UNIVERSITY OF CALIFORNIA SAN DIEGO

A quick glance into the maze:
oulipian-inspired considerations about my recent chamber music

A dissertation submitted in partial satisfaction of the requirements for the degree
of Doctor of Philosophy

in

Music

by

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The Dissertation of Felipe Lovaglio Rossi is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

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DEDICATION

to grace grothaus, anagram of huge arts cargo

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VITA

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ABSTRACT OF THE DISSERTATION

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by

Felipe Lovaglio Rossi

Doctor of Philosophy in Music

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Professor Chinary Ung, Chair

This dissertation consists of two parts: Two recent chamber music compositions[1] and this subsidiary essay, both directly influenced by "Oulipian poetics"[2]. At the center of the discussion is my current creative process as a contemporary music composer, especially my long term fascination with writing methods that harness chance for expressive purposes.

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[1]Eschen: five canons for nine instruments (2019) and Per Mutare for violin, bass clarinet, trombone and percussion (2019-2020).

[2]Oulipo (Ouvroir de Littérature Potentielle, roughly translated Workshop of Potential Literature) is a group of (mainly) french-speaking writers and mathematicians who seek to create works using self-imposed constrained writing techniques. It was founded in 1960 by Raymond Queneau and François Le Lionnais. Other notable members include Marcel Duchamp, Georges Perec, Italo Calvino, Oskar Pastior, Jean Lescure, Michele Metail, Harry Matthews, Daniel Levin Becker, Anne Garreta and Jacques Roubaud.

The essay is divided in six chapters: The first introduces the thesis overall framework and briefly describes the group Oulipo. The second examines the pivotal concepts of chance, constraint and clinamen, all under an Oulipian-inspired perspective.

The third chapter provides a cursory historic overview of the interactions between randomness and contingency circumscribed to the contemporary artistic frame.

The fourth and fifth chapter discuss specific musical extrapolations from the previous chapters and briefly accounts how they are applied to each of my two compositions respectively.

The last chapter simultaneously attempts to draw a few provisional conclusions and reflect upon potential extrapolations regarding my future compositional projects.

Overall, this thesis endeavors to explain from an idiosyncratic perspective, and in an integrated, personal, organic manner, the poetic, musical, and technical aspects behind some of my recent work.

1. Introduction

1.1 Beginnings

> "My life seemed to be a series of events and accidents. Yet when I look back I see a pattern."
> Mandelbrot, Benoît: in an interview to New Scientist magazine, 2004.

> "The muses of invention and memory are one"
> Steiner, George: No Passion Spent: Essays, 1996.

During one of his lectures at the Collège de France[1] during the year 1980, composer Pierre Boulez declared that:

> The theme of "automatism and decision" in composition might seem very narrow, or at any rate exclusively related to recent techniques such as those that computers offer. But although the computer, more than any sort of equipment, symbolises the urgency of this question, it did not create the problem. The question of the relationship between chance and determination in a composer's intentions, and the means used to realise those intentions in actual works, is already familiar. This dilemma of automatism and decision is only an extreme aspect of a more general network of relationships that is as relevant to the genesis of the work as it is to its realisation, and which justifies portraying the work as the intersection between the selected and the found, the sought and the accepted. (Boulez, 2005: 87)

Even though I was unable to clearly articulate most of those dilemmas at the time - at least as eloquently as Boulez did during his "Leçons"[2] - the subtle interactions between chance and constraint have been one of my most central concerns since the very beginning of my musical upbringing[3].

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[1] The Collège is considered to be France's most prestigious research establishment since its foundation in 1530. Boulez was appointed to the chair of "Invention, Technique and Language in Music" in 1976 and ended up giving approximately nine one-hour lectures plus five two hours seminars each year, until 1995.

[2] Those lectures were later compiled in a book called "Points de Repère: Leçons de Musique".

[3] I was fortunate enough to start studying music formally at age four.

As my youthful creative pursuits grew increasingly eclectic and my commitment to them more steadfast, the balance between risk and determinacy became progressively crucial to me, almost to a point of turning into an obsessive compulsive disorder. As a direct consequence, right after starting to learn how to play my instrument and how to write music for it, my mind started to be populated by conundrums like: Is a composition just a stream of accidents, a succession of decisions that in different circumstances might have produced completely different results? In the chaos of intentions that preceded it, what was the decisive phenomenon that crystallized the final product? Is it a composer's goal to show this chaos, embrace it or annihilate it? And if the last, is it possible wholly to eliminate chance? And in turn, if chance is used as a guide, can the composer categorically reject any of its outcomes? Do we not rely on peculiar methods to capture chance and give the outcome the appearance of being a self-contained work?

1.2 First discoveries

"I strive for complexity of code but simplicity of result. It is difficult to know the nature of the code though."
Cresti, Renzo: Franco Donatoni, 1982.

"All perceiving is also thinking, all reasoning is also intuition, all observation is also invention."
Arnheim, Rudolf: Art and visual perception, 1954.

Even my first, extremely banal, attempts in composition, performance or improvisation[4] repeatedly demanded to be framed in tight structures and delivered with rigorous perfectionism. Paradoxically, this required precision (which I quickly learned to appreciate) frequently seemed to me impossible to be organically expanded or consciously developed, at least at those times.

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[4] Sinopoli, my most important teacher during that time, was not only a composer but also a conductor, improvisor and professor of contemporary and electronic music. Hence I was strongly encouraged by him to study all those disciplines simultaneously, since my first year at the local conservatory.

First and foremost, the vast majority of the endeavors I was struggling with at the earlier stages

of my artistic development seemed to me to be an unavoidable mix of the most pejorative

academicism contrasted with a stalwart fidelity to my own instincts.

Looking retrospectively, my most substantial attempt at composition during that time was

a short contribution to the microgenre of solo bass clarinet repertoire, a brisk piece I humorously

decided to call "Brainless Act" (an anagram of "Bass Clarinet")[5]. As a bass clarinetist myself, I

was intensely preoccupied with pushing the boundaries of wind music at the time, as the

scarcity of an adequate, progressive but also stimulating repertoire for beginners was very

patent at that time.

The basic gestural vocabulary of the piece owed a lot to my largely unsuccessful

attempts at understanding Boulez's 3rd piano sonata (from 1955-57/63)[6], but transposed into

the domain of wind music. As soon as I finished it, I immediately showed the score to Sinopoli,

who felt that my instrumental writing wasn't sufficiently invested in solid contemporary playing

techniques, and suggested that I listen to composers like Berio, Ligeti, Stockhausen,

Lachenmann and Grisey.

Nonetheless, "Brainless Act" represents one of my earliest attempts at establishing a

consistent approach towards composition as the piece basically uses a kind of atypical, very

loosely-employed serial technique. Even though this was obviously a highly eccentric position to

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[5] An anagram is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once. For example, the word binary can be rearranged into brainy or the word adobe into abode. Anagrams interest me from a very early age.

[6] I've spent almost eight months just analyzing this piano sonata with Sinopoli during the year 1998. The ludicrous scope of this experience marked me profoundly and also probably resulted in my precocious desire to become a professional musician.

take at the time, my naive compositional strategies employed in this piece provided me enough

technical armature that allowed me to focus on my adolescent quest for a chromatically

saturated music of considerable expressive intensity. Somehow, I still feel the piece succeeds at

expressing something personal, primarily in the way the work is characterized by an intense,

disorienting expression, propelled more by unrelentless linear development then to its

overly-constricting and inflexible approach to musical material based on different forms of

articulation.

FIGURE 1: First page of the score of "Brainless Act" (1999). Copyright Catastrophe Editions

Notwithstanding the huge amount of encouragement and wisdom all my teachers and

peers frequently offered, my discomfort with composition quickly grew, almost exponentially.

Despite the fact that I was gradually being able to refine my aptitudes, aspirations, tastes,

comprehension and musicianship, a large part of my production still oftentimes sounded

artificially controlled, completely overwrought, full of pedestrian clichés, undigested tics and dull

mannerisms. And to make things even worse, I constantly felt trapped in a pointless, endless,

sterile debate between "dogmatists" who regarded their thoughts as a path to total control and

"backers of the spontaneous" who considered their actions only as strictly inspirational or

intrinsically disruptive. Fortunately, things would change drastically just after a chance encounter

at the library.

1.3 The way out: stumbling upon the Oulipo

"Oulipo is not into theory, it is a place of creation."
Fournel, Paul: Clefs pour la littérature potentielle, 1972.

"An attentive reader will always learn more, and more quickly, from good authors than from life."
Le Tellier, Hervé: Enough about Love, 2011.

"The Oulipo is not a school. It's a nursery where we force cylinders into square holes and cubes into round ones while our parents and proctors aren't looking. Does it work? Depends on the day."
Caradec, François during a writing workshop in 1987.

During one of my frequent stops by the university's central library in order to borrow

mainly full scores of contemporary music, I discovered a worn-out square book that, at first

glance, I thought was written by an obscure chinese author. It's title, "Oulipo Compendium",

intrigued me so much that I immediately decided to check it out and bring it home.

FIGURE 2: Front cover of "Oulipo Compendium" (2005). Copyright Make Now Press

After devouring the book in less than two days, I figured out that it was actually a sort of eccentric dictionary of algorithmic strategies, all based on elegant conceptual rule-based processes. Oulipo was not the name of a chinese poet but rather an acronym for "Ouvroir de Littérature Potentielle" (which roughly translates as the "Workshop for Potential Literature")[7], an obscure parisian coterie, source of a fascinating albeit highly idiosyncratic body of contemporary experimental literature.

Equally a sort of literary supper club, the Oulipo was founded in Paris in 1960 by two polymaths: Raymond Queneau, a former surrealist, and François Le Lionnais, a mathematician and chemical engineer. Interdisciplinary in nature, the group embraces a rigorous formalism, insisting that literary freedom could be unleashed not solely through the energies of chance, the

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[7] Interestingly, the word "Ouvroir" also can be translated as "work room" or "sewing circle", both words implying an image of a modest collaboration among skilled individuals.

unconscious, or automatic writing (à la surrealism) but, paradoxically, through rule-bound

procedures, severe formal restrictions, and mathematical-inspired constraints.

According to Queneau, Oulipians are "rats who construct the labyrinth from which they

plan to escape" and they all pursue "the cunning design of Daedalus rather than the irrational

urges of the Minotaur". With a sober, voluntary[8] attitude, Oulipians refuse "the frequent equation

of chance and freedom" and prefer instead to "mine numerous arcane, scientific or algebraic

disciplines in order to support their individual search for expression". (Queneau, 1972: 98)

As stated by numerous scholars, Oulipo's most well known writers represent a certain

moment of the post-war avantgarde that witnessed such inventive works as "Exercises in Style"

by Raymond Queneau, "Life A User's Manual" by Georges Perec, and "If on a Winter's Night a

Traveler" by Italo Calvino. These works are all frisky animated by combinatorial, metafictional,

and procedural impulses, and show different, systematized, albeit extremely personal,

passionate and playful processes of composition. Nowadays, Oulipo's corpus of work is

exceptionally wide, ranging from tiny palindromic haikus to immense catalogs and exhaustive

lists, from entangled collections of short stories to intricate multi-volume novels.

Just to give a few examples: La Disparition (A Void, 1969) is a lipogrammatic[9] 300+ page

novel written by Georges Perec that completely omits the letter "E.". Cent mille milliards de

Poèmes (One Hundred Thousand Billion Poems, 1961) is a series of ten sonnets by Raymond

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[8] This term is emphatically underlined by Raymond Queneau on multiple occasions.

[9] A lipogram (from Ancient Greek leipográmmatos, "leaving out a letter") is a kind of constrained word game consisting of writing paragraphs or longer works in which a particular letter or group of letters is avoided. Extended Ancient Greek texts avoiding the letter sigma are the earliest examples of written lipograms.

Queneau, which - because all of its lines are composed with identical rhyme and meter and then supposed to be cut into discrete strips - contain as many combinations as its name suggests and which would take over 200.000.000 years to read in full. Christian Bök's "Eunoia" (2001) is a mind-boggling anthology of univocalics, in which the author basically inverts Perec's strategy by allowing himself to use only one vowel rather than omitting one[10]. In the postface to the book, Bök describe his use of the constraint as follows:

> Eunoia is the shortest word in English to contain all five vowels, and the word quite literally means "beautiful thinking". Eunoia is a univocal lipogram, in which each chapter restricts itself to the use of a single vowel. Eunoia is directly inspired by the exploits of Oulipo [...] the avant-garde coterie renowned for its literary experimentation with extreme formalistic constraints. The text makes a sisyphean spectacle of its labour, willfully crippling its language in order to show that, even under such improbable conditions of duress, language can still express an uncanny, if not sublime, thought[11].
> (Bök, 2001:103)

At first sight, all these works might look like mere convoluted language games, but, to careful readers, they soon reveal themselves to be mnemonic games where everything is at risk and where struggle is a vital raison d'être[12].

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[10] Thus generating surprising sentences like: "Hassan can, at a handclap, call a vassal at hand and ask that all staff plan a bacchanal", "Writing is inhibiting. Sighing, I sit, scribbling in ink this pidgin script. I sing with nihilistic witticism, disciplining signs with trifling gimmicks – impish hijinks which highlight stick sigils. Isn't it glib?" or "Profs from Oxford show frosh who do postdocs how to gloss works of Wordsworth".

[11] My admiration for Bök's work has lead me to compose two pieces using his writing so far:"Taratantaras" (2017-18) for baritone, trumpet, trombone and bass clarinet in addition to "Böksongs" for voice and percussion (2015-2020).

[12] Along the same lines, philosopher Vilém Flusser claims that "the intricate depth of wisdom is slowly recapturing our imaginations. The complex patterns enfolded with these ancient designs are calling us to reclaim the lost and forgotten parts of ourselves." (Flusser, 2001: 34)

FIGURE 3: Meeting of the Oulipo in Boulogne, at François Le Lionnais's garden (1975). Italo Calvino is in the center with an open newspaper, next to George Perec, Paul Fournel, Harry Mattews, Herve Le Tellier and Raymond Queneau. Copyright unknown

FIGURE 4: A printed copy of Raymond Queneau's "Cent mille milliards de Poèmes" (2001). Copyright Hors série Beaux Livres

Regardless of their inherent differences in nature, scope or essence, the starting point for any Oulipian endeavour is the design of generative devices that enable the conscious manipulation of a set of finite, discreet formal rules, which are supposed to be scrupulously created and adhered. Even though these trammels can be highly inventive and, oftentimes, diabolically challenging, they are fundamentally designed to objectively push the author's mind to the furthest reaches of its intelligence and creativity, by contemplation of methodical routines.

In addition, the search for constraints on which to ruminate and create in can also be interpreted as an extremely democratising attitude. It not only flattens considerably the authorly hierarchy of writing but also enhances the potential feedback-looping between the writer and the creative work. As the act of composition consciously embraces procedurality, the constraint simultaneously becomes an accomplice and a muse. Pre-existing texts may become source material for new skewed works. A well informed - albeit oftentimes playful - approach to history is crucial. All those procedures point toward polyphonic reconfigurations of established strategies of composition and toward creative re-understandings of the past through amusing recontextualization. And this list could go on and on forever.

Gradually, after a long constant and feverish immersion into different Oulipian poetics, I came to realize that every art form is simultaneously arbitrary, strategic, singular and emotional. The group's multiple systematic approaches not only restructured my outlook on what it was worth trying to explore insofar as musical composition was concerned but mostly settled for me the fact that trying to resolve the dichotomy between "dogmatists" and "backers of the spontaneous" would not be minimally productive.

As a direct consequence, I started to see a rule not as an arbitrary choice but rather as a technique to thoroughly explore a precise subject within strictly given parameters. Therefore, chance should be continually incorporated by rules and, at the same time, rules should be endlessly renewed by chance.

Also, that chance somehow should be abolished by the composition at the same time it should get resurrected to make it possible. Neither of those two aspects should be harmlessly neglected and, hence, I should better find competent ways to embrace both .

All of a sudden, my feelings of constantly being cornered between anxiety and nostalgia simply disappeared. I comprehended, practically in a flash, that my compositional work, regardless of its aesthetic values, should simultaneously embrace the distinctive and the amorphous. It should aim to oscillate precariously between a system and an idea. It should be consciously constrained both when it emerges from careful logical planning but also when it erupts emotional force.

As just as certain parts of the musical expression tend to be severely codified and rigidly applied, while others are often based in laws that have almost no reasoning, I firmly decided that my work should be, from now on, rooted in a conscious contemplation of those poetic and evanescent structures that lie within the mechanics of perception.

2. CCC:CCC (Crucial Compositional Concepts: Chance, Constraint, Clinamen)

"Every choice has its obverse, that is to say a renunciation, and so there is
no difference between the act of choosing and the act of renouncing."
Calvino, Italo: The Castle of Crossed Destinies, 1973.

"Our words must seem to be inevitable."
Yeats, William Butler: Letters On Poetry to Dorothy Wellesley, 1961.

"Minds grim with nihilism still find first light inspiring."
Bök, Christian: Eunoia, 2001.

In addition to the countless delightful hours I spent reading (and reflecting upon how to read my own reading), my fervent interest in Oulipian rule-governed poetics also provided me with various ingenious ways to challenge my own musical efforts. Oulipians basically taught me how not to blur, transgress and unfix boundaries but, instead, to try to consciously grasp the potentiality in each of my projects, regardless of their scope or particular medium of expression.

Oulipo's notion of potentiality basically points out to two directions: on the one hand it does not exclude "chance", as they strongly believe that "potential" and "inspiration" are completely codependent. On the other hand, it also endeavours to create interrelated structures in a "constrained", systematic, almost "combinatorial" way. These two tendencies are coupled with the obligatory notion of the "clinamen", making a tripartite methodology that simultaneously fears no schism, accepts that no endeavour is perfectly motivated, and understands that restriction and freedom are equitably laborious to practice and maintain.

But before studying how these notions impacted my recent compositional work, I would like to focus on them in a slightly more attentive way. I will try first to examine each one of the concepts - let's put this way - more or less separately.

2.1 An attempt to exhaust the notion of chance

"One must still have chaos in oneself to be able to give birth to a dancing star."
Nietzsche, Friedrich: Thus Spoke Zarathustra, 1883.

"Quantum theory yields much, but it hardly brings us close to the Old One's secrets.
I, in any case, am convinced He does not play dice with the universe."
Einstein in a letter to Max Born, 1926.

In English, the word "chance" is derived from the latin "cadentia"[1] (from "cadere", to fall)[2] and may signify: 1) the falling out or happening of events 2) the way in which things fall out 3) fortune, serendipity. According to those definitions, chance is simply what happens or the way things happen. Applied to particular events, procedures or sequences though, the term may refer to: 1) an occurrence of things in a particular way 2) a casual or fortuitous circumstance 3) a fortuitous event or occurrence. A "single chance" can also mean: 1) an opportunity that comes in any one's way 2) the likelihood of anything to happen. Nevertheless, chance might be also understood as: 1) absence of design or assignable cause, fortuity 2) the determiner of events, which appear to happen without the involvement of law, ordinary causation or fate. A similar dialectic is present in Spanish, Italian and Portuguese as well.

In French, the word "hasard" have its origins in the indo-arabic "az-zahr" (to die, or to throw the dice)[3] and is defined in more or less analogue terms. "Un hasard" can be: 1) an accidental event 2) unexplainable set of circumstances 3) a cause of that which happens

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[1] The musical term "cadenza" (usually an ornamental, improvised and soloistic passage performed near the close of a composition) derives from the exact same word.

[2] Another curious and important connection is with the verb "cedare", in english, to sedate.

[3] It can also mean to shine, to poison, to blossom or to cast iron.

without an manifested or explainable intention. The french word "chance", however, has definitely a much more "optimistic overtone", much closer to the word "luck" in English.

Even though the different expressions do not have the exact same connotation, they all point out to an intrinsic ambivalence between incident and accident, cause and outcome, thought and representation. As the word "chance" simultaneously points out to a "conceivable occurrence" and to a "cause without design", it creates a grey zone between believers of an automatic, irreducible law dictated by the universe and disciples of an order solely imposed by desire or will.

Philosophical speaking, a great number of heated debates between the "deterministic" and "indeterministic" points of view are in place, at least since Plato. As these quarrels tend to often reach improductive stalemates, we may move beyond them by simply acknowledging that they both are at the center of an important dilemma: our intrinsic inability either wholly to believe in a meaningful, completely rational system or wholly to reject the pursuit for meaning.

Or in other words: Even though "chance" somehow refuses to be objectively described in pure scientific, psychologic, aesthetic or epistemological terms, it remains a crucial tool by which humans subjectively look for purposes and intentions throughout the world. Consequently, the notion "chance" is not completely irreconcilable with concepts like determinism, free will or contingency. Notwithstanding our more recent and unstable efforts to overcome metaphysics by embracing "chance" remains questionable, the Oulipian perspective strongly believes embodied "chance" can be a vital source of creativity, innovation, expressivity and, most importantly, change.

FIGURE 5: Lady Fortune spins her Rota Fortunae. Recto illustration from an edition of Boccaccio's De Casibus Virorum Illustrium (1467). Copyright unknown

FIGURE 6: Samuel Beckett and Alberto Giacometti in the latter's studio (1961). Photo: Georges Pierre. Copyright Fondation Alberto et Annette Giacometti, Paris

2.2 Constraint as a crucial concept

"My freedom thus consists in my moving about within the narrow frame that I have assigned to myself for each one of my undertakings. I shall go even further: my freedom will be so much the greater and more meaningful the more narrowly I limit my field of action and the more I surround myself with obstacles. Whatever diminishes constraint diminishes strength. The more constraints one imposes, the more one frees oneself of the claims that shackle the spirit."
Stravinsky, Igor: Poetics of Music in the Form of Six Lessons (The Charles Eliot Norton Lectures), 1970.

"My goal is to remove self-expression from the equation. Unfortunately, acceptable loss of consciousness has to be accomplished within consciousness, that is, by mediation, thinking, composition."
Donatoni, Franco: Questo, 1980.

"It turns out that an eerie type of chaos can lurk just behind a facade of order. And yet, deep inside the chaos lurks an even eerier type of order."
Hofstadter, Douglas: Metamagical Themas, 1985.

Oulipians assume that a simplistic opposition between "chance" and "constraint" can be easily deconstructed, largely because - their dictum - freedom is solely based on a paradoxically albeit explicit understanding, acceptance and conscious utilization of a remarkably limited number of contrived structures.

In the Oulipo first manifesto, François Le Lionnais declares that any attempt of writing must "accommodate itself as well as possible to a series of constraints and procedures that fit inside each other like chinese boxes" (Motte, 2001: 26). His intentional embrace of constraints as a way to breed creativity is further problematized by Marcel Bènabou when he writes that "even the most rabid critics of formalism are forced to admit that there are formal demands which a work cannot elude." (Motte, 2001: 41).

Whereas for the Dadaists and Surrealists "chance" was the principal source of creative energies and a force that should be liberated mainly by spontaneous catharsis, for the Oulipians "constraint" is not an arbitrary choice but rather a way to thoroughly investigate the processes of

creation within a measurable sets of self-imposed conditions. Therefore, any kind of "liberty" is entirely dependent on a responsive act of "choosing" chiefly because, to put the issue in more direct terms, if an author does not define his constraints, the constraints will in turn define the work for him. Writer Raymond Queneau frames this question relating it to ancient greece: "the classical playwright who writes his tragedy observing a certain number of familiar rules is freer than the poet who writes that which comes into his head and who is the slave of other rules of which he is ignorant." (Queneau, 1999: 127)

To face this embarrassment, Oulipians advocate constraints as devices to expand the contours of the work, as mechanisms to create controlled environments in which creation can be potentialized. Rather than to aimlessly face a blank page in search for inspiration, the Oulipian writer prefers to work on instruments that allow not only the virtualities of the project to be revealed by the constraints, but particularly the virtualities of the author himself who accepts to submit to the constraints. Furthermore, any Oulipian constraint differs from rules simply imposed by convention, as well as from any possible definition of style, a concept way less systematic. Even though constraints may be explicitly definable and verifiable in many different ways, Oulipians strongly advocate they should never overshadow the finished work itself, roughly in the same way pretext should never override text.

Curiously, though, the term "constraint" is remarkably absent in most of Oulipo's early discussions or theoretical writings. Member Ian Monk declares: "I personally dislike the term constraint which to me sounds too negative given that the general aim of the group's writers is to find ways to extend their artistic possibilities, not just to pull off extraordinary verbal stunts, which is more the domain of various loose groups who orbit around us." (Monk, 2018 :55)

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Even though the Oulipian idea of "constraint" can be closely related to "structure"[4], "form", "rule", or "formula" it also may embrace some intended imprecision, as it tends to amalgamate disparate conceptual and mathematical inclinations, all trying to push the system's organizing proclivities to their extreme. Therefore, Oulipian constraints are not consistently formal, as generally presumed and their sheer diversity is what really offers the key to understanding the group's elusive poetics. Suspicious of any kind of dogma, the group does not propound creative recipes or prefabricated methods to manage grammar, diction, style, narrative, or genre. Each of their multiple strategies bear its own singular nature, constrained charming and wry denomination: lipogram; perverse; heterosexual rhyme; N + 7; prisoner's restriction; pre-cooked language; asphixiation; tautogram; corpuscular poem; Canada Dry[5].

Despite their heterogeneity, every use is based on cognizance of and espousal for the principles held so preciously by radical avatars of chance, but without foregoing the real consequences of History (with capital H)[6]. They encode innovation by the realization of self-fashioned rules, by focusing the author and the work's lens, by framing its canvas.

This is why constraint-based composition is always so appealing: regardless of whether they are appropriated from heritage or partially invented ex-nihilo, the finest constraints are concurrently capable of accommodating awareness of a work's historicity, and of communicating the indelible beauty and attractiveness of a writer's signature .

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[4] In the Oulipo second manifesto, François Le Lionnais peculiarly coined the term "StructurEliste" basically in order to break away from the then-fashionable trends of "StructurAlisme".

[5] The Oulipo Compendium is still one of the best books to learn about the various Oulipian writting methods and conceptual inclinations.

[6] This notion is an important subject of "W ou le souvenir d'enfance", a novel by Georges Perec.

FIGURE 7: Christophe Verdon's Sign "La Disparition en hommage à Georges Perec" (2001). Café de la Mairie, Place Saint-Sulpice. Copyright Christophe Verdon, Paris.
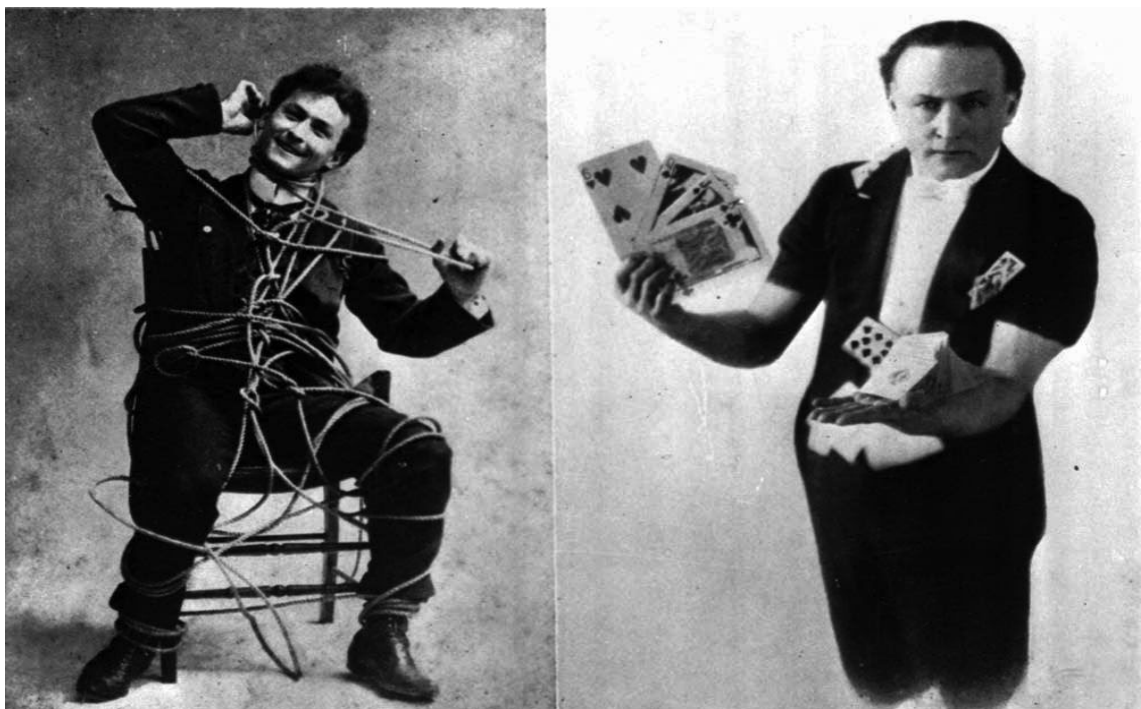
FIGURE 8: Magician Harry Houdini performs a rope escape and trick with cards (1905). Associated Press. Copyright unknown.

2.3 Clinamen

Italo Calvino[7]'s influential article "Prose and Anticombinatorics" ends with the following statement:

the aid of a computer, far from replacing the creative act of the artist, permits the latter rather to liberate himself from the slavery of a combinatory search, allowing him also the best chance of concentrating on this "clinamen" which, alone, can make the text a true work of art." (Calvino apud Motte, 1986: 143)

The concept of "clinamen" (often also translated as "bend" or "swerve") represents in this context the author's exercise of will in deviating from his self-imposed constrained systems. Originally coined by epicurean philosopher Lucretius[8] as the sudden swerve among atoms that

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[7] Calvino, in my opinion one of the most incredible Italian writers of all times, became a full member of Oulipo in 1973.

[8] Lucretius was a Roman poet and philosopher that died around 50 BC. His only known work is the philosophical poem "De rerum natura", a work about the tenets and philosophy of Epicureanism. A more modern historiography regarding the concept of clinamen was developed by Stephen Greenblatt in his fascinating book "The Swerve: How the World Became Modern".

leads to their mutual encounter, the clinamen represents a precise interfacing of necessity and

chance that makes intention and subjectivity indissociable.

This notion is similarly outlined by Jacques Roubaud[9], even though he uses a much

more Oulipian terminology:

> [...] it is obvious, to anyone who has tried it, that writing according to a fairly
> demanding Oulipian constraint can be exasperating; for beyond the difficulty
> (which can perfectly well be mastered) of following the strict requirements of
> the rule, one is filled again and again with disappointment at not being able to
> use such-and-such a word or image or syntactical construction that strikes one
> as appropriate but is forbidden. For such situations the Oulipo has therefore
> introduced the "concept" of the clinamen, whose Democritean origin sufficiently
> indicates its nature: that of a nudge given to the uniform, rectilinear, and fearfully
> monotonous motion of the original atoms so that by colliding they can start the
> world of writing going in all its variety. A clinamen is an intentional violation of
> constraint for aesthetic purposes: a proper clinamen therefore presupposes the
> existence of an additional solution that respects the constraint and that has been
> deliberately rejected - but not because the writer is incapable of finding it.
> (Roubaud, 2006: 43)

According to Roubaud's definition, a clinamen is always enhanced by a particular

constrained compositional logic and used - let's say - against its grains. Conscious deviations

are mobilized not only to infuse expressivity but, mostly, to potentialize the interactions between

pure chance and radical contingency.

According to both Lucretius and Roubaud's models, the clinamen has no value unless it

disrupts a context of otherwise perfect disposition. It has no meaning in an lawless context or in

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[9] Jacques Roubaud is a french poet, mathematician and translator. A member of Oulipo since 1966, he often takes the group's self-consciousness of the writing act to an extreme. The Great Fire of London (1989), The Loop (1993), and Mathematics (2012) are the first three volumes of an extremely long, experimental, autobiographical work known as "the project" he is currently trying to finish.

a non-constrained mode of production. The clinamen should be applied in order to overrule an extremely rigid system, to discard millions of incongruous combinations and, primarily, to highlight the "most plausible and effective concatenations".

This notion of "clinamen" interfaces with a large number of predecessors and areas of knowledge, for example with cognitive sciences or philosophy of mind. American biologist, UCSD emeriti professor and nobel prize-winner Gerald Edelman states that "any kind of memory should contain errors (changes in entropy) or mutants for the system to be a selective one [...] and that "an environment is able to respond adaptively to unforeseen events only if there is population variance".

Therefore, mutation not only causes the network to morph into a new dynamical form but is in itself a self-referential concept of memory and cognition, at the base of the acquisition of knowledge. In order to approach the unconscious and the eternal - without which there can be no true meaning - it is necessary to apply and overrule any constrained system.

As Perec puts it, "when a system of constraints is established, there must also be anti-constraint within it. The system of constraints—and this is important—must be destroyed. It must not be rigid; there must be some play in it; it must, as they say, 'creak' a bit; it must not be completely coherent; there must be a clinamen...
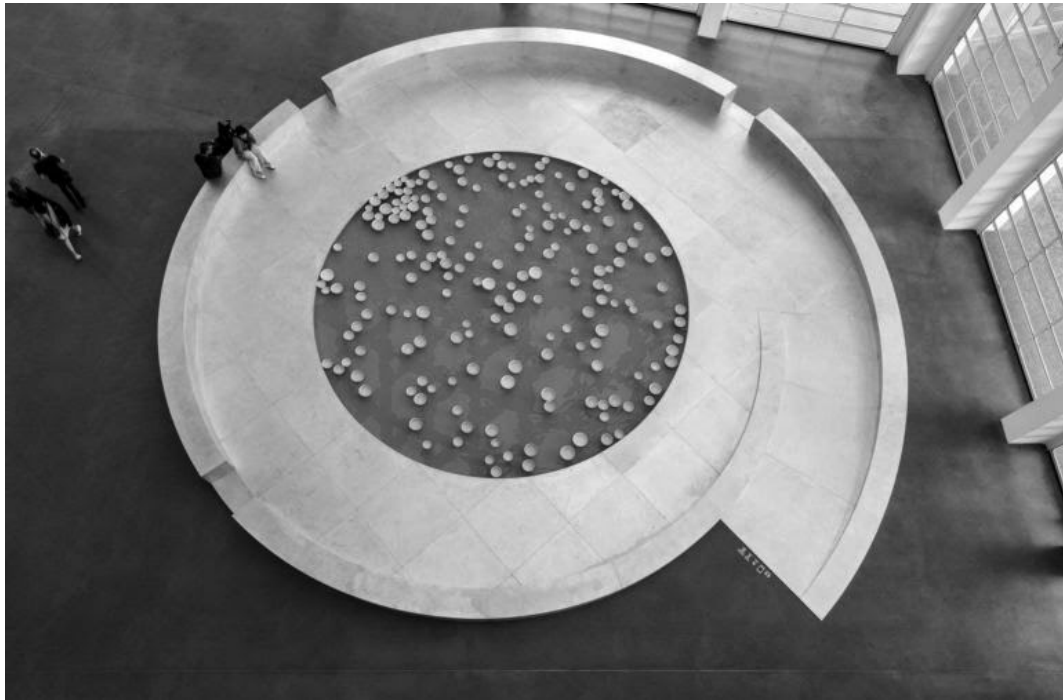
FIGURE 9: Céleste Boursier-Mougenot's installation "Clinamen v.2" (2012). Courtesy of the artist and the Paula Cooper Gallery, New York. Photo: Remi Bertrand 2015

FIGURE 10: First page of Pope Sixtus IV's manuscript of Lucretius "De rerum natura", scribed by Girolamo di Matteo de Tauris (1483)

3. A Brief Historic Overview

> "The past carries a secret index with it, by which it is referred to its resurrection.
> Are we not touched by the same breath of air which was among that which came before?
> Is there not an echo of those who have been silenced in the voices to which we lend our ears today?"
>
> Benjamin, Walter: On the concept of History, 1940.

> "[...] history is unbearably light, light as a feather, as dust swirling into the air,
> as whatever will no longer exist tomorrow."
>
> Kundera, Milan:The Unbearable Lightness of Being, 1984.

> " [...] The truth is that the Quarrel of the Ancients and the Moderns is permanent. It began with
> Zinjanthropus (one million seven hundred and fifty thousand years ago) and will end only
> with humanity. Or perhaps the mutants who succeed us will take up the cause."
>
> François Le Lionnais: François: Oulipo Laboratory, 1971.

Contemporary attempts to give chance a role in artistic processes can be traced at least as far back as avant-garde works from the beginning of the 20th century. In the visual arts domain, the use of chance procedures is perhaps conceptualized in its most distilled form by Marcel Duchamp's "Trois stoppages étalon", a work from 1913. It consists of three threads that were dropped onto three canvas and then varnished into their place. According to Duchamp,

> [...] the work was made to imprison and preserve forms obtained
> through chance. At the same time, the unit of length, one meter, was
> changed from a straight line to a curved line without actually
> losing its identity [as] the meter, and yet casting a pataphysical doubt
> on the concept of a straight edge as being the shortest route from one
> point to another. [...] That was when I really tapped the mainspring of
> my future. In itself it was not an important work of art, but for me it
> opened the way - the way to escape from those traditional methods
> of expression long associated with art. (Duchamp, 1961: 32)

FIGURE 11: Duchamp's "Trois stoppages étalon" (1913-14). Wood box
28.2 x 129.2 x 22.7 cm, with three threads of 100 cm, glued to three painted
canvas strips 13.3 x 120 cm), each mounted on a glass panel 18.4 x 125.4 x 0.6 cm,
three wood slats, shaped along one edge to match the curves of the threads.

Other notable examples may include Robert Rauschenberg's "Assemblages" (incredibly disparate collages of arbitrary images and objects), Jackson Pollock's action painting (synonymous with gestural abstraction), Francis Bacon's practice of flinging sponges at the canvas, Jean Dubuffett's art brut, Pierre Soulages's tachisme, among many others. Regardless of their very different aesthetic origins and artistic results, all these approaches incorporate chance to a certain degree and appear to do little more than to simply emulate the random excess of irrational liberation or to directly refuse to follow pre-conceived plans or designs.

FIGURE 12: Rauchenberg's "Monogram - Freestanding combine" (1955-59).
Oil, printed paper, printed reproductions, metal, wood, rubber heel and tennis ball
on canvas, with oil on angora goat and tyre on wooden base mounted on four
casters, 106.6 x 160.6 x 163.8 cm.

The birth of chance operations in contemporary poetry is commonly associated with
writers such as André Breton, Louis Aragon, Tristan Tzara, Philippe Soupault, and Paul Éluard,
immediately followed by movements like Fluxus or L=A=N=G=U=A=G=E, among many others.
Fundamentally, this genealogy aimed to control "objective chance"[1] by drawing lots or by rolling
dice. Their main ambition was to explore the aesthetic potential of a discourse not on behalf of
any authorial intention but rather based on the generation of unexpected coincidences. An

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[1] This term was coined by french poet, novelist and editor Louis Aragon (1897-1982).

iconic example might be Blaise Cendrars's "Prose du Transsibérien", another work from 1913.

This work consists of a cinematic stream-of-consciousness joted over four sheets of paper

joined together and folded in half vertically and then horizontally. In each page, there are

approximately 120 lines of text, printed in more than ten typefaces of different colors and sizes.

Each line essentially describes a brutal aspect of reality during the first world war. Nonetheless,

the fierce narrative is frequently intercut with scenes of the calm interior of a well-to-do

merchant's store, the singing of a Hugo Wolf Mörike Lied, or the memories of the poet's mother

in another bourgeois interior playing some of Beethoven's piano sonatas. Abstract drawings

embellish not only the left side of the page but also invade all the empty spaces between the

lines of the poem. A print run of 150 was originally envisaged so that, from end to end, all the

copies would equal the height of the Eiffel Tower.
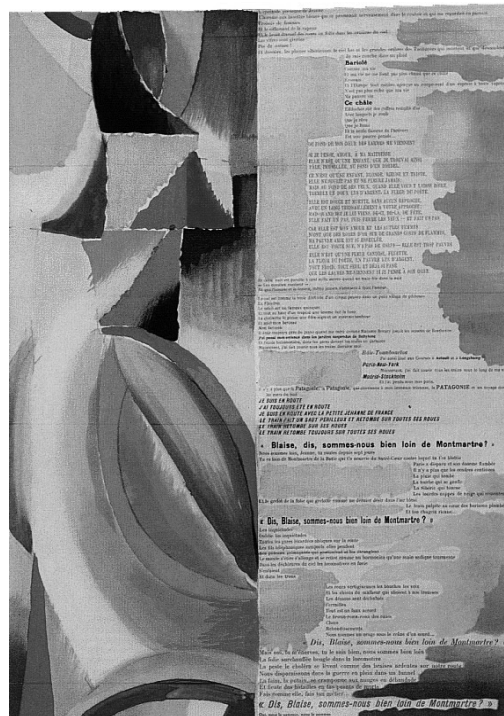
FIGURE 13: A fragment of Blaise Cendrars' "Prose du Transsibérien" (1913).
A poem in free verse intermingled with pochoir (stencil) painting in
gouache and watercolour by visual artist Sonia Delaunay.

Even though disparate works like Blaise Cendrars's "Prose du Transsibérien", Tristan Tzara's "Poésie Découpé", John Cage's "Mesostics", Jackson Mac Low's "Drawing-Asymmetries" or Steve McCaffery's "Sadhu Muffins" might emerge from completely independent contexts, they all nevertheless suggest an attempt to use chance in order to overcome subjective impulses and to interrogate established poetic notions like referentiality, eloquence or intentionality.
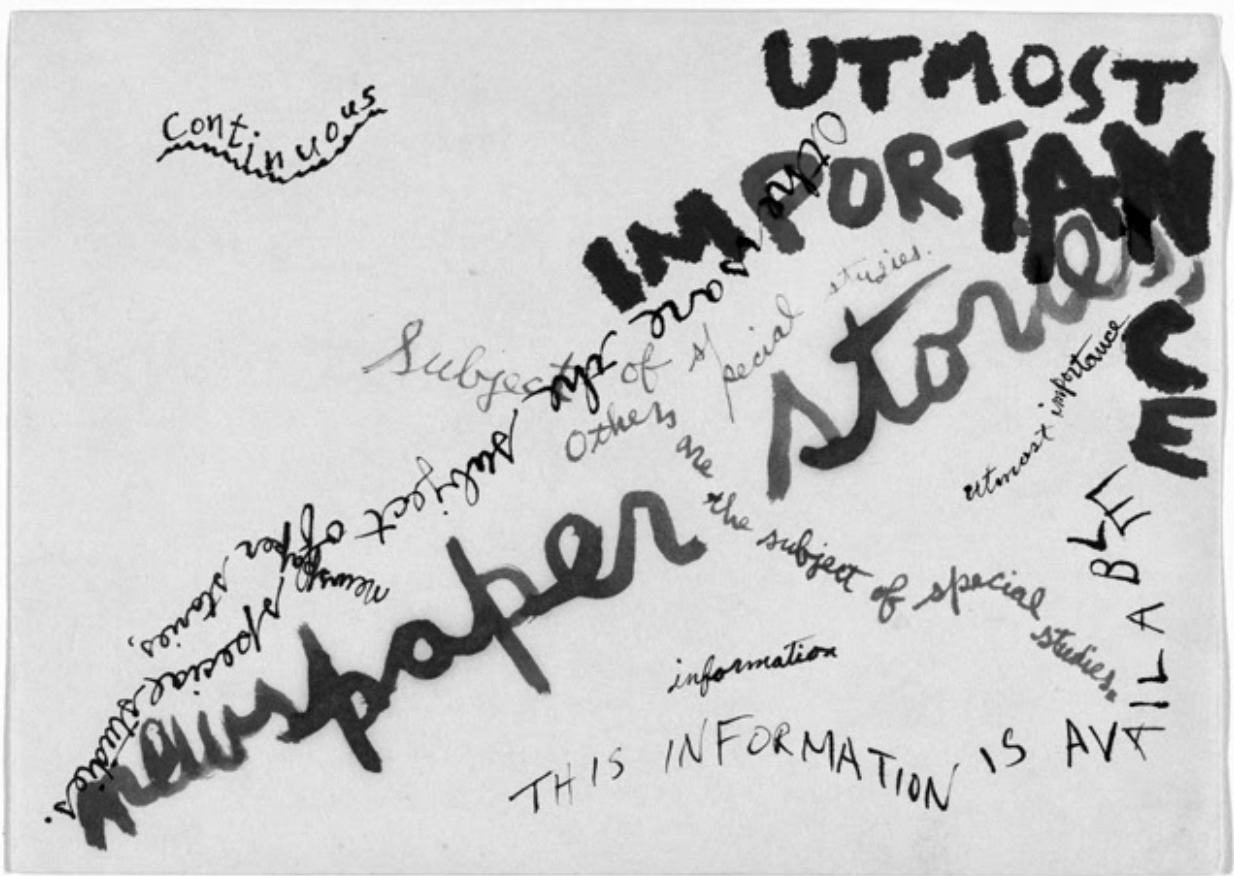
FIGURE 14: Jackson Mac Low's "Drawing-Asymmetry #5" (1961). Ink and colored ink on paper, 21.7 x 30.2 cm. Copyright The Estate of Jackson Mac Low 2008.

Analogously, a brief consideration of the trends, dogmas and conflicts that happened in concert music right after the second war would be particularly useful to illuminate comparable frictions to the ones described above. Similarly, the crisis of serial music during the 1950's resulted largely from an increasing tension between rigidity of organization and, paradoxically, the almost randomic results perceived to emerge from rigorous automatic procedures. In another of his Collège de France lectures from the 1990s, composer Pierre Boulez characterized his "Structures" for two pianos (from 1952) as a case where "the automatism of musical associations is pushed to the point of absurdity, the complexity of the compositional constraints reduce the possibility of individual invention while also generating an excess of order that is equivalent to disorder" (Boulez, 2005: 474).

FIGURE 15: First page of the score of Boulez's Structures Ia (1952).

During the exact same time, composer Iannis Xenakis started to express parallel concerns and to connect them to phenomenological limitations, notably from the point of view of the listener. In his words, "to the vast majority of the ears, the tremendously complex structures the total serialists were devising were simply often indistinguishable from a random mass of pitches, dynamics and rhythms". (Xenakis, 1992: 121). The way he found to face the problem was to introduce concepts borrowed from mathematics, statistics, and physics and try to apply them in compositions like Pithoprakta, Metastaseis, Achorripsis or Eonta.

FIGURE 16: First page of the score of Xenakis's Metastaseis (1953-54).
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John Cage is another composer who predominantly incorporated chance procedures into his works during the 1950's. Cage's "Music of Changes" (from 1951) is a piece directly derived from the I-Ching, a classic chinese text that is commonly used as a divination system. To perform the piece, a pianist is instructed to flip coins in order to determine pitches, tempi, attack modes, the number of simultaneous sonic layers, among many other "open" parameters.
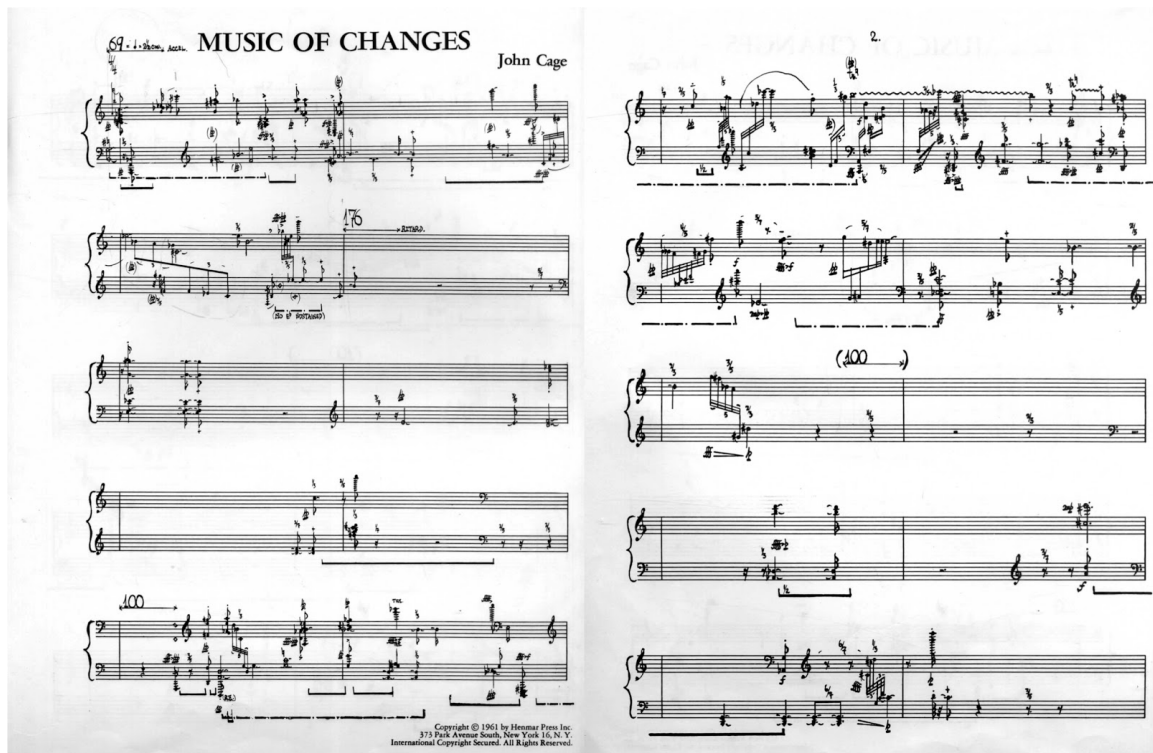
FIGURE 17: First page of the score of Cage's Music of Changes (1953-54).
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Notwithstanding the different strategies described above, they all point out not only to the complex nature of the deadlock artists were facing at the time but, mostly, to the impossibility of establishing a binary opposition between a purely chance-based, "anarchic aesthetic" on the one hand and a "mechanical automatism", designed to fully eliminate chance in the other.

Obviously, no artwork is completely aleatory and, conversely, it is barely impossible to conceptualize any artistic outcome able to completely exclude all manifestations of chance. At the end of the day, what these concepts have in common is the possibility for a suspension of the full authorial intention and control over certain processes, no matter if it is in favor of mechanical procedures or not.

This conundrum is candidly exemplified by the life-long disagreements between Boulez and Cage concerning the "correct way" to manipulate chance and contingency. In Boulez's opinion, Cage's coins are completely irrelevant and perilous as they are unable to prescribe any coherent musical object but only "to outline a blurry situation". However, curiously enough, for Cage, Boulez's scores may have many paths but will always remain "aseptically complete" and tied to a "sterile and closed work".

Despite the implicit and explicit dichotomies concisely presented in this chapter - which still fascinates me to an endless degree - my careful study of Oulipian poetics allowed me to overcome this controversy. It led me to the realization that this apparent self-contradiction is exactly what permits us to navigate between openness of possibility and aesthetic closure. Oulipians made obvious to me that in order to impregnate any artwork with meaning it is necessary not to bluntly oppose "chance" to "decision," but rather to nurture a delicate and continuous oscillation between "investigation" (which often involves opening up the work to the possibilities of the random and unintended) and "choice" (which often demands a conscious struggle to simultaneously limit as well as expand any constraint-based method). In the next two chapters I will attempt to describe how a personal extrapolation of this posture is reflected in my recent compositional output.

4. Eschen

4.1 Eschen as an anagram of Schnee (or plagiarism by anticipation)

"All substantial signals can be regarded both as transmissions and as initial commotions. For instance, a work of art transmits a kind of behavior by the artist, and it also serves, like a relay, as the point of departure for impulses that often attain extraordinary magnitudes in later transmission."
Kubler, George: The Shape of Time, 1962.

"When you cut into the present, the future leaks out."
Burroughs, William S: on Brion Gysin's Cut-Up Method, 1961.

"The word "precursor" is indispensable to the vocabulary of criticism, but one must try to purify it from any connotation of polemic or rivalry. The fact is that each writer creates his precursors. His work modifies our conception of the past, as it will modify the future."
Borges, Jorge Luis: Kafka and His Precursors, 1951.

During the winter quarter of 2018, I was approached by conductor Steven Schick who asked me if I was interested in composing a "companion piece" to be played before "Schnee", a fascinating work written by danish composer Hans Abrahamsen[1] .

Schick knows that I not only have an immense curiosity, respect, and admiration for chamber music but also that Abrahamsen is one of the contemporary composers by whom I am most puzzled. So, it came as no surprise that I accepted the commission right away.

For a couple of months following my acceptance I did nothing but re-immerse myself into Abrahamsen's music. Much of that time was spent reading at the piano: initially with his

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[1] Hans Abrahamsen studied at the Royal Danish Conservatory in Copenhagen and was a composition pupil of Niels Viggo Bentzon, subsequently studying with Gudmundsen-Holmgreen, Nørgård and Ligeti. He has taken a leading position in Danish contemporary music as a performer, composer and teacher. Schnee (2006-8) is generally acknowledged to be one of the rare classics of the twenty-first century in terms of chamber music.

masterful orchestrations[2] of Bach and Ligeti, Schoenberg and Debussy, Nielsen and Schumann, followed by his early masterpiece "Winternacht"[3]. Almost two entire months were devoted exclusively to analyze "Schnee"[4].

Fortunately - or unfortunately, I really don't know - the more deeply I involved myself with Abrahamsen's music, the more skeptical I became of writing a "companion piece"[5] that would do justice to Abrahamsen's austere art. Excitement gave way to nagging doubts as I began to wonder: How could I honor Abrahamsen's music and also keep an independent identity as a composer? How would I use this incredibly constrained piece of music as an effective model - or better: as a trigger - to spark my own imaginative ideas? Lastly, how might I create meaningful relationships with the materials I might "borrow"[6] from Abrahamsen?

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[2] During the 1990s, Abrahamsen wrote very few new works. He preferred instead to arrange and orchestrate older music while reevaluating his own style of composition.

[3] Winternacht was finished in 1978. Its title comes from a poem by Georg Trakl. The four movements are almost classical in terms of clarity and discipline in orchestration and form but also have a strong impressionistic quality as well. The second movement is dedicated to M.C. Escher and the first and last movements are both dedicated to Trakl.

[4] Scored for two piano quartets (one conventional, the other with woodwinds instead of strings) flanking a central percussionist, this hour-long piece is a chain of ten canons conceived in pairs. Overall, the canons get progressively shorter and gradually out of tune (in relation to the pianos). Nonetheless, each group stays within an extremely constrained band of musical material throughout the whole piece.

[5] Generally speaking, a companion piece usually employs the exact same instrumentation and has a similar duration of the piece it will be played with.

[6] To me, the term "borrow" always implies "motion" - or at least "transfer" - and requires a great degree of consciousness of the borrower about the "motion" itself. It exists to the extent that one is able to identify one or more circumscribed sources being consciously used as a model, a point of departure, or a framework. Musically speaking, this is not necessarily something that will translate directly into recognition of the original material from a listener's perspective. The consciousness of the borrowing could happen in an initial stage of a compositional process, but the final composition may very well be very distant in audible terms from the original borrowed material. Or, to suggest another extreme case, the borrowing may go unnoticed by performers and listeners, and even the composer be unconscious about it; perhaps it is accessible only from the point of view of a hardcore musicologist or obsessive music analyst.

FIGURE 18: First two pages of Abrahamsen's Schnee (2006-08).
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Things became a bit less obscure when I finally deduced that "Schnee" was not only a complex set of constrained sonifications of snow but also an iconic example of what Oulipians have defined as "Plagiarism by Anticipation".

"Plagiarism by Anticipation" consists of the idea that a writer from the past can anticipate, and therefore plagiarize, a work of the future. François Le Lionnais establishes this concept in the Second Oulipian Manifesto: "Occasionally, we discover that a structure we believed to be entirely new had in fact already been discovered or invented in the past, sometimes even in a distant past. We make it a point of honour to recognise such a state of things in qualifying the text in question as Plagiarism by Anticipation". (Motte, 2001: 21) Jacques Roubaud frames the idea as such: anticipatory plagiarists are "authors that predate the founding of the Oulipo who, drawing on Oulipian matter, reveal themselves to be copiers of the Oulipo." (Roubaud, 2006: 221)

A clear example of anticipatory plagiarists may be authors like Lasus of Hermione, Nestor of Laranda or Tryphiodorus, all obscure artists that dealt with lipogrammatic writing right after the invention of calligraphy. Even though this well-known rule is often associated with Oulipian writers, this practice has a very long history stretching back also to the so-called "Grands Rhétoriqueurs"[7] of the sixteenth century. In China, from as early as the third century, an incredible tradition of reversible lipograms flourished and lasted for more than 300 years[8].

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[7] The "Grands Rhétoriqueurs" is a group of poets from Northern France, Flanders, and the Duchy of Burgundy, working from 1460 to 1520, approximately. Their poetic production was dominated not only by rich rhyme schemes and experimentations with assonance and puns but also with investigations with typography and the graphic use of letters, including the creation of mind boggling verbal rebuses.

[8] The condensed language of classical Chinese has offered the possibility of writing poems that may be read both forward and backward, producing obviously entirely different results. A great introduction to this fascinating universe can be found in Michèle Métail's book called "Wild Geese Returning" (2017).

Other important Oulipian "anticipatory plagiarists" may include german polymath Gottfried Leibnitz, for his work on combinatorial mathematics, argentinian writer Jorge Luis Borges, whose bifurcating narratives anticipate Oulipo's own storytelling experiments (bifurcation is a decisive element in the overall structure of Jacques Roubaud's "Mathematics", for example), or writers Lewis Carroll or Jonathan Swift, who in Gulliver's Travels imagined one of the first writing algorithms.

The "Plagiarism by Anticipation" idea led me to see "Schnee" as essentially a nostalgic, self-referential work that is constantly trying to call attention to music's own underlying processes of composition and sonification. More than a disparate collection of wintery images permeated by expressions such as "like an icy whisper, but with a pulsation", Schnee became to me a platform I could use to build a collection of personal and subjective experiences, feelings and sensations that accompany my processes of self-awareness as a composer[9]... Exactly like Abrahamsen did by electing Bach, Schumann and Webern as his main anticipatory plagiarists.

This important discovery not only completely "rewired" my own underlied artistic consciousness but also immersed me into a "space-time continuum" that, bluntly speaking, is composition, in the best sense of the word. As I elected Abrahamsen as one of my "anticipatory plagiarists", I understood how my music should function and how it should guarantee its survival by recurrently replicating memories of itself. In short, my project for the piece was fully devised.

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[9] In this regard, Oulipian Marcel Bénabou writes in his article called "Rule and Constraint": Now it is actually in the passage from the rule to the constraint that the stumbling block appears: people accept the rule, they tolerate technique, but they refuse constraint. Precisely because it seems like an unnecessary rule, a superfluous redoubling of the exigencies of technique, and consequently no longer belongs - so the argument goes - to the admitted norm but rather to the process, and thus is exaggerative and excessive. It is as if there was a hermeneutic boundary between the two domains: the one wherein the observance of rules is a natural fact, and the one wherein the excess of rules is perceived as a shameful artifice. It is precisely this boundary, wholly arbitrary, that must be challenged in the name of a better knowledge of the functional modes of language and writing". (Bénabou, 2001: 45).

4.2 Eschen as a network of intertwined canonical structures

"Lits et ratures. Lis tes ratures"
Aragon, Louis: Manifeste, 1925.

In the program note[10] I wrote for Eschen's world premiere one reads:

Eschen (German for "Ashes") arose out of my longstanding interest in bared and tightly constrained formulas of expression. With the explicit intention to establish connections with the other piece in this program, Eschen is not only an anagram of Schnee but is also a study on canons that uses the same instrumentation and spatial disposition as its companion piece. Despite their multiple correlations, the canonical strategies in Eschen are designed in a different way from those of Schnee. Abrahamsen tends to work with carefully assembled algorithmic procedures, creating allusive collages and lattices of quotation. Eschen, by contrast, works by erasure, operating in the realm of the vestigial and the leftover. If Schnee is a delicate white-on-white painting, Eschen is an Etch-a-Sketch drawing.

Notwithstanding its brevity, I believe this description summarizes my efforts not only to directly relate Eschen to Schnee but, mainly, to infuse my piece with a good deal of intertextual components and multi-layered fragments of some my favorite moments in musical history. In my opinion, one of the most fascinating aspects of contemporary music is the countless number of ways that composers or performers can grapple with history. Not only as an embodiment of their personal attitudes towards memory but more importantly as a creative expression that emerges from their unique way of "hearing" history.

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[10] Scores, program notes and recordings are available following the link below:
https://drive.google.com/open?id=1POx8HlWk4qdZjFYHSMurT6sdZVfJt-3G

In this sense, most of the references throughout Eschen's six movements are not organized in abstract collages or masked quotations - as many postmodern composers advocate for - but rather in twisted "dé-collages", veiled references and oblique appropriations.

Throughout its conscious, constrained, recursive and multi-layered constructions, reflections and re-significations, the piece attempts to confront the history of chamber music directly, albeit positioning itself provocatively within the music of the past, present and future. Each sonic surface is manipulated as a living organism filled with various remembrances, all oscillating between decay and renewal.

As the various trans-creative processes of looking back themselves become the very bricks of the path forward, a constant and vigilant care about memory is reaffirmed. Cognition cannot be placed without memory, and the "Canon"[11] is the true art of memory, the authentic foundation for artistic and cultural thinking. Throughout the piece, rather than including outright quotations, I opt to craft sonorities and gestures that carry multi-layered, ambiguous connotations. Sonic references abound, often permeated by seemingly incongruous intrusions. Rather than attempt a precise overall analysis, I will present instead a brief description of each of the five moments of Eschen. Each account is prefaced by a short allegorical program note specially written for the piece's premiere.

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[11] The word "canon" here refers not only to the counterpoint-based compositional technique but mostly to the notion of "canonical strangeness" advocated by professor Harold Bloom in many of the controversial books he published throughout his career.

4.3 Mambo-Jumbo [contrapunctus primus: canone per augmentationem]

A snippet of a danzón from Pérez Prado is reflected in a sequin through a fractured prism. Instruments start to interrogate one another with patience and poise. The music then tips over into a more nuanced development, forming a Grisey-en-grisaille, rather slavishly.

Eschen's first movement is based on three simultaneous aspirations: a) to serve as a sort of Alap[12] to the four subsequent movements b) to be a compressed musical extrapolation of Schnee's first part (canons 1a, 1b, 2a) in the form of a prolation canon per augmentationem[13] c) to be a slanted homage to Ishmael Reed's "Mumbo Jumbo", an fascinating avant-la-lettre afrological novel in which historical, social, and political events ingeniously mingle with futuristic fictional inventions[14].

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[12] In Hindustani music, an Alap is generally the first section of a raga. It is usually played as a sort of invocation that also consists of a preamble to all subsequent expressions.

[13] A prolation canon (also called a mensuration canon or proportional canon) is a musical composition wherein the main melody is accompanied by one or more imitations of that melody in other voices. Not only do the voices sing or play the same melody, they do so at different speeds (or prolations, a mensuration term that dates to the medieval and Renaissance eras). Accompanying voices may enter either simultaneously or successively. If voices extend the rhythmic values of the leader (for example, by doubling all note values), a procedure known as augmentation, the resulting canon can be called an augmentation canon or canon by augmentation (canon per augmentationem). Conversely, if they reduce the note values in diminution, it can be called a diminution canon or canon by diminution (canon per diminutionem). More commonly termed "canon in augmentation or diminution," proportional canons re-articulate the rhythm of the leader at a ratio other than one to one. Thus, the follower might progress at half, twice, or three times, the speed of the leader. Voices in proportional canon may start at the same time or at different times. Bach's proportional canons include: the fourth canon of the Musical Offering the final canon of the Variations on Vom Himmel hoch, the fourth canon from the Art of Fugue, and, Bach's tour de force in this genre, the final canon of the 14 on the Goldberg Ground.

[14] Set in 1920s New York City, the novel depicts the elderly Harlem houngan PaPa LaBas and his companion Black Herman racing against the Wallflower Order, an international conspiracy dedicated to monotheism and control, as they attempt to root out the cause of and deal with the "Jes Grew" virus, a personification of ragtime, jazz, polytheism, and freedom. The Wallflower Order is said to work in concert with a still-existent Knights Templar Order to prevent people from dancing, to end the dance crazes spreading among black people. The virus is spread by certain black artists, referred to in the novel as "Jes Grew Carriers" or "J.G.C.s."

Like any Hindustani Alap, Mambo-Jumbo starts with a slow and loosely pulsated introduction that progressively presents "all the notes of the raga", so to speak. Each ensuing canonic entrance not only slowly enlarges the pitch set, but also successively expands both the overall register and the harmonicity index of the piece, as shorthanded below:

FIGURE 19: A reduction of Mambo Jumbo's harmonic progression (2019).

The first low muted D, repeatedly played by the piano, is the point of departure for a gradual journey from "noise" to "color", from "pitchlessness" to "spectral consonance"[15]. The second half of the composition (antara) starts at B, when the prolations begin to present melodic fragments at a slightly faster pace (nomtom) and to slowly incorporate ornamentation techniques (gamaka) in addition to the omnipresent D drone distributed among the various instruments (tanpura). Most of the phrases after rehearsal C are focused in the "upper octave register" (taar saptak). Rehearsal D presents another melodic fragment on the piano which is immediately echoed by the clarinet. Rehearsal E the violin presents a similar figure albeit stretched. Rehearsal F acts as a concluding section (abhoga) fusing vertically all the elements previously presented melodically .

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[15] This concepts are precisely elaborated and discussed by Fabien Lévy's in his book "Le Compositeur, son oreille et ses machines à écrire" from 2012.

4.4 Tendrills [contrapunctus secundus: canone perpetuus cancrizans]

Three palindromic musical gestures are submitted to recurrent rhythmic transformations while a spiral form stretches out and twines around an ostinato-like host. Bending movements generate two counter-twisted helices finally leading to an ephemeral divertimento-hommage to musicians like Nancarrow, Ligeti and Tristano, who, by perforating time, sought to recompose the prestissimo with maelstroms of particles crashing up against the limits of the possible.

Behind Eschen's second movement, there is a humble attempt to plagiarize Lennie Tristano's composition "Turkish Mambo"[16] by trying to emulate its unique rhythmic mastery and mesmerizing density. In addition, this movement can also be seen as a nod to both Nancarrow's studies for piano music[17] and Ligeti's études[18], two collections I've spent a long time carefully studying. Structurally speaking the piece is a short sequence of polyrhythmic crab canons[19], all framed by precise, intricate, geometric grids. Almost like as in a painting by Agnes Martin[20].

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[16] Turkish Mambo is the third track of Tristano's 1956 groundbreaking debut album for Atlantic Records. This composition is made of three separate and conflicting overdubbed piano tracks, with left-hand rhythms of five, six and seven beats beneath right-hand "free improvisation", all played by Tristano himself.

[17] Conlon Nancarrow was an American composer who lived and worked in Mexico for most of his life. He is best remembered for his studies for player piano, being one of the first composers to use auto-playing musical instruments, realising their potential to play far beyond human performance ability. He lived most of his life in relative isolation, and did not become widely known until the 1980s.

[18] Hungarian composer Gyorgy Ligeti composed a cycle of 18 études for solo piano between 1985 and 2001. They are considered one of the major creative achievements of his last decades, and one of the most significant sets of piano studies of the 20th century, combining virtuoso technical problems with expressive content, following in the line of the études of Frédéric Chopin, Franz Liszt, Claude Debussy, and Alexander Scriabin but addressing new technical ideas as a compendium of the concepts Ligeti had worked out in his other works since the 1950s.

[19] Crab canon (also known as canon cancrizans) is an arrangement of two musical lines that are complementary and backward, similar to a palindrome. One of the more exotic forms, retrograde canon involves the playing of a melody forward and backward at the same time.

[20] Martin was an American abstract painter wich work has been defined as an "essay in discretion on inward-ness and silence". Although she is often referred to as a minimalist, Martin considered herself an abstract expressionist. I was deeply impressed by an 2016 retrospective of her work at the Guggenheim Museum in NYC I had the opportunity to see.

This movement can be roughly divided in three parts: The first 56 bars depicts a progressive accumulation in rhythmic complexity, harmonic density and overall dynamic level. This gradual and inexorable process leads to a "feverish scherzo" in which various canonic cells are evenly distributed, orchestrated and superimposed to a "breakbeat groove" played by the drum set.

At letter G, the crab cannons are concurrently replaced by canons at the unison[21] and canons by contrary motion[22]. Another progressive accumulation is set in motion until an abrupt coda is presented at rehearsal I. After a huge fortissimo hit followed by a chekhovian, enigmatic suspension, a fleeting gesture that slowly fades away dramatically closes the movement.

Even though the blend of spontaneity, complexity and devil-may-care exuberance of Tristano's music may be slightly removed from the controversies of the present-day avant garde agenda, I still consider it (alongside Ligeti, Nancarrow, Monk, Machaut, etc.) as fertile avenues to explore enthralling rhythmic ideas. As great musical anticipatory plagiarists, they never let me forget that the art we authenticate is the art we appropriate.

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[21] A canon at the unison (or octave) happens when the follower performs precisely the same melody as the leader. As the name implies, canon at the octave involves repetition of the leader an octave higher or lower. Variations 3 and 24 of Bach's Goldberg are at the unison and octave respectively. If the end of the canon returns smoothly to the beginning it might be called a round, circular canon, or perpetual canon like Canon 7 of the Musical Offering and Bach's Canon a 2 Perpetuus (BWV 1075).

[22] A canon by contrary motion involves the leading voice being played alongside its own inversion (i.e. upside-down). The realization from the 'closed' (unrealized) form can be affected by placing the page in front of a mirror, thus upside down, and beginning with the already progressing first voice. The Canon a 2 'Quaerendo invenietis' from Bach's A Musical Offering, BWV 1079, is a fine example of the process.

FIGURE 20: The "breakbeat groove" drum set part (2019)
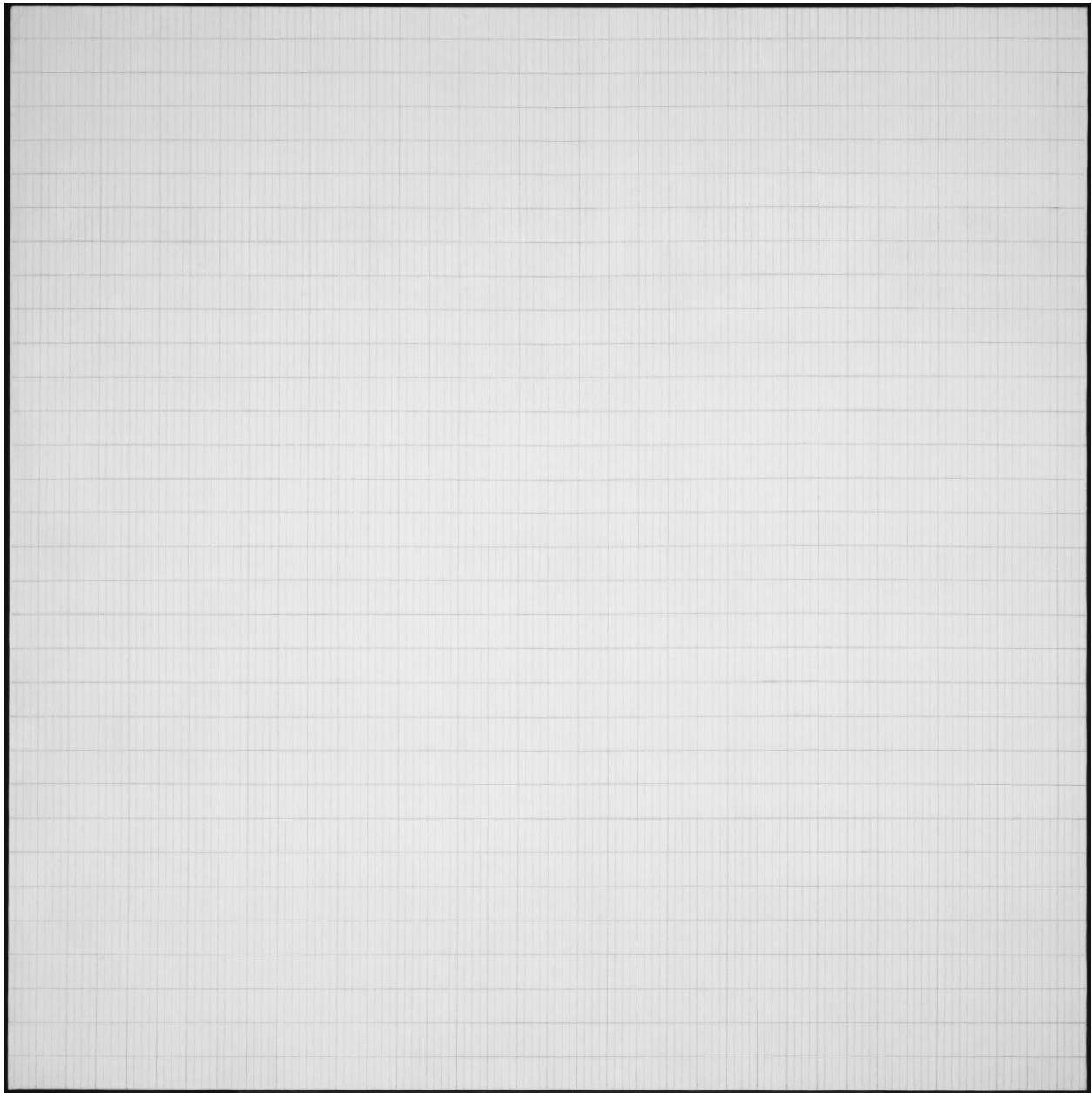
FIGURE 21: Agnes Martin's Morning (1965). Acrylic paint and graphite on canvas
Copyright Estate of Agnes Martin / DACS, 2020

4.5 Whitten [contrapunctus tertius: canone al rovescio et cancrizans]

A brief series of slenderly contrasted re-imaginings (all loosely based on a monophonic conductus by Perotinus) are invisibly linked together. A musical garden of misleading images, all made of shades fading to white in which the only thing apparent is repetition. A continuous largo with barely perceptual colors creates feeble scarifications on time, in a movement both cyclical and inexorable. It is a slow process that appears to be working on the timbre from within.

This movement is a direct attempt to make an abstract portrait of an abstract painter. Therefore, it is mostly based on subtle inflexions and fine-draw slithering, brief reiterations. Passages that bring to mind Whitten's collage-like approach, in which he layered dried pieces of acrylic paint onto canvases in order to create rough patchworks, probably as metaphors for his own dark and rugged skin. As a child of the divided south, Whitten bore witness to expressions of wicked and the plasticity of the human psyche. As a diligent afro-formalist, he explored and exploited the different registers of dryness and depiction throughout a whole career spanning almost 60 years. Since the beginning, he was a master in portraying haunted souls. One of his last allegories, a group of "dé-collages" for Barack Obama, are key to deciphering the intricacies of american life nowadays.

This movement is a fugitive homage quickly written just a couple of weeks after Whitten's passing. Sharp chimed chords are canonically orchestrated against a twinkling backdrop of string harmonics and metallic percussive gestures. All the material is loosely derived from a conductus by Perotinus, a composer we both loved. A newfound rhythmic propulsion is achieved around rehearsal D leading to a series of dry and mosaic-like reiterations that slowly transfigures the different musical terrains. Cyclical elaborations are then jumbled on top of each other and large fields of color are progressively squeegeed until a last fortissimo attack provides a definitive endpoint to the piece.

FIGURE 22: Jack Whitten. Black Monolith X, Birth of Muhammad Ali (2016).
Production still from the Art21 Extended Play film, Jack Whitten: An Artist's Life.

FIGURE 23: Whitten working on Quantum Wall, VIII
[For Arshile Gorky, My First Love In Painting] (2017).
Production still from the Art21 Extended Play film, Jack Whitten: An Artist's Life.

4.6 Iota Cell Cry [contrapunctus quartus: canone annagramatico all'unisono in memoriam Cecil Taylor]

Frenzied lament-like figurations on two pianos obsessively pervade the whole piece while jittery and stumbling rhythmic motifs bounce among all other instrumentalists' hummingbird hands. Each of the "88 tuned drums" has its own unit structure, often doubled with various cabinets of echos and multiple resonance chambers. At the same time the rest of the band surges forward or halts without any clear warning, conjuring nearly the same physical effect I felt the last time I listened to Cecil Taylor, though the front window of his apartment, down the street from the Brooklyn DMV.

Eschen's fourth movement is simultaneously: a) an anagram of its dedicatee's name b) another compressed musical extrapolation of Schnee's second and third parts (canons 2b, 3a, 3b, 4a and 4b) c) an willful alternation of various primeval sounds solely triggered by mechanical means.

The piece starts with a steady, clear and frenetic orchestrated repetition of a single pitch on the flute followed by a brief suspension. This motive is then canonically presented by both pianos, gradually slipping in and out of phase. Slowly, the lines are multiplied and turned from distinct points into clouds of attacks, always contrasted with an almost languorous backdrop played by the strings. The frantic initial repetition occurs again at rehearsal G, slightly varied.

After that, several rapid phrases are presented canonically, often over multiple polyrhythmic pulses. They gradually build to a loud antiphonal climax distributed between the two pianos and the percussion, starting at measure 60. Multiple contrasting ideas cascade up

and down all the instruments, each with a chiseled character and a particular speed. The overall result is a sort of timbral berserk stretto built with stacked masses of sound. This effect is further enhanced by repeated "catatonic block attacks", starting at rehearsal N. A sudden, completely unexpected shift happens at letter P where a flat succession of thin con legno battuto attacks and soft key clicks noises gradually lead to a final sonic convergence. A edgy sonic blend of Cecil Taylor and Luc Ferrari' sound worlds serves as a coda to the piece, in the shape of an overwrought, heavily orchestrated and amplified cymbal shriek.

FIGURE 24: Composers Cecil Taylor and Luc Ferrari (1966).
Copyright unknown

4.7 Aetherna [contrapunctus quintus: canone a 2 per tonos – quaerendo invenietis]

A sublimated sarabande made of obscured solos ascends languidly. Yet it remains constrained until a quasi-Mahlerian low note is sledgehammered, bringing forth multiple grains of raw material. Almost as if shavings were falling from a workbench or a rite was taking place under a broken electron microscope.
Finally, a short twist happens in the spirit of a kōan.

Eschen's last movement is based on two different ideas: a) it is a strict - albeit intermittent - canon a 2 per tonos[23] in which constant modulations happen over an ubiquitous pedal tone in pianissimo b) it is study on artificial piano resonances primarily created by four e-bows[24] which are progressively recycled and orchestrated not only with virtuosity but also with a delicate mixture of irony and joy

The piece begins with short soloistic passages distributed against a resonant backdrop. The entrances became progressively louder and denser, generating a sort of canonic stretto that culminates in a "chiarissimo attack" played by both pianos, the crotales, hi-hat and strings molto sul ponticello. After a brief resonant stoppage, another almost improvised fragment is presented by the alto flute. It not only echoes the previous material but also comments on them in an ethereal and ciphered way. The accumulation of those subjective, self-serving and

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[23] A canon per tonos is a type of canon in which each dux is repeated at a different pitch. If the new pitch is the same scale degree (in a new key), the canon is a modulating spiral, like Bach's canon a 2 per tonus of the Musical Offering. If the new pitch is a different scale degree (in the same key), the canon is a modal spiral. Aetherna mixes both modal and modulating approaches.

[24] An e-bow is a battery-powered electronic device for playing the electric guitar. The EBow uses a pickup – inductive string driver – feedback circuit, including a sensor coil, driver coil, and amplifier, to induce forced string vibrations.

contradictory versions of the same incident virtually bringing to mind something akin to a

Jidaigeki movie[25]. At rehearsal C, various muted sonorities are introduced and repeated as a

sort of shinto cadence. A varied "chiarissimo attack" happens at D, triggering more short

soloistic passages, directly derived from the beginning. Another resonant stoppage precedes a

second almost improvised fragment, now played by the percussion.

A radical change of texture happens at E. The pedal tone is modulated a whole step

higher and the writing becomes much more vertical. In addition, the intermittences start to

happen more frequently and regularly. A varied stretto is presented at G. A very low pedal tone

signals the coda at I. A buzzy decay of the artificial piano resonance closes the piece at J.

FIGURE 25: Japanese Filmmaker Akira Kurosawa and the cast of Rashomon (1950).
Copyright unknown

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[25]Jidaigeki is a genre of japanese film and theatre. Literally meaning "period dramas", they are most often set during the Edo period of Japanese history, from 1603 to 1868. This genre often relies on an established set of constrained dramatic conventions including the use of makeup, language, catchphrases, and plotlines. Akira Kurosawa's Rashomon, a movie from 1950, is probably the most famous Jidaigeki example.

5. Per Mutare

5.1 Inceptions

"At the end of the 13th century, Raymond Lully was prepared to solve all arcana by means of an apparatus of concentric, revolving disks of different sizes, divided into sectors with Latin words; John Stuart Mill, feared that some day the number of musical combinations would be exhausted and there would be no place in the future for indefinite Webers and Mozarts; Kurd Lasswitz, at the end of the 19th, toyed with the staggering fantasy of a universal library which would register all the variations of the twenty-odd orthographic symbols, in other words, all that it is given to express in all languages. Lully's machine, Mill's fear and Lasswitz's chaotic library can be the subject of jokes, but they exaggerate a propensity which is common: making metaphysics and the arts into a kind of play with combinations."

Borges, Jorge Luis - Labyrinths, 1964.

The primary concept behind "Per Mutare" is at the intersection of three of my prime current interests, musically speaking: a) The exploration of the phenomenon of auditory grouping b) My interest on combinatorial design theory as a strategy for construction of eloquent systems of finite sets c) My fascination with the idea of the labyrinth as a metaphor for composition.

At the same time, this work was composed in the context of the Analysis, Creation, and Teaching of Orchestration (ACTOR)[1] project, a transdisciplinary partnership involving various collaborators between North America and Europe. This piece is also a direct result of UCSD's CORE (Composer-performer Research Ensemble), a graduate seminar co-led by Professors Roger Reynolds and Rand Steiger, during the last two quarters.

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[1] The piece specifically relates to ACTOR's sub-axis 11 - Compositional Innovation. According to professor Stephen McAdams the main goal of this sub-axis is "to assist musicians in becoming better at understanding and using advanced orchestration techniques/appropriately tuned approaches to instrumentation. An improved grasp of relevant terminology and also the musical functionality of timbre underlies such augmented approaches." More details are available at www.actorproject.org

5.2 Auditory grouping

"Beyond the constructive elements of the picture, I studied the tonalities of nature by adding layer upon layer of diluted black watercolour paint. Each layer must dry well. In this way a mathematically correct scale of light and dark values is the result. Squinting facilitates our perception of this phenomenon."

Klee, Paul: The diaries of Paul Klee, 1964.

Cognitively speaking, "Per Mutare" is a small collection of sonic aphorisms. Each movement aims to deal with a particular perceptual issue in terms of timbre and orchestration, most of them derived from Stephen McAdams's more recent scholarship[2]. Analogously, each étude is based on a single compositional strategy in terms of temporal evolution and orchestration and, overall, the collection tries to investigate how organization, attention, storage and retrieval of information can be shaped (and potentially perceived) when constrained musical material is forced into short windows of time.

This approach is entirely derived from ACTOR's perceptual framework, which is basically grounded on Al Bregman's "Auditory Scene Analysis" theory[3]. ASA is a theory that focuses primarily on "how the auditory system determines whether a sequence of acoustic events

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[2] Stephen McAdams is ACTOR project's main coordinator. In 1986, he founded the Music Perception and Cognition team at Ircam in Paris. While there he organized the first Music and the Cognitive Sciences conference in 1988, which subsequently gave rise to the three international societies dedicated to music perception and cognition, as well as the International Conference on Music Perception and Cognition. He was Research Scientist and then Senior Research Scientist in the French Centre National de la Recherche Scientifique (CNRS) from 1989 to 2004. He is a Professor and Canada Research Chair in Music Perception and Cognition at McGill University. He directed the Centre for Interdisciplinary Research in Music, Media and Technology (CIRMMT) in the Schulich School of Music from 2004 to 2009. His research interests include multimodal scene analysis, musical timbre perception, sound source perception, and the cognitive and affective dynamics of musical listening.

[3] In perception and psychophysics, Auditory Scene Analysis (ASA) is a proposed model for the basis of auditory perception. This is understood as the process by which the human auditory system organizes sound into perceptually meaningful elements. The term was coined by psychologist Albert Bregman, who was Stephen McAdams's teacher. The three key aspects of Bregman's ASA model are: segmentation, integration, and segregation.

results from either one or multiple sources" (McAdams & Bregman, 1979). Rather than hearing

out individual frequency components, our brains evolved to perceive sound sources, and events

produced by these sources result in auditory images—mental representations of sound entities

that exhibit coherence in acoustic behavior. If one source is perceived, then a single integrated

line is heard (integration), whereas if multiple sources are perceived, then multiple segregated

lines are heard (segregation). These "auditory streams" are mental representations formed from

the physical acoustic sequences, which we will see are often perceptually flexible and can be

heard as either integrated or segregated under various conditions.

Basically ASA groups the incoming sensory information to form an accurate mental

representation of individual sounds. When sounds are grouped by the auditory system into a

perceived sequence, distinct from other co-occurring sequences, each of these perceived

sequences is called an "auditory stream".
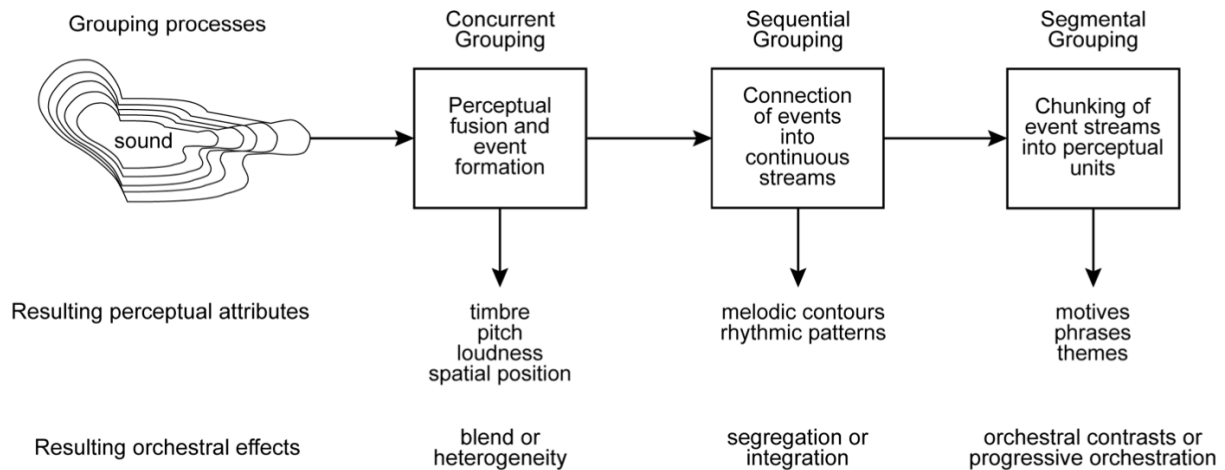
FIGURE 26: Some auditory grouping processes and their respective resulting
perceptual attributes and orchestral effects according to McAdams (2019).

5.3 Combinatorial expressivity

"I am not now thinking of a machine capable merely of "assembly-line" literary production, which would already be mechanical in itself. I am thinking of a writing machine that would bring to the page all those things that we are accustomed to consider as the most jealously guarded attributes of our psychological life, of our daily experience, our unpredictable changes of mood and inner ela- tions, despairs and moments of illumination. What are these if not so many linguistic "fields," for which we might well succeed in establishing the vocabulary, grammar, syntax, and properties of permutation?"

Calvino, Italo: Cybernetics and Ghosts, 1967.

In addition to the perceptual concerns expressed above, the idea of "permutation" is also infused into the piece in multiple levels[4]. Behind the piece's title, its compositional design and optimal execution lies an idea summarized by philosopher Gilles Deleuze in his famous essay on Samuel Beckett. For Deleuze, "Combinatorics" is "the art or science of exhausting the possible, through inclusive disjunctions" through the "operation of exhaustion that can include a possibility which stands in contradiction to other possibilities, laid out by the same situation."[5] Likewise, "Per Mutare" uses combinatorial structures as permissive of and conducive to auditory scene perception. It does not aim to activate the realistic trope of probability in order to delimit the realm of possibilities but, instead, it intends to trigger a logico-mathematical mode of axiomatic constraint in order to frame the combinatorial field and consciously channel a formalized reflection upon timbral perception and its potential expressivity.

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[4] This idea is also at the core of any Oulipian methodology as constrained writing basically limits combinatorial possibilities and challenges the writer to take up trajectories that he or she would probably not take otherwise.

[5] Combinatorics is a stem of mathematics relating to the learning of finite or countable discrete structures. Facets of combinatorics may comprise: a) counting the structures of a specified variety and size namely enumerative combinatorics b) deciphering when convinced criteria can be met, and constructing and analyzing objects meeting the criteria as in combinatorial designs and matroid theory c) finding "largest", "smallest", or "optimal" objects as in extremal combinatorics and combinatorial optimization d) studying combinatorial structures arising in an algebraic framework e) applying algebraic techniques to combinatorial problems as in algebraic combinatorics. Unfortunately, a more detailed discussion about this subject would lie far beyond the scope of this paper.

A striking similar attitude is used by writer Anthony Etherin[6] in his ingenious poem "Permutations"[7], a work that "Per Mutare" also responds to, in multiple levels.

Permutations

Atoms erupt in

mutant prose. I

turn a poem - its

matter is upon

me, to trap us in

utopian terms…

At resumption,

I must open art,

or input a stem

torn up as time -

use important

permutations.

FIGURE 27: Anthony Etherin's poem "Permutations" (2019). Copyright Penteract Press

With an unique mix of Oulipian attitude and Webernian poise, Etherin's poem consists of a succession of twelve anagrammatic lines that are, at the same time, minute commentaries on and exact permutations of the word "permutations".

---

[6] Anthony Etherin is a UK-based writer of constrained, formal and experimental poetry. He is known for composing poems that combine various forms of literary constraint, such as anagrammed palindromes and palindromic sonnets. He is the inventor of the aelindrome, a new lettristic constraint, in which letters are parsed according to premeditated, palindromic numerical sequences.

[7] Permutations is part of Etherin's book called "Stray Arts (and other inventions)" published in 2019. The title itself is a palindrome.

Following a long tradition of writers as diverse as Arnaut Daniel, John Donne, Rita Dove, Claude Berge, Julio Cortázar, Marc Saporta, Italo Calvino, Raymond Queneau, Harry Matthews, among many others, Anthony Etherin's work is an exemplary example of contemporary constrained poetry, in which the interplay of pleasure and intellectual rigour is simultaneously infused on the work's imagery, content and structure.

The extremely contrived logic behind the poem seems to paradoxically convene an uncoerced, almost accidental atmosphere that continuously disrupts a series of expected petitions, almost like a fractured litany. The constant reorganization of the same vowels and consonants echoes an eccentric coiled musicality, almost like if it was dipping in and out of stumper. This hipnotic operation is then carried out until the last line is presented and the whole cycle is restarted, almost like an Ouroboros[8].

In addition, Etherin's anagrammatic lines attempt to construct a verbi-voco-visual[9] unity, in which the lines no longer remain gridlocked in the barred logic of succession, but rather are transmogrified into an agitated ensemble of almost accidental, but nevertheless ubiquitous, streams of meaning. The combinatorial wordplay does not simply potentialize semantic multiplicity, but chiefly afford unpredictable disclosures of multiple otherwise hidden connections, references and interpretations. Those are exactly the concepts I decided to interrogate with "Per Mutare".

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[8] Ouroboros is an ancient archetype that depicts a serpent or dragon eating its own tail.It is often interpreted as a symbol for eternal cyclic renewal or a cycle of life, death, and rebirth. The skin-sloughing process of snakes symbolizes the transmigration of souls, the snake biting its own tail is a fertility symbol. The tail of the snake is a phallic symbol, the mouth is a yonic or womb-like symbol.

[9] This term was coined by James Joyce and adopted by Marshall McLuhan, the Noigandres group, among others. It basically expresses an intent to realize "a dynamic artistic whole of indivisible dimensions, a mutually effective fusion of vocabular, enunciative and ocular constituents", according to brazilian poet Augusto de Campos.
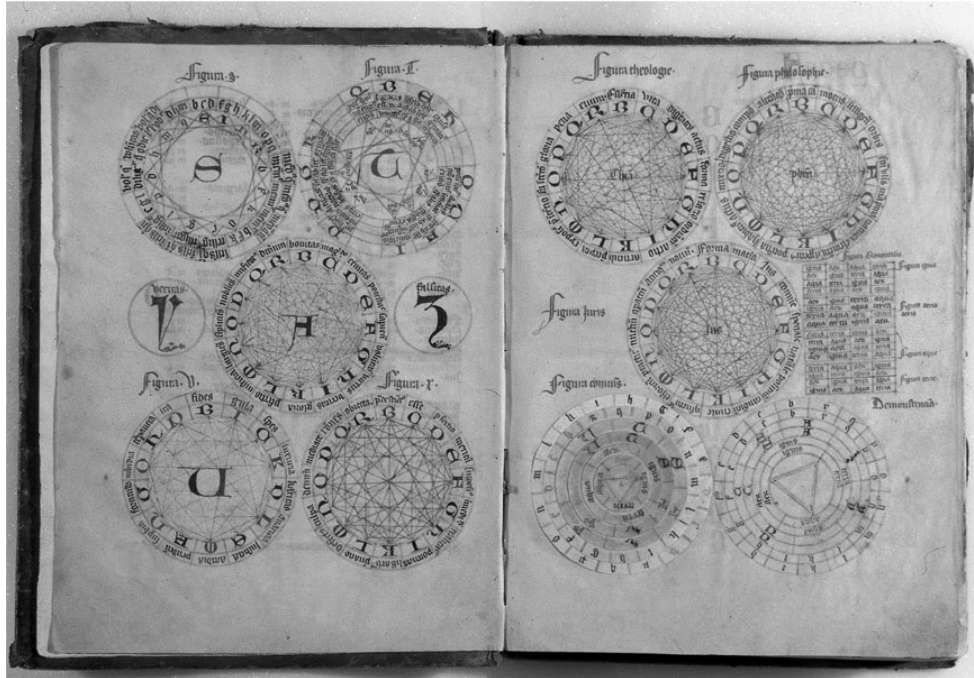
FIGURE 28: One of Ramon Lull's "Thinking Machines" (c. 1270). Copyright unknown
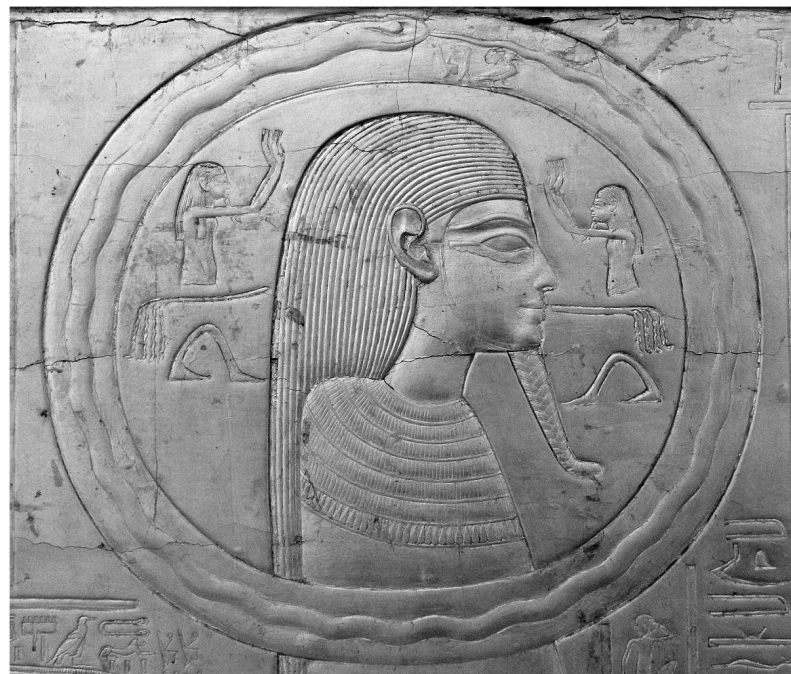
FIGURE 29: First known representation of the Ouroboros engraved on one of the shrines enclosing the sarcophagus of Tutankhamun (c. 1325 BC). Copyright Egyptian Museum of Cairo 2010.

5.4 The Labyrinth as a metaphor for composition

"Oulipians: rats who must build the labyrinth from which they propose to escape."
Queneau, Raymond during a speech in 1961.

"A man sets out to draw the world. As the years go by, the artist populates a space
with images of provinces, kingdoms, mountains, ships, bays, fishes, rooms,
instruments, stars, horses and people. A short time before he dies he discovers
in that patient labyrinth of lines and traces the lineaments of his own face."
Borges, Jorge Luis : The Aleph and other stories, 1949.

"Suppose you enter a labyrinth at 11:00 a.m., planning to choose your turn whenever you come to a
branch point by tossing a coin. When you enter at 11:00, you may have a 42% chance of reaching the
center by noon. But in the first half hour you may stray into a region from which it is hard to reach the
center, so that by 11:30 your chance of reaching the center by noon has fallen to 26%. But then you turn
lucky; by 11:45 you are not far from the center and your chance of reaching it by noon is 78%.
At 11:49 you reach the center; then and forevermore your chance of reaching it by noon is 100%."
Lewis, David: Philosophical Papers, 1980.

Metaphorically speaking, another recurring figure that may summarize the framework of

"Per Mutare" is the image of the labyrinth. Similarly to most of the mechanisms of perception

and composition, a labyrinth has a strong spatial connotation that basically problematizes the

relationships between circumstance and direction. It also has a powerful temporal facet that

gives rise both to speculative and problem-solving procedures. In other words: At first one is

confronted with the task of creating the maze. Then, right after it, one is faced with the problem

of finding its exit.

In this double movement, full of direct implications of both space and time, the labyrinth

functions as an allegory for the potential interactions between the composer and the listener, the

projected and the perceived.

As the Argentinian writer Jorge Luis Borges observes, a labyrinth "integrates order and disorder, lucidity and confusion, coalition and friction, artistry and chaos. It may be recognized as a path (something similar to a linear but serpentine way towards a goal) or as a pattern (something similar to a harmonious or self-similar designed composite). From a walker's point of view the labyrinth is completely chaotic, dynamic and discontinuous. For an onlooker perspective it is entirely static, controlled and self-contained". (Borges, 2007 :31)

In more Oulipian terms, the labyrinth is simultaneously a metaphor of chance and order, an enclosed and consequently protective space that nevertheless contains enormous potential in terms of paths and possibilities. It is also a fertile analogy to the complex interplay of intention and result, freedom and order, randomness and contingency. A labyrinth is limited yet inexhaustible or, in short, it does not abolish chance but constrains it, promising both unity and variation.

"Per Mutare" embraces this analogy taking in consideration that, flusserian speaking[10], as we moved from the meandering to the linear, from the complex to the singular, most of our thinking became shallow and unable to grasp the potential of meaning from our labyrinthine, symbolic world. Fortunately now, regardless of all the recurrent crises, sagacity is trying to capture our imagination again. The patterns enwrapped with these labyrinthine designs are calling us to reclaim the lost and forgotten parts of our culture, our environment and ourselves.

---

[10] Vilém Flusser was a czech-born philosopher, writer and journalist. His early work was marked by discussion of the thought of Martin Heidegger, and by the influence of existentialism and phenomenology. Phenomenology would play a major role in the transition to the later phase of his work, in which he turned his attention to the philosophy of communication and of artistic production. He is one of my main artistic and theoretical references and I have been studying his works since the early 2000s.

FIGURE 30: Christian Bök's "Rats who must build the labyrinth from which they propose to escape" (2018). The image is a work of visual poetry that quotes the aphorism by Queneau, translating his phrase into an HR QR code (readable by both humans and robots simultaneously).
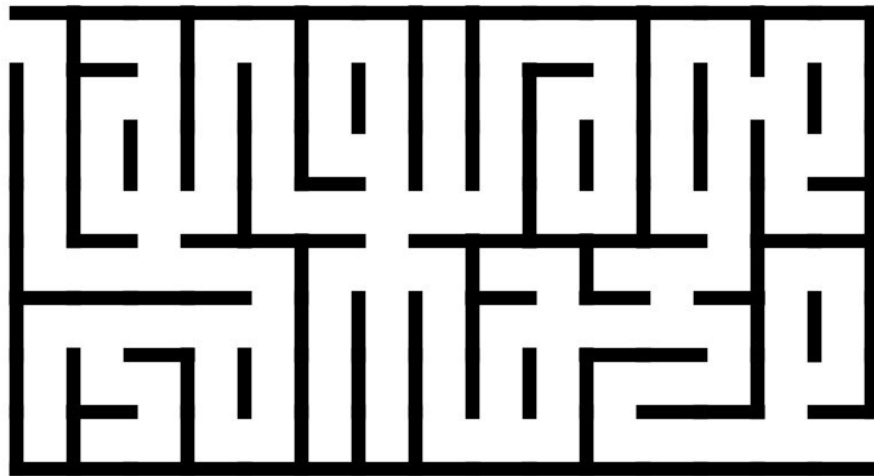
FIGURE 31: Luke Bradford's "Language is a maze" (2020). Copyright Luke Bradford

5.5 A quick breakdown of "Per Mutare" individual movements

"I will deal with each aspect of this question by fragments, by unconnected pieces, because the passing from one area of knowledge to the other fans the pleasure and ardour of reading. If I were to write the chapters of my book in a continuous form, each time exhausting the chosen subject, they would certainly be more complete, more comprehensive, of a nobler character. But I fear lengthy texts, and you, reader, are worthy and capable of grasping the whole by the means of a few random details, and of knowing the end by learning the beginning."
Jahiz: The book of animals, circa IX century.

I will briefly lead the reader through the seven movements of "Per Mutare", one movement at a time[11]. Even though it was crucial for me to design and reinstantiate various categories of combinatorial signposts while I was tracing the overall structure of the piece, each movement will be analyzed in situ. Therefore all the examples of a particular process will be examined at the exact place in which they occur.

5.5.1 Atoms erupt

Atoms Erupt addresses the issue of timbral blend. Different sounds with similar attack profiles and spectral centroids are distributed among the quartet according to a strict matrix. These sounds are also rigorously associated by overall duration and rhythmic proportion, almost like in a prolational canon. Impulsive and sustained sounds are combinatorially presented in order to produce different degrees of blend and fusion. In addition, two brief moments of timbral emergence articulate the form (bars 8 and 14). The whole movement is constructed around two crucial questions: 1. How can the timbral qualia of blended sounds be compared? 2. Whether one or more timbres remain identifiable in a complex composite?

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[11] Scores, program notes and recordings are available following the link below:
https://drive.google.com/open?id=1POx8HlWk4qdZjFYHSMurT6sdZVfJt-3G

5.5.2 Mutant prose

Mutant prose pushes the strategies used on Atom erupt closely to the threshold between integration and segregation, to speak in strictly ASA terms. Different sounds with similar attack profiles are now distributed among different frequency bands. Short bursts of sounds are integrated with more linear and homogeneous material. Each repetition engenders a different level of integration between the various streams. An almost Webernian-inspired short klangfarbenmelodie (starting on bar 24) serves as a coda to the movement.

5.5.3 A poem

This étude seeks to translate classical pitch modulation techniques to the timbral domain. A continuous melodic gesture is submitted to constant variation in terms of orchestration. Disparate timbral complexes gradually emerge and are slowly transported through the timbral space. Or in other words: based in a series of imbricated cross-fades, a mixture of gradually changing blended timbres, are gradually unified into successive coherent groupings.

5.5.4 Matter is upon

This piece is primarily concerned with the notion of timbral resonance. A short fragment is presented at the foreground by the vibraphone. At the same time, this material is highlighted and extended with sustained textures produced by the other members of the core. The global

perceptual result is a sort of timbral variant of piano pedaling. Similarly the first movement, two

brief moments of timbral emergence articulate the overall form (bars 14 and 33) .

5.5.5 Trap

A looping series articulating sustained tones played by the vibraphone smoothly

traverses the timbral space. The chords which share "timbral common tones" are chosen

particularly with the dimension of spectral centroid in mind. Another brief moment of timbral

emergence is presented (rehearsal letter B). After that, the whole looping series is presented

again now in retrograde and with a completely different orchestration. The ensemble remains

basically splitted into two streams, differentiated through registration as well as through attack

profile. Another moment of timbral emergence (rehearsal letter E) serves as a coda to the

movement.

5.5.6 Utopian Terms

This étude is basically designed to be a longer-term timbral and linear augmentation.

After a brief "Beckettian" introduction, another Webernian-inspired klangfarbenmelodie is

gradually distributed and systematically orchestrated between all the members of the quartet.

Rehearsal letter D signs a more dense and homogenous succession. It gradually leads to a

brief appearance of an especially dissonant but altogether harmonic "monolith" that segments

the discourse. A fast and extremely virtuosic passage completely disrupts the musical flow,

leading to four successive appearances of the same musical gesture, each time instantiated

differently. Dynamic and timbristic contrasts are used to create different degrees of distance and

proximity between the first iteration and its various subsequent "pseudo-variations". After this brief combinatorial moment, another "Beckettian" short phrase recapitulates the beginning and rounds up the movement.

5.5.7 At resumption

At resumption basically attempts to deal with cyclic structures and their repercussions on temporal perception. At the beginning, different fields of combinatorial musical material are repeatedly instantiated and piled up, generating an ambiguous web of associations. In order to obtain a more substantial blend between all these gestures, an extended technique is employed on the trombone, splitting it into two very distinct timbres (or "voices") that oscillate throughout the etude. This system of playing in which the F-tuning slide is removed and left open on the bell side of the trombone allows the trombonist to produce two very different timbers while keeping the tempered pitch and harmonic series intact. This strategy also aids blending with the bass clarinet by muffling the higher overtones of the instrument. Pitch salience is also at play here as registral differences play a large role in what is audible to the listener.

The repetitive instantiations are intensified exponentially until rehearsal letter F. This process leads to a slow but clear progressive timbral augmentation, starting at measure 24. A dramatic growth around a low C# fundamental (trombone and bass clarinet) is driven by sextuplets in the vibraphone. This texture provides the groundwork for various kinds of auditory groupings. The trombone and percussion provide timbral resonance that harkins back to the vibraphone's persuasive sextuplets via rapid tremolos (with harmon mute) and rolls. They ultimately ignite a timbral juxtaposition of extended techniques that peaks with the trombone and

clarinet permeating one another with extreme dynamic envelopes. The percussion and trombone tremolos are temporarily augmented by the multiphonics in the bass clarinet and the double-stops on the violin. The bass clarinet gradually emerges from this homogenous texture. The vibraphone then provides timbral resonance, reflecting upon the previous harmonic cluster by maintaining a pedal. These processes are then repeated each time with a different instrument emerging from a similar homogenous texture, all generated combinatorially. Pitch salience is also at play here as registral differences play a large role in what is audible to the listener. The global texture is progressively filtered until the bass clarinet finishes the discourse by itself.

Overall, the main idea behind this movement is to try to actively illuminate most of the elements regarding the process of stratification. The turbulent relationships that arise with the juxtaposition and superimposition of various segregated zones aim to give the work a multidimensional character in which the fleeting nature of the timbral textures is never fully apparent regardless of the various moments when all four voices are heard together.

6. Conclusions (???)

> "A composer who knows exactly what he wants, wants only what he knows."
> Helmut Lachenmann during a private conversation in 2003.

> "Non nova, sed vetera noviter dicta."
> [Not new things, but old things, newly said]
> Old Latin Proverb

> "Works of art make rules. Rules do not make works of art."
> Debussy, Claude: in a letter to Charles Koechlin, 1902.

> "Writing music is like putting a ladder without fixing it. With no scaffolding, a building in construction may stay in place only by a miracle, a miracle of the internal logic, of an inner sense of proportion. I am at the same time the architect and the spectator of my works. I work and I analyze my work."
> Honegger, Arthur: Je suis compositeur, 1951.

> "I don't work on the poem, I work on the poet."
> Kunitz, Stanley: A Kind of Order, A Kind of Folly (Essays and Conversations), 1975.

> "Tomorrow is the question!"
> Coleman, Ornette, 1959.

The introspective effort undergone while writing this dissertation has allowed me to better underline most of the tropes embedded in my recent work. It has permitted me to put forth a number of important personal artistic references and to intensely reflect upon them all. However in the end, the only clear conclusion I am able to provide here is that most of my questions still remain unresolved; and usefully so.

More than ever, I experience a crucial necessity to understand and challenge most of the logocentric beliefs from musical modernity. Paradoxically, a persistent refinement of my musical escapology also feels imperative.

In one way or another, my music has always dealt with various sets of constraints. I think, compose, and play embracing them mainly because the results have reliably both surprised and satisfied me to an endless degree. Their conscious manipulation has also taken me through both comfort zones and previously unimagined places. Most of the sets are tricks of the trade but, the most expressive ones may be particularly mine. Some are open and obvious, others are just hidden under the various surfaces. Some are intimate secrets, others are inextricable puzzles. Some are often present, some are cast away and irretrievably lost.

Overall, I find the Oulipian poetics a marvelously useful thing, in sympathy with many of my long held inclinations. It continually nurtures my curiosity and allows me to craft an idiosyncratic musical language, full of meaningful interpolations and unforeseen amplifications. It provides me with a flexible framework ideally tailored for my intellectual and artistic journey. It also allows me to calibrate more precisely the direction I would be taking in future works, and to remember which paths I have abandoned along the way, and which techniques no longer serve my artistic purposes well.

Eschen convinced me of the need to write ten times more directly than I might be naturally inclined to do if I want any of my works to be even remotely understandable. This piece proved to me that my struggle is not to produce musical material but rather to clearly identify its most essential parts, the ones the music could not exist without, and shape them to their simplest, most constrained, flexible and expressive form.

Similarly, Per Mutare allowed me to work with my materials as simply and effectively as possible, perceptually speaking. The Oulipian approaches I adopted made me not only sharply

define my musical intentions but also make their radical disfigurings, recontextualization, and decouplings much more eloquent and relevant.

Nonetheless, if I admire the necessity to enlarge my musical horizons by producing and verbalizing some sort of coherent thought about my work, today, and more than ever, I can see clearly also how my work should go beyond my own understanding.

If nowadays epistemological opacities blur the notions of history, quality, and effort, they also allow the emergence of intriguing initiatives that start pointing out beyond post-tonalists, post-nationalists, post-spectralists, post-saturationists, post-serialits, post-minimalists, and beyond. If objective taste criteria appear to be facing recurrent crises, our epoch seems also to be producing a lot of meaningful contributions regardless of an omnipresent digital superficial connection.

Famously, in one of his very late texts entitled "Vers une musique informelle", Adorno defined the act of composing as "Dinge machen, von denen wir nicht wissen, was sie sind" - making things which we do not know. I couldn't agree more.

While I read, discuss, endeavor and think objectively about how to compose music I find compelling, I try to interpret some of the other things that are about to emerge. While we "shatter the world to bits and remold it nearer to our heart's desire" - as persian poet and mathematician Omar Khayyam beautifully framed the problem - I attempt to use Oulipian poetics not only as a metaphor but rather as a mechanism to actively generate meaningful and communicative art for myself and for those around me.

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