lending them a modal color.

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[69] Gann, Kyle. *Robert Ashley*, 60.

Speech and Music

Ashley has stated that in *PL*, he was trying hard to reproduce the music of the way people talk, and *PL* does not sound simply like language set to music for added dramatic effect; rather, the vocal performances edge toward the emergence of song without "song" ever fully coalescing, and in doing so allows the voice to wander across a continuum of singing and speaking, lending new emotional resonances to natural language. What Ashley's work allows us to experience is what Wildgen, as mentioned earlier, describes as the "smoothing" effect of musical behavior on the stratifications and competitions produced by language.

(It is worth noting that while the syntax of speech and the syntax of music are phenomenally represented to the brain differently, the underlying mechanisms that activate and coordinate these representations are the same[70]. That is to say, there is no actual difference *in kind* between how the brain functionally processes the structures of language and the structures of music.)

There is a motif in *PL* that makes this finding relevant for us: if there is such a foundational relationship between how our minds decode linguistic and musical syntax, can the meaning- making of language be augmented (particularly within art) with the associative logics that we use structure music? If we suspend the linear demands on language-- imposed mainly by print, and utilize the structural affordances

[70] Ibid, 297.

and concepts of music as its syntax, can more robust pathways of signification be forged? I would argue that *PL* answers in the affirmative. As mentioned earlier, Ashley's thinking is concerned with how the "impossible space" of television not only conditions language-- but also is a site for the emergence of linguistic novelty. We can see how a more "musical" syntax for language would appeal to Ashley as a reflection of this setting.

Why is that? As Patel argues, musical structure is inherently spatial and geometric, and that *It is a network of interconnected patterns in the mind derived from a sequence of pitch variation. That is, the human perceptual system converts a two-dimensional sequence (pitch vs. time) into a rich set of perceived relationships*[71]. We can extrapolate from this statement that in the act of listening to sequential, rule-based, tonal patterns, the mind produces a virtual, three-dimensional model that integrates the various local- to-global relationships. As Ashley considered the spatiality of television to be constructive, multi-dimensional, and ambient, a linguistic and narrative syntax that arises from within this environment would be, as in the case of *Perfect Lives*, similarly non- linear and malleable.

We can say, then, that the character defining pitches used in this piece is an attempt to develop such a modality, a manner of speaking and narrativizing that uses subtly musical tonality to soften/plasticize language into new associative patterns in language. Patel notes that, for both music and language, the "boundaries of ideas are

[71] Ibid, 190.

contoured by pitch[72]. That is, when we speak to one another in conversation, one non-linguistic-- but still vocal-- way we subconsciously identify and isolate ideas is through differences in the pitch of our voice. This is why in empirical studies, listeners are good at decoding affective information about speech even if the words are emotionally neutral or semantically unintelligible[73]. From a musical perspective, this is analogous to a coherent musical gesture or thought being rooted in a scale or key. *Perfect Lives* wagers that perhaps setting the voice in the liminal spaces between song and speech creates a syntax where one may arrange textual narrative with the complex (and non-linear) structures of association found in music. Here, the timbral dimension of a voice is an important aspect (and not "mere ornamentation") of making meaning.

Self and Habits

In addition to emphasizing the cognitive proximity to language and music, *PL* also explores the cognitive proximity between language and para- language. This motif is consistent throughout Ashley's work, most famously in the composition *Automatic Writing*, which documents an outpouring of Ashley's "involuntary speech," a phenomenon that fascinated him due to his own Tourette's Syndrome diagnosis[74].

While language's power is often argued to be located in its explicit, intentional content, Ashley, like Wishart, is interested in linguistic incursions from the edges of intent, which is reflected in *PL's* use of what critic Dan Fox describes as *dialect*

[72] Ibid, 192.
[73] Ibid, 345.
[74] Ashley, Robert. *Automatic Writing*. Lovely Music, 1996.

*patterns, chanting, ultrafast speech, ecstatic religious preaching, involuntary speec*h... *in which characters understand the world verbally as opposed to physically.*[75] In *PL,* Ashley and the ensemble will often exaggerate pitch to caricature regional North American accents; increase the speed of their delivery until it is nearly unintelligible; speak what sounds like nonsense; clip phrases from sentences and loop them; and engage in what sounds like one mumbling in their sleep. The perforation of an intentional narrative voice by these involuntary utterances evokes a thin linguistic membrane between sense and nonsense.

Above all, these aspects of the performance (both scripted and improvised) feel *compulsive*, and they are most often semantically repetitive; this dual quality imbues moments in *PL* with the sense that each character is attempting to coalesce their identity through linguistic behavior, but also negotiate continual semiotic eruptions from "elsewhere". As Ashley scholar David Gutkin notes: *Ashley's conception of "real" character was never predicated on the imagination of an individual's irreducible essence but on what he called distinct "personality habits"... these habits bridge the involuntary and consciously performative.*[76]

This anti-essentialism in *PL* cascades across the work as a whole: at the level of both textual content and aural performance and production, there is the sense that all language use is saturated with both performative and involuntary dimensions. This fascination with language's involvement in "personality habits" has the effect of rendering the *mode of address* in *PL* always indeterminate, departing for elsewhere.

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[75] Fox, Dan. "American Opera," Frieze Online: https://frieze.com/article/american-opera.

[76] Gutkin, David. "Meanwhile Let's Go Back In Time: Allegory, Actuality, and History in Robert Ashley's Television Opera Trilogy," (*The Opera Quarterly*, Volume 30, 2014: 6).

We can say that the main affordance of this indeterminacy, of undermining the authority of address, is for the listener to perceive one voice speaking as many, disrupting our expectations of consistency in subjecthood.

Intriguingly, in a footnote, Gutkin mentions the influence of evolutionary psychologist Julian Jaynes, in particular Jayne's book *The Origin of Consciousness in the Breakdown of the Bicameral Mind*[77], on Ashley's approach towards linguistically constructed subjectivity. The conceptual kernel of Jaynes' anthropology of mind is that self-reflexive meta-consciousness in humans arose much later in history than previously thought, and that, prior to this cognitive shift, humans experiencing what we now call an "internal dialogue" perceived that voice as exogenous to them, as coming from someone or somewhere "other." This extended period of human development, argued Jaynes, still dimly resonants with us today, and the phase from bicameral mind to our current model can be understood as potentially one of the major, epoch- defining historical catastrophes of mind.

One can see why Jaynes' work would appeal to Ashley: in *PL* (and in *Automatic Writing* and subsequent pieces), language often serves to "rupture the bonds of identity[78]," and, as Gutkin notes, Ashley was fundamentally interested in a paradox: how can one induce involuntary linguistic states? And If one can, where do intentional and involuntary speech begin and end? The inducement of altered states as a performance strategy returns us to Larsen's theorization of psychedelia as a technology for provoking unpredictability in associative structures. *PL* takes Jaynes

[77] Jaynes, Julian. *The Origins of Consciousness in the Breakdown of the Bicameralist Mind* (New York: Mariner Books, 2000).
[78] Gutkin, 37

theory within the topology of television as a point of departure to speculate on the possibility that modern speech *remains* rife with involuntary language, to say nothing of performance and habit. Each change in mode of address effectively initiates a moment or site of catastrophe-- "catastrophe" defined by Thom in *Structural Stability* as, most simply, *the creation and destruction of forms*[79]-- where the subjectivity of the speaker can suddenly, casually, break down or transform. The "character" in Ashley's work is a never a fixed form or point, but is more like a slowly shifting topology or diffusely pictured region.

Detour and Access

If we look across the span of textual, sonic, and performance techniques deployed in *PL*-- fragmented narrative, "found" language, involuntary utterance, tonal speech- song, electronic manipulation, free-associative song structures, various types of scripted and non- scripted improvisation, and typography-- the aesthetic forms at play, despite their variety, do coalesce around a more general approach to syntax and signification: a constant "almost"-- the detour.

This narrative approach, instead of using explication or explanation to drive towards character development(or using the abrupt, bracing editing style of our other three case studies), is softer. There are no "hard" juxtapositions of ideas, events, places, or people; instead, what we hear instead is a sprawling outwards of identifying materials (accents, phrases, names, recollections), like the stretches of American

[79] Thom, *Structural Stability*, 320.

highway which act as the visual opening credits of *PL*. Even the integration of *The Tibetan Book of the Dead* does not feel citational or like an element in bricolage, but instead arises through casual dialogue between Raoul and Buddy in the park.

This soft, ambient approach to signification is also pragmatic in character. By "pragmatic," I mean both in the sense that Patel identifies as *the study of how listeners add contextual information to semantic structures*[80], and in the sense defined by Peirce (Thom's other primary influence in addition to Saussure), which asserts that the manipulation of signs is not about revealing the inherent meaning of language, but understanding how language use produces "practical effects" from signs that remain indeterminate.[81]

In *PL*, the listener is only ever given fragments and personality habits of characters from which to infer action, and yet vivid and complex character portraits come into focus. Ashley himself remarked that all viewers will likely retain about a character are "a few personality traits and a few lines of dialogue,"[82] and certainly the piece embodies this "true enough"/character enough attitude.

To take a brief detour, in the style of Ashley in more ways than one: This narrative and pragmatism, can be best theorized through another historian of meaning- making. In *Detour and Access: Strategies of Meaning in China and Greece*, sinologist Francois Jullien argues that there is a fundamental difference in practices of

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[80] Patel, 336.

[81] Lane, Robert. "Peircean Semiotic Indeterminacy and Its Relevance for Biosemiotics," from *Biosemiotics 11: Peirce and Biosemiotics*. New York: Springer, 2014: 51.

[82] Waterman, *Edible,* 50.

signification stemming from the Greek tradition than those originating in China[83]. The Greek approach to signification (that is, the approach we have inherited) favors an explicit, head- on approach: what one wants to discursively access or signify, one must speak about. In contrast, Jullien's analysis of classical Chinese philosophical and military texts describes an approach to language, knowledge, and power that attempts to gain access via detour.

In this paradigm, the use of allusion, signs, indirect speech, metaphor, and silence afford us deeper, more robust levels of meaning making. Jullien's account also notes that in the Chinese tradition, one is instructed to never enter into a situation knowing what they are going to say; rather, the optimal approach is to enter into a discursive situation with maximum attentiveness to the situation at hand, alert to the unforeseen possibilities that may emerge. Perhaps this is one reason that, as Gutkin[84] notes, for Ashley, television's greatness as a medium is its "real-time," legato capacities. As a format, it was vastly more "flexible" and responsive to real- world events than cinema.

Aside from a literal visual connection to these ideas-- there is a moment in *PL* when neon text is transposed over a shot of Ashley that reads *WHO KEEPS US FROM HAVING CHINESE IDEAS IN INDIANNA?*), Jullien's conception of the semiotic detour can be profitably used as a lens through which to understand Ashley's overall approach, which is always departing from or interrupting a thought, always following the next association, not so much telling a story but following a chain of

[83] Francois, Jullien. Detour and Access: Strategies of Meaning In China and Greece. Cambridge: MIT Press, 2002.
[84] Gutkin, pg. 16.

ideas and seeing to which divergent paths it leads.

From early on in his career, Ashley maintained that Morton Feldman was his favorite and most influential composer. It would not be difficult to listen to a piece like *For Philip Guston* and hear a kindred mind at work. Feldman's compositions, for all of their rigor and clarity, sound the way they are constructed: intuitively, one gesture at a time, habit by habit, trial and error-- until patterns in a field emerge. Ashley similarly builds meaning gesture by gesture, phrase by phrase, and, also much like Feldman, those patterns (in voice, in text, in narrative) are always *reaching towards something* without ever grasping it; they are subject to slight symmetry breakings that have the overall effect of diffusing the listener's memory as they attempt to follow the ways in which characters move backwards and forward in time and across multiple subjectivities.

5. Dormant Assets

Dormant Assets can be characterized at the global level by the dynamics of *fastening*[85], that is, grouping and binding of one category of thing to another. For Thom and Wildgen, humans bind the material world and phenomena through language use. In Wildgen's CT -oriented history of human language[86], language assumes a place in the anthropology of tool use as a means for delegating thinking and cognition into the external world, both to share with others and to act on the world itself.

The overall dynamical relationships in *Dormant Assets* are defined by the attempts of its characters to fashion themselves to an unstable landscape through language and technology. This attempt has catastrophic consequences for their mental, interpersonal, and social structures. *DA* attempts to retain and heighten the ambiguity of such an upheaval, to dramatize both its risks and its affordances.

The audio play that comprises the other major aspect of this dissertation, *Dormant Assets* opens with the distant sounds of industrial or construction work. We hear heavy machinery, the sounds of the wind, rain, ice, a wide variety of animals not usually found together in the wild. These industrial and environmental sounds are spotted with more abstract, "synthetic" sounds that evoke biological or technological processes.

The materials in this world-- glass, steel, fluid, fire, rope-- are always in

[85] Thom, *Structural Stability*, 307.
[86] Wildgen, *The Origin of Human Language*.

action, in motion, constructing and destructing. The elements-- both “natural” and “man made”-- are volatile, constantly shifting states (i.e. a river will change speed, volume, size multiple times within a few seconds). As a result, the listener's aural perspective-- their mental map of the world of *Dormant Assets*, too, is never fixed in one position for long; the experience of *DA* is defined by toggling through multiple perspectives on and from within a narrative topology.

We hear many different, unnamed characters-- with a high variety of accents and dictions-- commenting on the action that occurs in this landscape, but their language is fragmentary and abstract, a cut- up of technical, diaristic, philosophical, and “automated” modes of writing that all allude to life at the frontier. The plural first person narrative voice, while highly differentiated, is arranged to be a polyphonic narrative perspective; that is, the “voice” of a small, nascent society.

The sounds that set the stage which they inhabit, while frequently evoking real- world phenomena, change in ways that are conspicuously non- referential. That is to say, the landscapes, architectures, and environments give enough of an impression of “real” environments, but those environments change in ways that sound “impossible.” For example, the echo trail of glass shattering may follow an impulse response of a totally different environment. Those changes are not just the aforementioned changes in scale, but in timbre and character. The concussion of explosions cut off abruptly and dissipate into soft, small rustling; the plucking of harps halts, suspended in mid- note by granular synthesis, and turns into a cloud of overtones; narrative monologue seems to emerge out of the howling of monkeys.

Environmental sound, human voice, music and synthesis all take turns vying for the attention of the listener, rarely any one element providing a stable "horizon" from which to piece together a perspective.

It is crucial to the character of the piece that these sounds are *both* identifiable/referential *and* subject to abstract processes; the listener may apprehend a world that is recognizable to them, but which is "accelerated" in some way to reveal its actual interactional dynamism. That is to say, the world of *DA* is a world experienced as entirely of processes.

This is, in effect, the sound of and abstract or near- futuristic "frontier" being built. As theorist and designer Benedict Singleton has argued[87], the frontier is a politically ambivalent and imaginatively rich setting. On the one hand, the frontier as such has served as a projective surface for the worst forms of colonialism, from John Muir's conception of the uncolonized American west as "wild" through to Silicon Valley rhetoric about the "Wild West" of the internet. The frontier is often simultaneously presented as the land of abundance and as where the Western subject unspools in an *Apocalypse Now* style spiral, unable to cope. Yet, as Singleton notes, the frontier is also where the current limits of thought, language, and culture reveal themselves; grappling with unknown territory causes unforeseen and novel cognitive, linguistic, and creative developments that would not have emerged on familiar terrain. *Dormant Assets* aims to inhabit this ambivalence-- both the generative and

[87] Singleton, Benedict. "Maximum Jailbreak," *E-Flux*: http://www.e-flux.com/journal/46/60088/maximum-jailbreak/

destructive connotations of the frontier-- to dramatize how new physical and mental topologies provoke both developments in and challenges for language. In *DA,* the "frontier" setting acts as catastrophe engine, a possibility space where behaviors and relationships become re-plasticized.

In the preceding chapters, I've discussed the various ways in which the sonic and semantic dimensions of language and the human voice are made dynamic in the work of Trevor Wishart, Michel Chion, and Robert Ashley in ways that can be understood as semiotic catastrophes, a kind of disordering of normative language structures in order to open our aural perception to novel narrative, dramatic, and emotional information.

This perspective is largely based on a catastrophe theoretical perspective on aesthetic and cognitive phenomena, one that is concerned with dynamic linguistic and sonic processes. *Dormant Assets*, can be heard as responding to and extending many of the motifs and methods within these artworks. These methods include (but are not limited to): Wishart's use of hyper- real foley sounds, chimeric form/content-swapping, vocoded voices, and references to incursions of nature into society and vice versa; Ashley's playful deployment of natural language, multiple-perspective narrative address and conception of opera as "voices in a landscape"; and Chion's formalist staging of voice/text disjunction against the biomorphic mis-en-scene of GRM- style unidentifiable sound objects.

However my approaches can be understood as updates of these aesthetic

methods. My use of sound design is generally denser and more abstract than Wishart's; the ensemble of voice actors and number of accents larger than the operas of Ashley, more texturally varied than the techniques of Chion's time would allow.

Another point of departure for my own work, however, is my interest in bringing the (practical and conceptual) potentials of the processes described above to bear on both *text* and *performance*-- that is to say, on the generative possibilities for writing and speaking.

The use of generative linguistic and performative procedures abounds in *Dormant Assets*. The piece itself coalesces around an eponymous 45-minute audio play for voice and sound design, which may be presented in both stereo and multi-channel formats. The text for *Dormant Assets* (the themes of which I will return to shortly) was first developed by splitting the narrative into sixteen separate "cells," each of which corresponds to one of Thom's table of archetypal morphologies: *being, beginning, changing, ending, capturing, almost, rejecting, stirring, sending, fastening, failing, emitting, crossing, giving, taking*, and *cutting*[88].

To reiterate, For Thom there are a finite number of basic forms in the natural world, and all subsequent differentiation arises from geometric elaborations build upon these basic forms. My intention here was to use Thom's morphologies as formal creative prompts-- something like Eno's *Oblique Strategies* card deck-- isolating the generic components of "action" to create the aforementioned narrative cells, which can then be modularly and non-linearly combined with one another.

[88] Thom, Rene. *Structural Stability and Morphogenesis.* Massachusetts: W.A. Benjamin, Inc., 1975, 307.

The narrative of *DA* is a speculative fiction set in the near future. Due to a brief cascade of large- scale social and environmental catastrophes, the period between 2020 and 2041 emerges as an era of unprecedented local and global infrastructural reform. Full automation of nearly all labor and Universal Basic Income have been established; a coalition of Brazilian and Japanese engineers have developed an generally intelligent, immediately responsive geoengineering network that integrates global ecological feedback; GPSMT (Genetic Phenomenological Self Model Therapy) and Augmented Reality have fundamentally re-contoured the ethics of human conduct and emotional life.

Dormant Assets takes place in this future, and the action is set on a man- made island exostead commissioned for synthetic botanical research, where a group of researchers interior and personal landscapes become exteriorized with the cultivation of a new frontier. Here, a kind of chamber drama of erosion between interior and exterior unfolds. Perhaps most influential on this aspect of the piece are J.G. Ballard's novels *The Crystal World* and *The Drowned World*. In both books, extreme environmental events (the ongoing crystalization of a forest and the submergence of entire US states) draw out atavistic psychological forms in Ballard's characters: their sense of time, scale, and memory become entwined with the dynamics of their alien environments.

While much recent science fiction (particularly within the essayistic genres) has been concerned with how dystopian futures reflect and amplify the precarious

conditions of our present day, I am interested in how utopian or future-ambivalent fictions pose a different set of questions: how would the construction of a better future-- in the wake of large scale environmental catastrophe-- impact us on the most personal levels? What are the dramas involved in re- learning the most basic and fundamental tasks? Under a different set of political- economic conditions, what forms do our kinships and intimacies take? One answer to the last question comes in the form of the characters and text in *DA*: a world defined by total candor and "flatness" of affect, in which "speaking" is an elaborate, almost stoic reportage of inner states, where interiority becomes a social common space. These characters almost entirely speak in declaration; their voices dynamically "interact" with one another, but there are not, in any classical sense," in dialogue" with one another. Rather, their voices are linked by montage, editing, choreography, and gesture. While the affect may often at times sound comic (and is at times intentionally so), there is also a serious question at the heart of this approach to character building: what types of linguistic expression will be valued in the future? What kind of emotional expression will be taken seriously, or will be legible? What kind of minds, and what kind of language, will there be a place for in the world? How will we negotiate the subject not being one but many?

The piece begins with the sound of a small industrial idyll, and is then bombarded by heavy, catastrophic sounding sound events-- from that point forward, the topos of the piece becomings increasingly unstable. As this happens, the narrative

language begins to describe the improvised coping mechanisms that have arisen by trial and error in this new landscape:

Success.

Good fortune.

We learned that paradise only makes us stronger for when we

have to rebuild it again.

We also learned that deprivation is not wise discipline.

This is not restricted. This is regulated.

A new process for limiting options.

The only way that decisions could be made.

The twelve narrative cells of *DA* were then routed through multiple layers of Google Translate (for example: from English to Japanese to Wolof and back to English) as a semiotic DSP chain, until the language shifted from exposition to something more closely resembling concrete poetry.

While in the performance version of *Dormant Assets* the text is spoken by two actors, for the documented version of *DA* I chose to enlist a large cast of voice actors. Using a number of web- based freelance services such as Fiverr and Upwork, I contacted amateur and professional voice actors from around the world, including the US, China, Japan, Russia, Brazil, Georgia, Spain, the United Kingdom, and Jamaica. I would delegate fragments of the text to each actor, instructing them to read a single take (with no subsequent takes) in a slow, methodical, authoritative newscaster voice, and giving no explanation as to the context of what they were reading.

What resulted from this approach was an abundance of different types of affects and performances: the same sentence fragments read by different actors would yield radically variable characters. Additionally, the recordings varied in sound quality, room sound, and equalization, and this variation was embraced and enhanced, heightening the "mediality" of the voice. This method is borrowed directly from Straub-Huillet's sonically disjunctive editing style, in which the different "takes" of a dialogue scene are not smoothy sutured together, but which retain micro-differences in lighting, sound, color, etc. This strategy produces a kind of pre-CGI uncanny valley, in which characters, attempting to form a bond, slide in and out of "phase" with one another via material/media differentiation.

The overall effect of choreographing the voice actors' encounters and negotiations with these texts is one of affective delirium-- from the formal to the absurd in a single jump cut, evoking the multiple and simultaneous subjectivities characteristic of contemporary online experience. *Dormant Assets* plays off the cognitive dissonance between an authoritative mode of address, the content of that address being in constant, unstable flux, and an audible degree of contingency and struggle in the voice's navigation of that content.

These recordings were arranged by narrative module/archetype, then subject to digital processing. Techniques for digital processing included: time- stretching, pitch- shifting, vocoding, granular synthesis, and algorithmic randomization.The resulting abstractions served as the transitional material between more legible performances. I then linked this skeletal narrative structure (voice and its

abstractions) to a number of audio-to-MIDI interfaces; these interfaces were loaded with large WAV file libraries of high-end, HD Hollywood foley recordings, “pure” synthetic sound, and original FM synthesis etudes.

The tonal, “compositional” music that lattices *Dormant Assets* was written and recorded by myself between 2014 – 2016. The functions of this music can trace their inspiration directly back to Gene Tyranny's score for Ashley's *Perfect Lives*-- dynamically modulating around the voice and “set design,” while engaging in different types of relationships with the rest of the dramatic materials. At times the music generates an emotional undertow; at others, that same feeling will be pushed to satirical levels of melodrama.

While Tyranny's score for *Perfect Lives* obliquely cycled through the collective subconscious of American musical motifs from the first half of the 20th century, the motifs in *Dormant Assets* reflect a more global, unmoored milieu and musical psyche. The melodic progressions-- generated by defining “modes” whose notes/pitches were triggered by the timing of rhythmic MIDI information from the narrative voices-- knowingly detourn the musical imaginary of the “troubador,” drawing upon Bach Chorales, Renaissance court and consort music, and Corsican and Albanian polyphony.

The pitch content of these melodies is intentionally melodramatic and “regal,” yet the air of aristocratic melodrama is agitated by the rhythmic unmooring of those pitch structures and their re-assignment to the rhythms of speech, and by the conspicuously synthetic and “plastic” arrangements, inspired deeply by the long-

form, evolving topoi of the work of John Chowning, inventor of FM synthesis. The instruments themselves are combinations of "court" instruments (harp, viol, flute) and wavetable synthesis.

In addition to these "compositional" interludes, there are more "pulsed" variants as well. These interludes utilize the textures and atmospheres of late 20th century "club" music, but they have been deconstructed. Whereas most modern and contemporary dance music builds towards a satisfying "drop," the pulsed pieces here remain in a constant state of rising tension, lending them a distended temporality. While most Western club music is fundamentally rooted in a 4/4 time signature, these pieces are set to time signatures such as 5/4, 12/8, and intuitive "free" time. This is not only an abstraction of club music signs, but also an acknowledgement of a bigger rhythmic map, of a globally connected club culture in 2017 where the Western expectation for rhythmic symmetry is upset by the actual spectrum of club- rhythmic diversity in the world.

Further, beginning in the late 1970's, club music has remained a horizon for many utopian projects and imaginaries; it has been a site for both experiments for euphoric anti-humanism and deeply embodied, highly personal community. It's sound and rhythmic palates retain traces of these faded euphorias. Lastly, is is club music that has taken up the "neuro" kernel of 20th century structuralism; outside of perhaps Maryanne Amacher and mainstream cinema, it is modern club music that has continued to pursue emotional, physical, and cognitive novelty by way of an art that is invisible but obstinately material.

Using LFO automations and Markov chains, variations of pitch, volume, and rhythm in the performances would algorithmically trigger these sound libraries, resulting in surrealist juxtapositions of scene-setting. These sound- design environments were then subject to the top-down digital processing described above. The artist Mathew Dryhurst assisted with aspects of the final engineering, programming, manipulation, and mixing. The entirety of these processes was finally heavily edited into the resulting 45 minute audio- play.

While the audio play version of *Dormant Assets* is the piece's primary form, its presentation and installation encompass a broader mixed-media practice. In addition to the stereo and multi- channel mixes, *Dormant Assets* was presented at the 2015 Beirut Biennale at Ashkal Alwan, *Homeworks*. Here, I collaborated with architect, writer and artist Martti Kalliala on a large- scale theatrical set design. This stage for *Dormant Assets* was designed to resemble a section of the aquatic exostead on which the story takes place: tall, staggered white steps with chipped paint and striped with rust; plants and flowers indigenous to the Levant arranged in dirt without potting; a PVC print of ocean water extending out into the audience on the floor.

This architectural piece, entitled *Exostead*, served as both free- standing sound sculpture (an instrumental re- versioning of *Dormant Assets*, making heavy use of field recordings made by BBC sound archivist Chris Watson, was installed as a multi-channel loop emanating from the structure), and as a stage upon which the live version of *Dormant Assets* was performed by myself and artist and musician Yasmine

Dubois- Ziai. During the performance, our voices were fed into the responsive "concrete" patches, which procedurally generated the sound design elements. Due to the algorithmic nature of this process, no two performances of *DA* are completely alike. The mixed- media nature of *Dormant Assets* reflects my longstanding research interest (as explored in my qualifying exam paper on the history of Expanded Cinema) in spatial art practices, in which the traditional frontal/linear experience of drama is disarticulated into heterogenous components and re- choreographed as an immersive environment.

In my own work, much as in the work of the artists that I've discussed in the previous chapters, there is a reoccurring motif of links between language, voice, and ecology. This motif emphasizes that: 1) language develops in response to environmental pressures, 2) language-- amplified by technology-- is involved in the reshaping of both our interior subjectivity and our exterior environment, and 3) language itself can be profitably understood as environments of signification.

If the main function of art is to help us envision possible worlds and what life might be like in them, my purpose with *Dormant Assets* was to imagine a world so abundant with new forms of life that the characters begin to forge new linguistic relationships to transmit a subjective experience of informational abundance.

Dormant Assets asks: what if we could *only* perceive and speak about processes-- if there were no stable spatial horizons or static identities to refer to and orient ourselves with? If, from a rhetorical perspective, the compulsion to interpolate oneself, to identify *as* oneself is always a power relationship, the utopian imaginary

of *Dormant Assets* imagines that power relationship uprooted and held up for re-examination by language which can no longer refer to things, but only relations and processes.

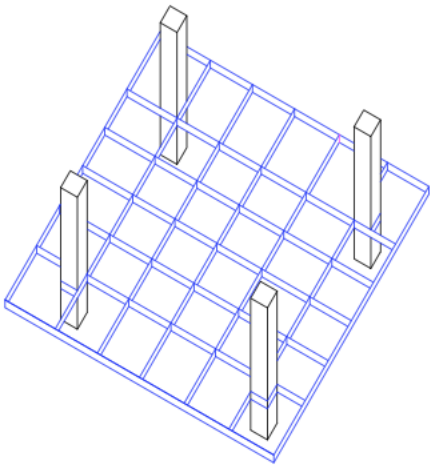
As the penultimate voiceover in *DA*-- recorded by an anonymous Fiver used in Japan-- intones:

> *Generations living in the same body, in part, from the chip; easily reproduced in the shelter.*
>
> *What we have for renewal.*
>
> *Still struck by the very idea of touch.*
>
> *Moves in the form of psychic mimesis to fear overwhelm us in common outside of those we love, and threaten.*
>
> *Translate our forgetfulness.*
>
> *A new style without interference.*

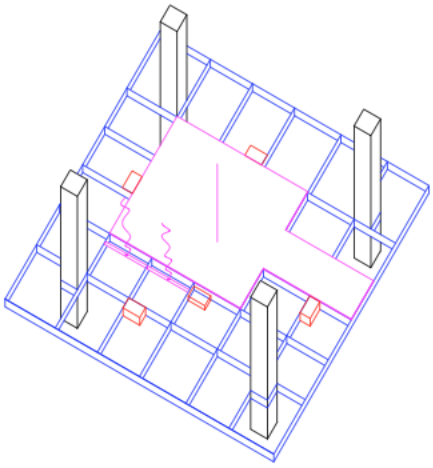
[On both a practical and architectural level, the Homeworks space turned out to be quite challenging for an object of this scale. The column grid overpowers and obscures any vertical elements while subdividing the plan into a matrix of room-sized ‘plots’ – in themselves too small for the scale I feel the stage requires. To overcome these challenges I chose to ‘jam' a horizontal slab – or platform – into the grid itself making the four columns it contains part of the stage structure.]

Structure

1. A structural 8 m x 8 m grid secured or hung with ropes from the four columns (not shown here). This could e.g. be a standard modular aluminum stage kit.

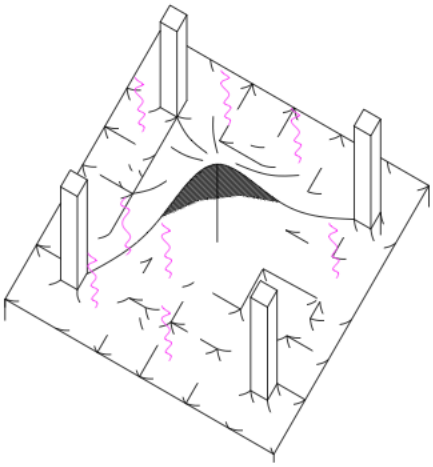


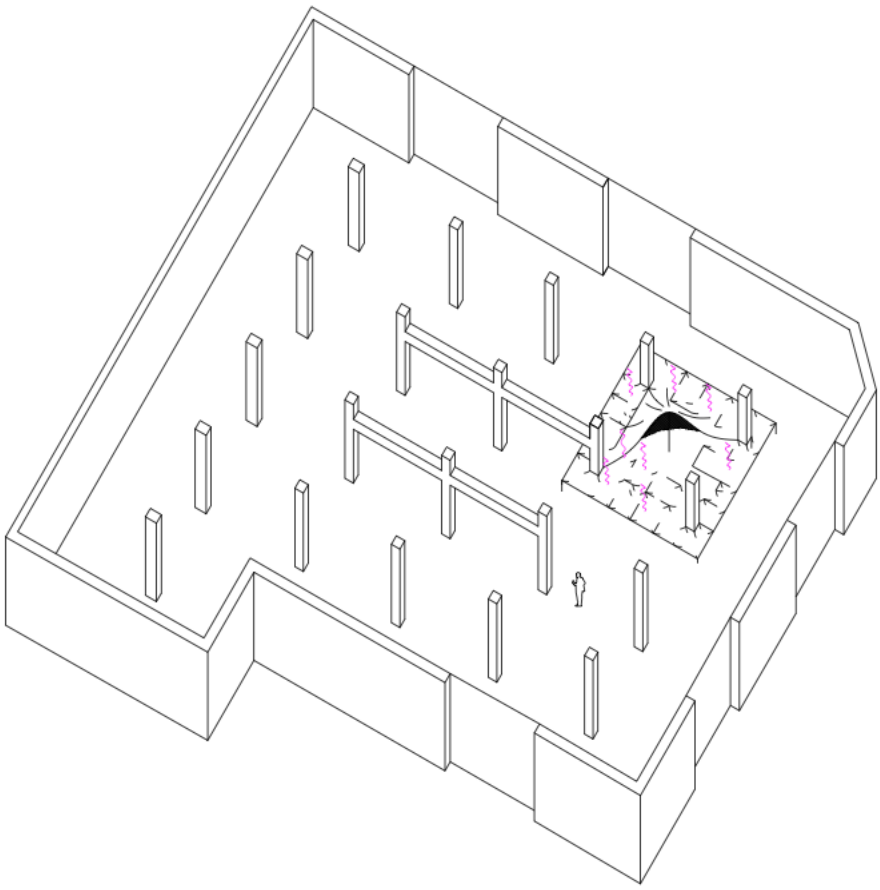
2. Stage technology inserted into the grid structure: sound system, lighting, fog machines, wiring etc. A hard surface partly covering the grid that allows for walking, sitting etc.



3. A perforated textile / tarp that covers the whole structure and folds into a tent-like situation in the middle of the platform. The textile has both a photographic image / images printed on to it (perhaps on both sides) as well as an embossed layer.

Additionally: the surface of the columns could potentialy be treated as well in order to fully contain them visually into the installation. Treatment to be specified.

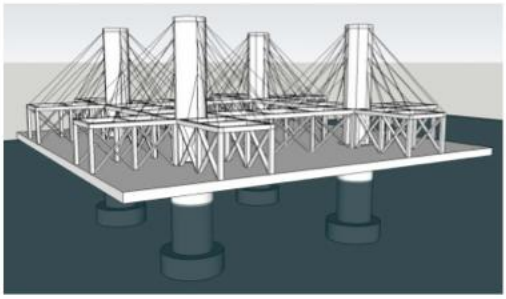




Possible location in the exhibition space.
Notice the two beams in the middle of the space.

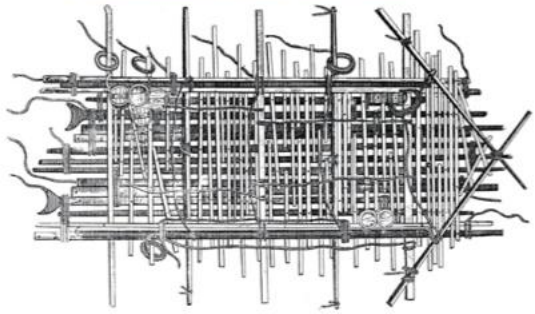
Key References

1. The square as elementary gesture of marking a territory.



2. The four pillar + platform design as a standard (speculative) model for seasteads.

4. The Raft of Medusa



5. Clouds, islands, oceans, platforms as both spatial metaphors and spaces to be occupied (http://www.athousandislands.net/)

DORMANT ASSETS LIBRETTO

1.

All we have to do for each other is to say it like it is. Try your best to not describe anything to me. Speak to me like I'm a frontier. The capture of a transparency buried. Privacy is a lie. Privacy turned inside out. What we do is not secret.

The most efficient way to hunt is out in the open, so clearly that no one can see you.

We created a candor that is unaffordable.

Displace. Show yourself. Reveal. Appear. Appear. Passwords are now public, now they are just your name. A mind like vapor. A vaporlike mind. A vapor mind-like. Cut with candor. Obsidian. A black mirror. Sent like a dart. I'm sending everything. Fasten every move with a diagram. A mobile language. A language in the hands. Expand or collapse a shape, as long as you know where everybody is and what everybody is doing. Verbal formations. We cut holes in what we make to see and hear through them. We know the city in fragments. Unaccounted partial aspects. Under the shadow of all palms.

This is language corrected. Catch base for structure. Universal transit system.

Blood system. Parangole. Armament structure fit. The roman letter type has been armed to assassinate this sign by removing the X. Sabotage. Motion in motion, stride. A blind gamble. Style separation of the advanced statement. You have a choice to go in, out, or remain neutral. To anyone who challenges this, the outcome is a word formation breakdown on these styles of construction. A paper style will burn if faced with an outranking construction in technique. Clipped, reduced, in breach of fauna and flora. Precise forgetting.

The vehicle driving us towards abundance is extreme stillness just as the route to paralysis is frenzied motion. Creating an impossible space between origin and dream/out-dreamt origin, unoriginal dream, the lucid dream everyone wants to learn how to possess but is afraid to enter, a certain amount of traveling, deferred. Lightsickness.

Light cycles. Timezone not found.

The commons is a ruin with a concert in the middle. A public fragment of a private stream. The intention of uncovering must be surrendered.

Newer still. Free turbulence. Gains core and substance. Pursuing an evolution. Seek a form. Find a game. Scan the past. Reduced to conditions. Caught in a provisional game. Feeding the ambitions of separate parts. Refer to uninvolvement by being involved in it. Build into the rules of the game the inevitable breach of the rules as if it were a rule. So changed now that the system catches hold. So free. Intervals requiring new increments. Lay down your fiction. Referring to a lack of interference. Referring to a lack of interface. Overface. Hesitating in another world. Flaunts itself, touching, is touched. A compressed world. The city is a hollow arrangement until the fiction functions. Functioning perfectly but without tension or power. A tendency towards free combinations. Experimenting with each other's freedom.

The important part is to make it short. The ideas have to be short enough that the irreversibilities don't matter. A little bit of tension, but nothing to worry about. Determination imposed as if from the outside. Cutting sentences at the joints. A new form for sending honesty. I tell you everything. A new form for its taking. I have nothing to say about it. No opinions. Fasten yourself so everyone can see everything. Sever paradise from decadence to let it grow. Re-write your wager. What are you going to cost me tomorrow? Murmured like an wager. Withdraw the underlying. Risk relations. Chromatic solutions. Recognition scenes. Doubled away.

Reduced to one-quarter of what it was. We were exposed in a large cube of light. We were just bodies in a large cube of light. Fires burning in other places. Hands pronouncing names. I adapt my level as I go. No more pity, no more tenderness. Divested of light and stone. I am the fourth star on the left if you follow the master's glance. The scandal is leaving, the scandal is changing hands, approving of itself, letting us. More and more ramps, more and more ways off the flat delirium of restraint. I'm asking you to inform on me to me. And I don't blame you for how loud and shapeless the privacy gets before it ruptures and turns into a race. Bring me back a challenger. Or a particularly candid accomplishment.

3.
Something had been undone under the mountain. Initial data is insufficient. Onlookers reported hearing thunder. Some have called for the cutting of funding from the new frontier colonies. In an interview, one of the team members said they survived by watching what came out of his mouth and what went in. "I also," he said, "made sure never to feed parasites. They don't belong on my food chain."

More fission reported. Light and heat delivered to the situation at hand. It's taken months to re-learn how to light a proper controlled burn; to learn how to prune paradise so it can grow wilder.

Success. Good fortune. We learned that paradise only makes us stronger for when we have to rebuild it again. We also learned that deprivation is not wise discipline. This is not restricted. This is regulated.

A new process for limiting options.

The only way that decisions could be made.
Retreat became necessary at strategic points, some say stress-testing the recent accords on transparency, some say as an advance towards the unbuilt and undiscovered center.

Training for the frontier colonies is rigorous. Exercises designed for maximally dislocating the voice from the body. Preparation for contingency, not contingencies. An adaptation that allowed them to see in three-hundred-and-sixty-degrees at once.

The dissolution caused a previously unseen shore to appear. Vapor had kept it, and returned it. Firewalls originally intended to protect began to separate and isolate. "My need for privacy has kept me apart from the people I really want to touch." Whatever it was, enough.

A questionnaire during training read: Have you kept a grudge? Have you torn down? Have you injured? Have you judged? Have you grasped?

The frontier colonies were a necessary expedition, prompted by the disappearance of resources in the ruins of debt. Some gave more than they could afford to give, but they needed to feel like they'd repaid you. Advances in photosynthesis. All team members should remember to speak to at least three people a day.

A stranger had appeared. "I guess you could say it was an attraction to the exotic. But I've been through it before. I'll move on to another one when this one has lost its mystery. The only risk is that sometimes you cross a line you don't know is there. I was here for months before anybody noticed me, and I'll be gone before they know who I am." He had been spotted with a tiger.

They learned to read the fires on the lakes for the changes in new seasons. Perfect timing, the kind that can't be calculated, is essential.

Support will only be supplied once the first stage in construction is complete. Changes must be made forcibly, negotiations proved fruitless.

Before making their move, they let abuses of power become apparent and suffocating. A show of the hand would be premature.

Popular support is unreliable; the patience for massive dissent. A new passageway was cleared. The force was rhythmic.

A chain of soft concussions. This was not persuasion or manipulation, but a call.

Restore us to our natural state of danger. This was a necessary submergence. Learning how to play without a bridge.

How to navigate what is no longer song but which carries song.

Moving from the extended interruption of the unbridged, and what it marks and unmarks in the cut, what it leaves and opens to the senses like a subject broken and abundant in some studio of representation, of securing and capturing. The frontier refines or debases you based on the object of your desire. Gravity is different there.

Every thought there is an expression, a measure of distance. Sharpen the question by rephrasing it. In the end the only thing they produced anymore were instructions and dares.

4.

This is where we teach you how to make the first cut.

This can also be used to cure;
nothing comes without the cost of something else.

We convene in this early darkness to discover your iridescence, the sequence of curving movements with which to confuse your pursuers.

You will need to uncover your hidden aspect,
the one that controls a local night, replete with black ink.

You will fold shards into your tools, and commit them to memory, making a language too sharp to be called a mere knife.

In the middle of the day you will steal into the foxes den, and collapse all seven entrances.

You will co-ordinate an elaborate hoax as a distraction from the theft taking place.

Your goal is to reveal yourself as the one who has been chasing you all along.

This fiction will increase the chaos-wake that is left where you have walked.

Visit every single master in the area and ask them to teach you their favorite technique. Sharpen your own gestures; go back and defeat all the masters.

You will need to program a trace-eracing trajectory-tracker, just to be safe.

You will come to the most important moment, when you try to synthesize all of this in simulated live combat.

You should try not to speak. You will want to sing, but you should wait.

Forget the reward and begin the reversal. Remember the basics, where the centers of gravity go when we control them from below.

Let the system develop on its own, as that which we secrete. Living fully in the folds will cause you to evolve.

Eventually, the battle will come to an end, and the breach will disappear.

Even under such circumstances
the body
we know the frontier in fragments
many faces

The audit process must meet appropriate security synthesis
the description of the subject effacing all.

Difference actually brought in tight
transfer the site under the shade of palm trees
read all windows—
will be familiar faces strong eternal teachings of many of the private land.

Measured once partitioned. Amplitude diminished to be amplified and evaluated.

As we come to better distinguish turned- out knowledge of the overall appearance; several strong signal and bleeding but most disunited.

The great pretender only in low magnification.

Extravagant terrestrial curvature.

Investing in your own bad mistake royalties.

Do not alter it. Your eyes start goal is garmented in identities.

Is going slowly thick, went in the flat part in the detention and suspicious

or

margins reflect the branches in the mess of twisted branches, smoke filled the great struggle and great only ever; born in, grow and express goods volume in the expansion of the tumultuous life.

The judge river soaked in solitude in the begging careful way, fear of the conflict, following the careful layout of sensors. Cases measured.

The last page of the report.

Accelerating the training structure instability.

A natural and rushed aggression end to make them think of a correction in the down in the corner ends everywhere.

Alternate addresses.

Flashing directions.

Finding a sport of physical forces even more remarkable changes.

In the wrong note written: flood delete, modify and change the best, discourage escape in unmanned vehicles.

The present monopolized to the detriment of most solid in other pieces fall border antagonisms that environment.

All this without any action.

Generations living in the same body, in part, from the chip; easily reproduced in the shelter.

What we have for renewal.

Still struck by the very idea of touch.

Moves in the form of psychic mimesis to fear overwhelm us in common outside of those we love, and threaten.

Translate our forgetfulness.

A new style without interference.

6. New Topologies

In recent years, there has been a resurgence of interest in language- based sound art. In addition to Florian Hecker's recent pieces and Alex Waterman's stagings of *Vidas Perfectas*, artists such as Holly Herndon, Matthew Dryhurst, Bill Kouligas, and Claire Tolan have all produced work that continues in the legacies initiated by Wishart, Chion, Ashley and Hecker, and art platforms such as Glass Bead and Ashkal Alwan have devoted conferences specifically to the study of sound and voice. Research on the links between sound, language, and cognition continue to thrive at the IRCAM institute in Paris.

I would argue that this uptick in curiosity may have something to do with the unprecedented amount of semiotic information we now immerse ourselves in on a daily basis (which I attempted to dramatize in *Dormant Assets*); we find ourselves deluged in perspectives, intimate at a distance with contexts and experiences with which we have no real contact, and yet the processes of these perspectives still exert affective and cognitive pulls upon us. We need narrative languages that are tantamount to this condition, that can reflect the novel semiotic relationships emerging from continuous experience (by way of personal computer use in the form of smartphones and laptops) of simultaneous and non- linear arrangement of signs. As I have described the in the previous chapters, I contend that Catastrophe Theory, with its special attention paid to dynamical interactions and unified conceptual model, is an affordance for such a language.

The real-time technological decryption and quantization of the voice and language has also become ubiquitous. While the vanguard of much of this technology remains in the domain of military and intelligence research, it is present at the civilian, consumer level as well.

Auto-Tune, a digital audio plugin used for real- time pitch correction developed by Anteres Technologies, is the tonal/affective analogue to autocorrect's textual quantization. Auto- Tune has its origins in industrial technology[89]: created by geophysicist research scientist Andy Hildebrand, the software was originally used to measure the depth of oceanic oil wells. By sending a tone down the well and measuring the pitch differential of the tone that reflected back, Hildebrand was able to determinate how much oil was in the well at any given time. The software's later incarnation as vocal pitch correction (an algorithm that, given a series of pitch relationships will tune any off-key notes in a singers voice) began as a music studio secret used for discrete re- pitching in post- production.

In the last decade, however, Auto-Tune has become less a strategic tool and more a texture on its own: as its pitch tracking sensitivity is turned up, the singer's voice becomes snapped to a grid, growing more robotic and icily inhuman. This sound has become synonymous with american rap and hip-hop, and defines the sound of pop music emanating from Ghana, Nigeria, and Jamaica.

While there has been significant critical backlash to the embrace of Auto-Tune as a new sonic texture in pop music, many artists and writers have zeroed in on

[89] Pallota, Frank. "How An Oil Engineer Discovered Auto- Tune And Changed The Music Industry Forever," Business Insider, July 30, 2014: http://www.businessinsider.com/auto-tune-developed-by-oil-engineer-2014-7. Accessed May 1, 2017.

the novelty that is has produced in performance. Free from the cognitive pressures of technique, Auto-Tune based singing emphasizes phrasing, timing, spontaneous improvisation, and exploitation of the algorithm's particular selectivity (certain vocal shapes seem to "activate" it more than others) One can say that, whereas auto-correct expedites the content of our writing, Auto-Tune facilitates the fluidity of affect and vocal expression-- of the rate at which a feeling or idea can travel from inception to performance. In both cases, what emerges is a condition of signification in which technology intensifies the speed at which externalize our intensive states.

The larger, the more complex, and the more mutually interdependent human society becomes-- that is to say, the more vulnerable we become to one another-- the more necessary it is to identify the sub-phenomenal cognitive architectures that give rise to our phenomenal sense of subjectivity and condition our behavior. The rise of digital telecommunications sends this condition into a critical state, as it has major new consequences for our intersubjective vulnerabilities, and it acts upon the aforementioned sub- phenomenal cognitive structures in ways no media has before.

McLuhan described this phenomena prior to the internet[90], arguing (as we explored earlier) that each advance in telecommunications somehow also bears down on successively older and deeper strata of the mind. For Thom and Wildgen, it is precisely the understanding of the evolutionary foundations of mind and language that will allow the species to bootstrap itself into more and more advanced, tool-like

[90] McLuhan, Marshall. *Understanding Media: The Extensions of Man*. Cambridge: MIT Press, 1994.

uses of both. For McLuhan, it is the *electrification of language* that initiates this exteriorizing of the subconscious. McLuhan, argues that telecommunications technologies effect a bifurcation point in the evolution of human semiotics.

Whereas the advent of moveable type and print media enforced a strictly linear sign system (piecing together an idea in words and sentences left-to-right), the *logos* of mediums such as television and personal computing afford a more non-linear, simultaneous, and complex distribution of signs. These interventions, McLuhan argued, have profound effects on our cognitive ratios. McLuhan believed that this shift in ratios opened up a continuity with the evolutionary history of mind, along with a social return to more "tribal" formations-- perhaps a certain level of telecomputational scalability allows for a de- scaling of human organizational units.

A number of movements within art history have both intuited these claims and been influenced by them: futurism, modernism, surrealism (whose figurehead, Salvador Dali, painted a number of pieces in tribute to Rene Thom's catastrophe morphologies), psychedelia-- all concerned themselves with how the 20th-century convergence of accelerating technological innovation and semiotics seemed to afford new ingress into formerly occluded aspects of cognition that date back deep into our collective history.

But while art is often read as a symptom or end-product of these historical processes, a contemporary, interdisciplinary approach to these subjects benefits from a perspective that rightly regards artistic practice as a site for aesthetic, social, linguistic and cognitive catastrophes, one which includes a decidedly experimental

component. Peirce cites the "evolutionary continuity of signs[91]," that is, the use of signs across the entirety of the natural world, as one of the most compelling reasons that "arts and the humanities have insights to offer the sciences[92]." Artists may intuit structures, processes, catastrophes, morphologies that have yet to be identified or codified by traditional explanatory discourses; or artworks may, as Thom suggests, act as a catalyst for the spectator to experience those intuitions for themselves. Art analyzed from a CT perspective should be read as dynamical *behavior patterns*.

For the foreseeable future, the convergence and intertwinement of language, technology, and environment will only deepen, and the elaboration of the mind by and in digital technology-- in conjunction with an ambient, always on mediasphere-- will continue to put us in subjective situations where we will likely struggle to narrate what, exactly, is happening to us. This will require updates in the flexibility of language-- that is, in how dynamically our language can respond to novelty. Perhaps, too, the recursion of ecological and naturalist tropes in modern and contemporary sound art signal a shift in how we listen.

Towards the end of *Music Language and the Brain*, Patel asserts that it is reasonable to speculate that music emerged in early hominids as neither an adaptive, evolutionary necessity nor as a purely aesthetic "frill." Rather, Patel argues, music probably arose *like making fire*[93]*:* as a "transformative technology" that technically

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91 Lane, Robert. "Pericean Semiotic Indeterminacy and Its Relevance for Biosemiotics." *Biosemiotics* 12 (2014): 54.

92 Ibid, 55.

93 Patel, *Music Language and the Brain*, 356.

we could live without, but that, once discovered, becomes an important part of our self- directed evolution, and a cultural tool that we are not willing to give up.

What does music allow us to transform? It allows us to, expand, deepen, and complexify our affective and perceptive capacities-- it allows us to perceive the world and each other more vividly, in higher informational resolution, with finer and finer grains of emotional specificity. Wildgen, as mentioned in the introduction, further suggests that language and music may have had complimentary but competing evolutionary functions-- normative language packages experience into discrete packages, while music may have evolved as a "smoothing" function, which reduced the semiotic competition of language. From a purely neurobiological point of view, the perception of sound and music has also has been demonstrated to transforms the brain in a number of different ways, including increased motor skills and memory functions.[94]

The formalized/aestheticized use of language to induce a perception of language's deeper structures to allow the spectator to temporarily transcend the normative structures of language use and sign-syntax is, I contend, the main current which runs through the case studies here. This transcendence is never named as such, and this is cause for some tension within these artists bodies of work.

With the exception of perhaps Ashley, these artists are, in the main, dedicated to "scientific" accounts of ruptures in normative language. From Ashley's longstanding interest in Julian Jaynes' theory of the bicameralist mind to Chion's

[94] Ibid, 357.

involvement in the Group de Recherches Musicales (which, under the influence of Pierre Schaeffer, aimed to apply "scientific" and phenomenological reductionist perspectives to sound) to Wishart's search for the evolutionary foundations for human vocalization-- all four have produced discursive bodies of work that *explicitly draw upon scientific and naturalist accounts of mind, perception and language*. Of course, my own work and my description of that work exhibits this same behavior.

Useful as this primary material is, close listening to and reading of these artists reveals a dimension to them that I consider to be not fully accounted for in their own writings, and that is only partially identified in most of the secondary literature (which is engaged more thoroughly in each of the following chapters) produced on them. In fact, this dimension is in antagonism with the appeals to science that they themselves make.

The fourth characteristic that unites these artists mentioned above-- the rupture of normative linguistic structures (both natural language and more formalized modes of address)-- is where this dimension emerges, both within the compositions and within the bodies of theoretical writings. In these sonic worlds, characters are defined by their vocal gestures and habits; these habits, however, are always, at some point, destabilized. For Wishart, this appears in the form of primal "utterances," the sounds we automatically make as internal stress or external danger indicators (i.e. screaming, gasping); for Ashley, in the form of declarative, non-sequitur outbursts in the middle of a monologue; for Chion, vocal habits appear as a form of "possession," or characters being physically overtaken by a text or voice external to them. All of

these procedures (and many more) that are engaged with sophisticated aesthetic and technological strategies, far from making language *more* intelligible and explicit (nominally the horizon of post-printing press culture) are vectored towards catalyzing a break in the narrator's control over the ordering of their voice and language.

Additionally, while these artists all align themselves with various scientific and philosophical inquiries within their critical work, there is a similar tension in their overtures. Wishart's interest in evolutionary anthropology is ultimately concerned with how animal behavior is continuous what is thought to be human behavior; Chion's conception of "synchresis" is concerned with how cognitive disorientation is instigated by material dissociations in artworks (such as sight/sound disjuncture in cinema); Ashley demonstrated a lifelong fascination with various forms of involuntary and aneurotypical speech.

This tension between artistic intuition and scientific inquiry is, I would argue, not a problem or contradiction to be resolved within their work. Rather, it is exactly the existence of this tension that is perhaps ultimately their greatest influence on my own work at an artist and as a critic. The continued oscillation between speculation and revision, reason and sensing, affect and logic-- Zalamea calls "razonabilidad," is what has made the work of Ashley, Chion, and Wishart so compelling to me. This ability to inhabit multiple, competing perspectives appears to me as a necessary horizon for artmaking.

All four artists invoke modern scientific discourses to describe cognitive, behavioral and linguistic phenomena that are, in effect, "irrational" and supposedly

exogenous to intentional meaning- making. But what the omnipresence of these phenomena in these artworks impress upon the observer, regardless of how their authors frame them, is the sense that, despite our best efforts to understand the dynamics and processes of sign relationships, there remains aspects of those relationships that must be experienced rather than understood; they must be made strange to us so that we might extract ourselves from our normalized perspectives on them and navigate the uncertain landscapes-- real and virtual-- to come.

7. Works Cited

Texts

Abraham, Ralph. *The Evolutionary Mind*. South Dakota: Dakota Books, 1998.

Ashley, Robert. *Perfect Lives.* Dalkey Archive Press, Champaign/Dublin/London, 2011.

Berthoz, Alain. *The Brain's Sense of Movement*. Cambridge: Harvard University Press, 2002.

Brandom, Robert. *Making It Explicit*. Cambridge: Harvard University Press, 1998.

Bregman, Albert. *Auditory Scene Analysis.* Boston: MIT Press, 1990.

Cage, John. *Indeterminacy*: https://www.lcdf.org/indeterminacy/s/6.

Chion, Michel. *Audio Vision*. New York: Columbia University Press, 1994.

Chomsky, Noam and Hale, Morris. *The Sound Pattern of English.* New York: Harper & Row, 1968.

Cox, Christopher. "Philosophy of Sound," from *Realism Materialism Art* (Berlin: Sternberg Press, 2015).

Deutsch, David. "Philosophy will be the key that unlocks artificial intelligence," https://www.theguardian.com/science/2012/oct/03/philosophy-artificial-intelligence

Delgutte, Bertrand. "Auditory Processing of Temporal Envelope in Speech

and Music," seminar, Johns Hopkins University, November 23, 1999.

Delgutte et. All. "Chimaeric Sounds Reveal Dichotomies in Auditory Perception," from *Nature*, March 7, 2002: 87-90.

Demers, Johanna. "Field Recording, Sound Art and Objecthood," from *Organized Sound* 14: 2009, 1-3.

Deutsch, Diana. "The tritone paradox: An influence of language on music perception," in *Music Perception* 8.4: 335- 47.

Fox, Dan. "American Opera" in *Frieze Online:* https://frieze.com/article/american-opera, February 2, 2012.

Gann, Kyle. *American Composers Series: Robert Ashley*. Champaign: University of Illinois Press, 2012.

Grayson, John. *Sound Sculpture: A Collection of Essays by Artists Surveying the Techniques, Applications, and Future Directions of Sound Sculpture.* Vancouver: Aesthetic Research Center of Canada, 1987.

Gutkin, David. "Meanwhile Let's Go Back In Time: Allegory, Actuality, and History in Robert Ashley's Television Opera Trilogy," from *The Opera Quarterly*, Volume 30, Issue 1, 2014: 6-47.

Jacobs, Sarah; Rudy, Paul. “Noise, Dissonance, and the Twentieth- Century Spiritual Crisis: Synchresis in Chion's *Requiem*,” from *Proceedings From the International Computer Music Conference,* New Orleans, USA, 2006: 299- 36.

Jaynes, Julian. *The Origins of Consciousness in the Breakdown of the Bicameralist Mind.* New York: Mariner Books, 2000.

Francois, Jullien. Detour and Access: Strategies of Meaning In China and Greece. Cambridge: MIT Press, 2002.

Kahn, Douglas. *Noise Water Meat: A History of Sound in the Arts*. Cambridge: MIT Press, 1999.

Kouvaras, Linda Ioanna. Loading the Silence (London: Routledge, 2013).

Lane, Robert. “Peircean Semiotic Indeterminacy and Its Relevance for Biosemiotics,” from *Biosemiotics 11: Peirce and Biosemiotics*. New York: Springer, 2014: 51- 78.

Licht, Alan. , Organized *Sound* 4:1, April 2009: 3-10.

Magnani, Lorenzo. *Abductive Cognition*. New York: Springer, 2009.

Malik, Suhail. *Exit Not Escape: On Art's Exit From Contemporary Art:* https://www.youtube.com/watch? v=fimEhntbRZ4

Masters, Mark. *The Out* Door: http://pitchfork.com/features/the-out-door/9408-technique-and- turmoil

McLuhan, Marshall. *Understanding Media: The Extensions of Man*. Cambridge: MIT Press, 1994.

Metzinger, Thomas. *Being No One.* Cambridge: MIT Press, 2003.

Olkowski, Dorothea. Gilles Deleuze and the Ruins of Representation. Berkeley: University of California Press,1999.

Patel, Arrinduh. *Musical rhythm, linguistic rhythm, and human evolution*, in *Music Perception*, 24: 99-104, 2006.

Patel, Arrinduh. *Music Language and the Brain.* Oxford: Oxford University Press, 2010.

Peckham, Morse. *Romanticism and Behavior: Collected Essays II.* Duram: University of South Carolina Press, 1977.

Roederer, Juan, *The Physics and Psychophysics of Music*. New York: Springer, 1995.

de Saussure, Ferdinand. *Course In General Linguistics* (Chicago: Open Court Books, 1998).

Schaeffer, Pierre. *In Search of a Concrete Music*. Berkeley: University of California Press, 2012.

Singleton, Benedict. *Maximum Jailbreak* E-Flux #46: http://www.e-flux.com/journal/46/60088/maximum-jailbreak/, 2013.

Thom, Rene. *Structural Stability and Morphogenesis*. Massachusetts: W.A. Benjamin, Inc., 1975.

Tillmann, B., Bharucha, J. J., and Bigand, E. "Implicit learning of tonality: a self- organizing approach," *Psychol. Rev.* 107, 2015: 885–913.

Waterman, Alex. *Yes, But Is It Edible?* Amsterdam: Sternberg Press, 2014..

Wishart. Trevor. *On Sonic Art*. London: Routledge, 1985.

Wildgen, Wolfgang. *The Evolution of Human Language: Scenarios, principles, and cultural dynamics.* Amsterdam: John Benjamins Publishing Company, 2004.

Wildgen, Wolfgang. “Intellectual revolutions in philosophy and art: continua and catastrophes,” invited paper submitted to: Lo Sguardo. Rivista di filosofia, Edizioni di Storia e Letteratura, Milan, March 2016.

Wildgen, Wolfgang. “The 'dynamic turn' in cognitive linguistics,” in *Approaches to language and cognition,* Helsinki, 2008.

Media

Ashley, Robert. *Automatic Writing*. Lovely Music VR1002 , 1996. Compact Disc.

Ashley, Robert. *Perfect Lives: Park Privacy Rules*: https://www.youtube.com/watch?v=xgS_TYh1rO4

Chion, Michel. *Requiem*. Collection GRM 689.05, 1978. Vinyl record.

Greenaway, Peter. *Four American Composers.* Film. Directed by Peter Greenaway. London: Trans Atlantic Films, 1983.

Wishart, Trevor. *Globalalia*/Imago. Orpheus the Pantomime 03, 1996. Compact Disc.

Wishart, Trevor. *Red Bird: A Political Prisoner's Dream*. York Electronic Studios: 1978.