Experimental Practices of Music and Philosophy in John Cage and Gilles Deleuze

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Abstract

In this thesis we construct a critical encounter between the composer John Cage and the philosopher Gilles Deleuze. This encounter circulates through a constellation of problems found across and between mid-twentieth century musical, artistic, and philosophical practices, the central focus for our line of enquiry being the concept of experimentation. We emphasize the production of a method of experimentation through a practice historically situated with regards to the traditions of the respective fields of music and philosophy. However, we argue that these experimental practices are not reducible to their historical traditions, but rather, by adopting what we term a problematic reading, or transcendental critique, with regards to historical givens, they take their historical situation as the site of an experimental departure. We follow Cage through his relation to the history of Western classical music, his contemporaries in the musical avant-garde, and artistic movements surrounding and in some respects stemming from Cage's work, and Deleuze through his relation to Kant, phenomenology, and structuralism, in order to map the production of a practice of experimentation spanning music, art, and philosophy. Some specific figures we engage with in these respective traditions include Jean-Phillipe Rameau, Pierre Schaeffer, Marcel Duchamp, Pierre Boulez, Robert Morris, Yoko Ono, La Monte Young, Edmund Husserl, Maurice-Merleau-Ponty, Alain Badiou, and Félix Guattari. In so doing we seek to find between these practices points of both conjunction and disjunction which enrich our understanding of Cage's and Deleuze's work, and, more widely speaking, of the passage of twentieth century music and philosophy in general. Here we hope to make contributions to the fields of continental philosophy and music theory especially, and to open a point of engagement with the nascent field of sound studies.

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Table of Contents

Introduction

In this thesis we will construct a critical encounter between the composer John Cage and the philosopher Gilles Deleuze, based around the notion of experimental practice. Cage is located in the mid-twentieth century emergence of a musical avant-garde, his compositional practice defined not only through and against the tradition of Western classical music from which his early work sought a break, but alongside other contemporary musical practices oriented towards similar goals and artistic practices with resonant objectives. The development and theorization of these fields is inextricably implicated in a wider intellectual climate not only of aesthetics and art theory, but of questions at the core of the development of philosophical movements such as phenomenology and structuralism. With Deleuze alike, his mid-twentieth century engagement with a philosophical milieu dominated by phenomenology and structuralism is posed upon problems whose articulation is inseparable from their engagement with the arts.

As such our confrontation will circulate across a constellation of problems between and across the two bodies of work, Cage and Deleuze, the engagement with which is articulated through what we are terming their experimental practices. With this notion we are emphasizing a historically-situated practice which is nevertheless not reducible to its given conditions, which takes the given and through a practice of experimentation can construct a line of flight away from it. This follows Deleuze's early claim that "the only possible theory is a theory of practice",[1] a form of practice necessarily bound up in experimentation.[2]

As such the philosophical method here is less the often cited but perhaps overinvested and not entirely illuminating Deleuze remark regarding a "sort of buggery" performed

[1] Gilles Deleuze, *Empiricism and Subjectivity: An Essay on Hume's Theory of Human Nature*, trans. Constantin V. Boundas (New York: Columbia University Press, 1991), 32.
[2] See Sjoerd van Tuinen, "Difference and Speculation: Heidegger, Meillassoux and Deleuze on Sufficient Reason," in *Deleuze and Metaphysics*, ed. Alain Beaulieu, Edward Kazarian, and Julia Sushytska (Lanham, MD: Lexington Books, 2014).

with the history of philosophy,[3] than it is a form of problematic reading, a deep exploration of the problems posed in philosophy so as to discover what has been obscured in their historical articulation, and orient them anew. As Deleuze says in a 1968 interview, regarding engagement with philosophers

> First you have to know how to admire; you have to rediscover the problems he poses, his particular machinery. It is through admiration that you will come to genuine critique […] You have to work your way back to those problems which an author of genius has posed, all the way back to that which he does not say in what he says, in order to extract something that still belongs to him, though you also turn it against him. […] In every modernity and every novelty, you find conformity and creativity; an insipid conformity, but also "a little new music"; something in conformity with the time, but also something untimely —separating the one from the other is the task of those who know how to love, the real destroyers and creators of our day.[4]

We find something of this sentiment persisting through to *What is Philosophy?*, Deleuze's final collaborative work with Félix Guattari, precisely with regards to experimentation – "Without history experimentation would remain indeterminate and unconditioned, but experimentation is not historical".[5] Here philosophy is posed in relation to the 'now', not as an overdetermining condition for any practice, but as a site of experimental becoming.[6]

We find a similar notion in Cage's mature relation to tradition. In distinction from an earlier modernist concern with the novelty of the break we find something more nuanced, the notion of 'composition in retrospect', of the past as something to be "invented", "made alive in another way" by asking the right questions of it.[7] Concerning ourselves with tradition will allow us some understanding of why it is that Cage remains a composer, remains concerned with the field of music, without this becoming a foreclosed and restrictive notion – and how he can remain a composer while working in numerous fields, such as the mesostic poetry used to present this understanding of

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[3] Gilles Deleuze, "Letter to a Harsh Critic," in *Negotiations: 1972-1990*, trans. Martin Joughin (New York: Columbia University Press, 1995), 6.
[4] Gilles Deleuze, "On Nietzsche and the Image of Thought," in *Desert Islands and Other Texts 1953-1974*, ed. David Lapoujade, trans. Michael Taormina (Los Angeles ; New York: Semiotext(e), 2004), 139.
[5] Gilles Deleuze and Félix Guattari, *What is Philosophy?*, trans. Hugh Tomlinson and Graham Burchell (New York: Columbia University Press, 1994), 111.
[6] Ibid., 112.
[7] John Cage, *X: Writings '79-'82* (Middletown, Conn.: Wesleyan University Press, 1983), 145.

tradition, and what the relation of these seemingly distinct practices is.

Our starting point for this exploration is on the status of Cage and Deleuze's respective musical and philosophical *problems*, orienting our discussion through a critical relation between problem and experimentation. In Deleuze's case this begins through the notion of the problematic Idea, derived from Kant. This understanding immediately raises a point of tension in our Cage-Deleuze conjunction, insofar as Cage's project appears resistant to any kind of transcendental understanding. However, in working through this tension and others like it we will find a motivating force in our understanding of the construction of an experimental practice. Through Deleuze we can navigate the tensions and apparent impasses we find in Cage's thought and work, and through Cage we can follow the unfolding and articulation of a method of experimentation that brings into focus the *practical* aspect of Deleuze's thought.

Following this early announcement of a Kantian element to our investigation, our method of problematic reading is also one of *transcendental critique*. This is to be understood as a problematic enquiry into conditions, oriented towards locating the presuppositions implicit in posited conditions, that is, by which the conditions are themselves conditioned by an unacknowledged element.[8]

Key to our transcendental critique will be a concern with the question of experience. A particular target will be an exploration of traditions in which *possible* experience – functional harmony, the Kantian faculties - has been foregrounded, and finding beneath them their conditions – experimental philosophy and experimental music understood here as practices of unearthing *real* experience, of *immanence*, not of experience being immanent *to* thought but of "the genesis of the act of thinking in thought itself".[9] As such, using the thought of Deleuze as a point of origin is not merely grounding

[8] Jeffrey Bell's reading has particularly guided us here, especially regarding Deleuze's specific procedure of transcendental critique with regards to phenomenology. See Jeffrey A. Bell *The Problem of Difference: Phenomenology and Poststructuralism* (Toronto: University of Toronto Press, 1998).
[9] Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London ; New York: Continuum, 1994), 139.

philosophically what would otherwise be a loosely defined musical question, but rather locating a point of encounter, a collision between one form of production – musical – and another – philosophical – that sees the two be mutated and expanded through an openness to their respective outsides, which can yet ignite an internal move of critique and creation. As Deleuze remarks, it is "not a matter of setting philosophy to music, or vice versa. Rather, it's once again one thing folding into another".[10]

In this context, the first sense of immanence we would like to consider is that which Christian Kerslake recognizes as emerging from the specific form of Deleuze's redeployment of the Kantian critical project. Here Kant's critical philosophy is understood as giving birth to a form of immanent critique through which philosophical immanence not only means a kind of self-perpetuation operating only within the terms a system, but rather forms the basis for a philosophy that can take a critical stance with regards to itself – another understanding of our problematic reading will be of *autocritique* – that is to say, a philosophy which can indeed delve into the genesis of philosophy itself.[11] Cage and Deleuze alike develop distinct practices by questioning and intensifying the fundamental questions of music and philosophy respectively, two traditions which differ in significant ways but which nevertheless hold significant structural points of contact. This critical model of immanence leads to what is for Kerslake the specifically Deleuzian procedure – but which we will consider to be likewise a Cagean procedure - with regards to the notion of immanence, beyond that of Kantian transcendental critique and, as we will develop in our fifth chapter, finally into a Spinozist register, where "the question is asked what living in a plan (or in English, 'plane') of immanence would in any case be like".[12]

This indicates why we begin our investigation with Deleuze and only gradually work towards his work in collaboration with Guattari. It is in Deleuze's work before his encounter with Guattari that we can most clearly pinpoint and map Deleuze's

[10] Deleuze, *Negotiations*, 143.
[11] Christian Kerslake, *Immanence and the Vertigo of Philosophy from Kant to Deleuze* (Edinburgh: Edinburgh University Press, 2009), 3.
[12] Ibid., 265.

engagement with and path of departure from the history of philosophy and from the dominant philosophical traditions of this period, namely phenomenology and structuralism. In so doing we can see how Deleuze strives to generate a notion of experimentation from a history of philosophy that would seem to have little place for it, but also demonstrate the necessity of experimentation within the practice of philosophy in general. This will also allow us to better see the mutations and breaks that take place across Deleuze's thought, but also its generative continuity. In this we can map an experimental practice by which 'experimentation' and 'practice' are not taken as givens, but through which an increasingly refined experimental practice is *produced*, tracing the historical contexts and points of departure by which we follow, as Cage says of *Silence*, "a history of changing ideas".[13]

In our first chapter we will set up the terms of our investigation through the shared notion of experimentation, and begin to develop this through an enquiry into its relation to the problem. This will be explored through Cage and Deleuze's respective critical relations to the formalism that came to ground music theory from at least the eighteenth century alongside philosophical forms of representation.

Ending with a situation in which the problem, understood as problematic Idea, of music has been determined to be sound, our second chapter will consider the conceptual development of sound in relation to musical practice over the early to mid-twentieth century, so as to clarify the tensions between musical and artistic formalism and anti-formalism that reside within this problematization. This chapter will develop a conceptual context for music's concern with sound, maintaining a lineage of experimental music and focusing it through Pierre Schaeffer's development of his concept of the sound object. This will allow us to begin to consider more deeply many of the fundamental problems of experimental music practice – its relation to technology, of composer-performer-listener relations, of the theme of developing a 'language' appropriate to music, be it notation or otherwise, and so on. From here we will also be able to develop further the notion of the 'experimental' in music as it was enacted in the

[13] Kenneth Silverman, *Begin Again: A Biography of John Cage* (New York: Alfred A. Knopf, 2010), 176.

mid-twentieth century, insofar as Schaeffer offered an experimental practice with points of both connection and distinction from that of Cage, and insofar as Schaeffer's revision and regrounding of his experimental practice under the terms of Husserlian phenomenology allows us to reconnect experimental music practice with the philosophical problematic that takes us from Kant to Deleuze.

Our third chapter will take this concern with sound outside of the field of music, as it came to operate in the constellation of artistic practices following Cage in the late 1950s and into the 1960s. Of particular interest here will be Cage's increasing concern with opening the field of music to the other arts and to 'life' more generally, and the development of the concept of indeterminacy at the level of performance. These factors will introduce a series of tensions regarding the terms 'sound' and 'music' and a number of critical perspectives regarding Cage's practice, which we will develop by extending the philosophical and musical-artistic transcendental critique through Merleau-Ponty, in terms of both the relation of a Cagean silence to a philosophical 'invisible', and a consideration of the use of a certain Merleau-Ponty in theorizing the artistic breaks and transitions of the 1960s.

With our fourth chapter we will step back and resituate Cage in a musical context through an exploration of his understanding of chance, so as to better understand the conditions for the later openness and plurality of practice. We will consider the relation of chance to Cage's temporal rethinking of structure, posing this in relation to earlier artistic notions of chance in Duchamp and Mallarmé and in opposition to serialist forms of structure and its own development of aleatory features. This will be drawn out in connection to the entanglement of chance and structure we find particularly in *The Logic of Sense*, which positions Deleuze both within and without structuralism, and ultimately brings into focus the limits of a structuralist model with regards to developing a form of practice, setting out the direction towards which Deleuze moves in his encounter with Guattari. Here the developing opposition between experimentation and interpretation will become increasingly clear, and offer us a basis for engaging with how interpretation has been positioned in both philosophical and musical discourses.

This will allow us to develop in our fifth chapter a deeper theoretical reading of the critical interpretations of Cage, and return the discussion more directly to the status of the problem, clarifying one of *Difference and Repetition*'s more opaque elements. We will consider the status of the problematic Idea, of whether it is adequate in accounting for the open network of relations we find developing through Cage's experimental process, of how through our historical-theoretical enquiry the conceptual status of sound and music has shifted from that with which we set out. This will particularly be developed by considering the problematic status of the score – the score and the problematic Idea both maintaining a tense relation with the notion of interpretation – and its connection to performance. Using the theory of sensation Deleuze develops through his study of the painter Francis Bacon as a point connecting Deleuze's pre- and post-Guattari thought, we will develop a series of musical-philosophical concepts operating across Deleuze's and Cage's work, focusing particularly on the notions of rhythm and modulation. Through this we will investigate how in Cage's own late return to a more specifically musical domain we find a rich experimental practice encapsulating and carefully articulating the consequences of a broad constellation of musical, artistic, theoretical, and social encounters, articulated through a machinic theory of modulatory rhythm.

Threading through this is a passage from the thing-in-itself that a Kantian transcendental would deny knowledge of, through a Husserlian critique of Kant and a concern with going back to the 'things themselves'[14] but while still maintaining some of the structural impasses of Kantian transcendental philosophy, to Merleau-Pontyan move towards an embodied, ontologized phenomenology, onto a Deleuzian understanding of difference-in-itself. Through this a richer understanding of key Cagean themes such as 'letting sounds be themselves' or art as 'imitating nature in its manner of operation' will be developed, taking claims that are often posed as dogma and mapping out a distinct

[14] Edmund Husserl, *Logical Investigations, Volume II*, trans. J. N. Findlay (Abingdon, Routledge, 2001), §1.

practical, experimental heritage and a process of transformation ongoing through the terms themselves, marking a general movement from the 'work' as object to notions of process in Cage's practice.

A final note – while we do not consider this piece to be concerning Deleuze's relation to music as such, it is nevertheless notable that after a period of music being underrepresented in studies of Deleuze compared to the other arts there has been in recent years an increasing volume of important work in this field, work which set some key parameters for our own research.[15] We hope to have made some small contribution to this body of work.

[15] Of particular note are Edward Campbell, *Music After Deleuze* (London: Bloomsbury, 2013) and the edited volumes *Sounding the Virtual: Gilles Deleuze and The Philosophy of Music*, ed. Brian Hulse and Nick Nesbitt (Farnham, Ashgate, 2010), *Gilles Deleuze: la pensée musique*, ed. Pascale Criton and Jean-Marc Chouvel (Paris: Centre de documentation de la musique contemporaine, 2015), and the journal special edition *Filigrane. Musique, esthétique, sciences, société* Numéros de la revue, Deleuze et la musique (20/01/2012). As we are not so much concerned with Deleuze's relation to music we will consider the role of the composer Pierre Boulez, crucial to our articulation of both Cage's and Schaeffer's experimental practices, in Deleuze and Deleuze & Guattari's thought only in passing. This topic, however, along with Boulez's other philosophical associations, has been treated in detail by Edward Campbell in *Boulez, Music and Philosophy* (Cambridge: Cambridge University Press, 2010).

Experimentation and the problematization of music

> In truth, only one kind of objection is worthwhile: the objection which shows that the question raised by a philosopher is not a good question, that it does not force the nature of things enough, that it should be raised in another way, that we should raise it in a better way, or that we should raise a different question.[16]
>
> What can be analyzed in my work, or criticized, are the questions that I ask.[17]

These particular instances of the foregrounding of the question are found in specific contexts – a generalized philosophical practice and a personal compositional routine – at quite different moments of the work of Deleuze and Cage respectively. In Deleuze's case, it is in his earliest monograph, the 1953 work on Hume, *Empiricism and Subjectivity*, fifteen years prior to the culmination of his deep exploration of the history of philosophy, *Difference and Repetition*. In Cage's case, from a 1980 interview with David Cope for *Composer* magazine, conducted forty-eight years after the composition of Cage's first work, and twenty-eight years after that of his most famous, the 'silent' piece *4'33"*. This concern resounds, however, forwards through Deleuze's thought, back through Cage's work, and across the two practices. We find Deleuze's interest in the question echoing still in his final collaborative work with Félix Guattari, 1991's *What is Philosophy?*, with the necessary connection of philosophical concepts to problems,[18] and in Cage through his early alignment with composers such as Henry Cowell, who saw themselves not so much as part of a continuous musical tradition but rather as questioning the foundations and conditions of what can in any case be termed 'music'. Cutting across these two trajectories, we find one central notion: *experimentation*.

In this chapter, then, we will begin to explore the conditions for the development of a practice that can be termed experimental. Some founding terms for an experimental practice will be set out – in Cage's case, his famous visit to an anechoic chamber, in Deleuze's the notion of a philosophical practice of transcendental empiricism – not in

[16] Deleuze, *Empiricism and Subjectivity*, 107.
[17] John Cage, quoted in Richard Kostelanetz, *Conversing with Cage*, second edition (New York, London: Routledge, 2003), 89.
[18] Deleuze and Guattari, *What is Philosophy?*, 16.

order to ground the enquiry, but to set points of reference from which to depart and with which to contend and question. Among a small number of brief references to Cage throughout Deleuze's work, it is in Deleuze & Guattari's *Anti-Oedipus* that we find expression of the most theoretically significant connection between the two. Late in that text Deleuze & Guattari foreground a contemporary model of art aligned to their 'schizorevolutionary' project,[19] an art in which aims and objects, recodings and axiomatics are eschewed, in favour of pure process – art as 'experimentation'.[20] This form of art is associated with Burroughs and Artaud among others, but it is Cage to whom the explicit formulation of the term 'experimentation' is credited. Citing Cage's 1955 text 'Experimental Music' (reprinted in *Silence* as 'Experimental Music: Doctrine'), 'experimental' is to be understood "not as descriptive of an act to be later judged in terms of success and failure, but simply as of an act the outcome of which is unknown".[21] As such it is a model of art which does not find itself axiomatically grounded – the experiment cannot be a 'method', if method is taken in terms of a "premeditated decision"[22] regarding the approach towards an object of study. The question arises, then, of what an experimental practice, of music, art, philosophy, or otherwise, would look like, how it can be enacted – what can 'ground' an experimental methodology, and what problems and questions must an experimental practice contend with in order to be experimental?

To begin to outline Cage's experimental practice, we will first look at two key theoretical texts, separated by several decades, in which Cage discusses the practice of experimental music – the 1937 piece 'Future of Music: Credo' and the rethinking of this text found in 1974's 'Future of Music' – and outline the changes in Cage's characterization that occur over this period. Numerous scholars have expressed doubts as to whether Cage's most radical work, such as *4'33"*, can be considered music at all.

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[19] Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, trans. Robert Hurley, Mark Seem, and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983), 370.
[20] Ibid., 371.
[21] John Cage, *Silence: Lectures and Writings* (Middletown, Conn.: Wesleyan University Press, 1961), 13.
[22] This definition is used by Deleuze in two similarly-worded passages in *Nietzsche and Philosophy* and *Difference and Repetition* – cf. Gilles Deleuze, *Nietzsche and Philosophy*, trans. Hugh Tomlinson (London ; New York: Continuum, 2006), 108; Deleuze, *Difference and Repetition*, 165.

For example, in the 2012 documentary *John Cage: Journeys in Sound*, the philosopher and musician Chaim Tannenbaum offers the objection that Cage's work seems to preclude itself from playing the role of music in our reception of it by not maintaining enough of the fundamental characteristics of 'music', that it offers "terrific pieces of theatre which may cause interesting reflections on the nature of music without themselves being music".[23] More generally, Nelson Goodman asks whether a piece in which no determinate correspondence between the score and the sounds produced can be found to qualify as a musical 'work'.[24] This position is often not presented as a criticism of Cage, but it does nevertheless diminish the notion of Cage-as-composer, often for a Cage who is situated, not incorrectly, as an integral part of an artistic lineage leading from the pre-war to the post-war avant-garde. While this reading of Cage will itself be important in later chapters, particularly our third chapter, part of our goal is to unfold what Cage's procedure with regard to the history of music is, if not interpreted as a sharp break, so as to understand the specifically musical function of Cage's work and thought rather than its philosophical, critical, or artistic, corollaries. An expansion beyond the musical realm becomes an inevitability in Cage's practice, for reasons that will be explored throughout, but insofar as Cage continually returns to music, elects to be seen as a composer, and considers the material that he deals with as musical material, it is fundamental that we begin by developing the specifically musical function of Cage's work, so as to best understand the subsequent artistic, theoretical, and social relations and consequences. As such we will move on to contextualize these pieces in terms of their specifically musical character – what do we mean, what tradition are we referring to, when we discuss 'music'?

To locate Cage's attempt to propose a future of music within and against a music theoretical tradition, we will outline a dominant model in the theoretical understanding of Western music, namely the development of a formalist aesthetics grounded in a representational epistemology, particularly with regards to the status of sound, pointing

[23] *John Cage: Journeys in Sound*, dir. Alain Miller and Paul Smaczny (UK: Accentus Music, 2012).
[24] See Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis ; New York ; Kansas City: The Bobbs-Merrill Company, 1968), especially chapter four. This particular example will be addressed in detail in our final chapter.

towards a key question which will drive twentieth century avant-garde and experimental practices. This dominant model, we suggest, begins with Descartes' earliest text, his 'Musicae Compendium', in which sound is announced as the object of music, but only to be quickly reduced to a secondary consideration for a music theory grounded rather in deciphering the cognitive representation of musical experience. Beginning from this point will allow us to follow the interplay of models of immanence and transcendence in the history of the Western classical theorization of music, and the shift between an epistemological and an ontological understanding of sound and music, so as to begin to understand the sense in which Cage's project is one driven towards the formulation of a musical immanence based on a reontologization of sound. We will argue that the dominant strain of music theory that takes the 'Musicae Compendium' as a starting point, most thoroughly formalized and exemplified by the functional harmony developed Jean-Philippe Rameau and those following him, anticipates and in some respects provides in advance an exemplary case of Kantian aesthetics, which served as an epistemological ground for dominant tendencies in both art theory and a wider philosophical arena for well over a century afterwards.

It is this history of understanding music, and more precisely its characterization of the foundations of music, against which Cage sets his own project in his early 'Future of Music: Credo' piece. As such, under the terms in which we have set out this history, Cage's project stands as a critique of representation. It is on this basis that we will attempt to philosophically clarify Cage's critique and how it propels him towards his own distinct project – by turning to Deleuze. While a critique of representation is present in many thinkers and fields of the twentieth century, we draw Cage together specifically with Deleuze, and more specifically still with an initially post-Kantian characterization of Deleuze's project, for a number of reasons. Both Deleuze and Foucault position Kantian critical thought at the threshold between classical and modern thinking, but it is with Deleuze whom we that see this idea taken to its endpoint, whereby Kant stands as a kind of culmination, an apotheosis, of a history of philosophies of representation that Deleuze posits as stretching back not only to Descartes but to the beginning of philosophy. By reaching this point, however, it is also

Kant who has the most precise insight into the conditions for the emergence of representation and the contours of representational thought, and so it is Kant who acts as an unrealized source for allowing thought to step outside of representation.

Deleuze locates the basis of this potential in the concept of the problematic Idea, which, like the critique of representation, we find present in other forms in thinkers such as Foucault and Bachelard. However, significantly for locating points of connection to Cage's project, the theoretical impasse that is at the root of Deleuze's use of the problematic Idea precisely concerns Kantian aesthetics – dealing as it does with the gulf in Kant's thought between the *Critique of Pure Reason*'s theory of the sensible and the *Critique of the Power of Judgement*'s theory of the beautiful. It is as such by unfolding Deleuze's utilization of the Kantian problematic Idea in conjunction with Cage's formulation of the problem of music that the methodological bond between their respective practices will begin to be developed. Deleuze's approach begins, following Maimon, with the argument that Kant does not prove the fact of possible experience – that the Kantian faculties appear as a necessary, pre-given and harmonious ordering of the world. Like functional harmony in the realm of music, the Kantian categories erect a fixed and systematic understanding of possible experience which cannot be adequate to the contingencies of *real* experience. With Maimon, and Deleuze following him, the problematic Idea is given objective reality, as a differentially structured multiplicity, and can thus serve as the basis of Deleuze's 'transcendental empiricism', described as a rehabilitation of the theory of the faculties. In this, the relation of the faculties is reformulated as concerning a dynamic and creative co-evolution of subject and object, rather than merely positing the subject as basis for its objects – extracting an experimental tendency from a history of philosophy in which such tendencies have been suppressed.

On this basis we can return to Cage. Against a history of music theory in which sound is posited as the object of music but quickly supplanted by extra-acoustic relations, the problematic Idea presents a basis for thinking sound as an object which is not reduced to a perceiving subject, and as an objective problem with which the composer must

contend. Cage formulates this in his notion of ‘sound-space’, a five-dimensional space from which all sounds whatsoever can be actualised. We will unfold the idea of sound-space by analyzing Cage’s 1951 work *Music of Changes*, in terms of its structure providing a basis for the production of unique sound events. This formulation of the sound-space, however, appears to draw Cage close to a formalist, post-Kantian art theoretical tradition to which he has been presented as antithetical, namely Clement Greenberg’s medium-specific modernism. The question arises of how a practice grounded on a structurally-defined problematic Idea can avoid falling back again into a type of formalism. Our discussion across the coming chapters will develop from this constellation of problems, situating and contrasting musical, artistic, and philosophical formalism with an ethos of experimentation.

As such to close this chapter we will begin to delve more deeply into the relation between an experimental methodology and an experimental practice. We will turn primarily to two key methodological texts by Cage, the aforementioned ‘Experimental Music: Doctrine’ and 1957’s ‘Experimental Music’, in order to begin to track how a practice of experimentation brought about the changes in Cage’s thought between his two ‘Future of Music’ texts. We will look at Cage’s development of the prepared piano, resulting in the *Sonatas and Interludes* pieces of the late 1940s, as a prime example of an experimentation in action, where seemingly fixed notions – including the sound-space – are merely moments along the development of a fluid practice, pointing us towards a re-evaluation of the problematic nature of music and sound.

Founding moments of experimentation

In the midst of Cage’s practice there is one particular moment to which he would often return, posing it as a turning point, a kind of singular epiphany in his thought and work, namely his famous visit, in late 1950 or early 1951, to an anechoic chamber and his consequent ‘discovery’ of his concept of silence. This is what Julia Robinson terms the

"founding moment" of Cage's narrative.[25] Describing his visit to the chamber, an environment designed to have as little acoustic resonance as possible and as such to be as silent as possible – the chamber walls are designed to absorb sound and thus prevent echo, the means by which most sound in an environment is transmitted, meaning that the only environmental sounds audible are those directed precisely into the ear canal – Cage recounts hearing two sounds, one low and one high. Asking the engineer what these sounds were, Cage was told that the former was the sound of his nervous system in operation, the latter his blood in circulation.[26] What Cage takes from this is that there can be no genuine silence, that "until I die there will be sounds",[27] and that this entails a conception of sound wherein it is not simply defined by its analytical characteristics, but also by the fact that it necessarily exceeds intentionality, of both composer and of listener.

In this notion lies what Cage will position as the core principles of his practice, and what he will term the source of the experimental methodology developed across his work, referring back to it as late as 1990 to note that "I found out by experiment (I went into the anechoic chamber at Harvard University) that silence is not acoustic. It is a change of mind, a turning around. I devoted my music to it. My work became an exploration of non-intention."[28] Through the experience Cage had "become a listener",[29] insofar as it became necessary to recognize the impossibility of having complete compositional control over the sound material. As such Cage contrasts this to his earlier resistance to the term 'experimental' – where he had previously thought that experimentation took place prior to finished works, thus placing him in a position of knowledge contrary to that of the first time listener, with the acceptance of unintentional sounds the composer

[25] Julia Robinson, "John Cage and Investiture: Unmanning the System," in *John Cage: October Files 12*, ed. Julia Robinson (Cambridge, Mass. ; London: The MIT Press, 2011), 190.
[26] That Cage defers to the engineer's opinion (in contrast to some of his other retellings of this story) and that he does not mention a more likely source of the higher pitch, namely the early onset of tinnitus, both complicates Cage's resulting theorization of the experience and perhaps makes clearer the kind of theoretical and narrative grounding he wishes the experience of the anechoic chamber to give him, as we will see in the pages to come.
[27] Cage, *Silence*, 8.
[28] John Cage, "An Autobiographical Statement," in *John Cage: Writer* (New York: Cooper Square Press, 1993), 241.
[29] Cage, *Silence*, 7.

can no longer hold such authority. This is the basis for Cage's often-repeated but obscure claim that the function of art is to "imitate Nature in her manner of operation",[30] and its implication in the other oft-repeated Cagean mantra of "let[ting] sounds be themselves"[31] – that the basis of art cannot be the certainty of a creative or observational standpoint. However, what this 'imitation' consists in, what it means to speak of a 'manner of operation' or indeed of 'Nature', and what this 'letting be' could consist in, will only be understood by closely following the trajectory of Cage's work.

Beginning with a self-enclosed, self-understanding subject which ultimately stands in a position at once transcending its material base and requiring itself to be adequate to its object, in relation to a form of musical structure which is likewise detached from sound, Cage introduces silence as a point of rupture, where these self-sufficient structures are forced to exceed themselves, demanding an understanding of sound as something other than the tool of a composer, and silence as something other than the absence of sound – as unintentional sound. Cage's concern becomes not sound as subject to transcendent organization, or the regulation of sound through the rule of harmony, but towards sounds in themselves, towards an approach to music centered on inclusive listening rather than an exclusive drawing of attention to structure, and as such towards an approach to music entailing what Branden Joseph describes as "a thoroughgoing disarticulation of any and all abstract connections between sounds".[32] We see here, then, the basis of experimentation as concerning acts of which the outcome is unknown – a moment gesturing towards an compositional ethos grounded in the understanding that his or her choice and intention are not adequate to the sound world the composer deals with, that every performance can provide something unintentional, unexpected, outside of preconceived understandings, and it is the ethos of experimentation to allow for this.

We can contrast the above outline of Cage's notion of experimentation with that of

[30] John Cage, *A Year from Monday: New Lectures and Writings* (Middletown, Conn.: Wesleyan University Press, 1968), 31. This notion is drawn from the thought of Ananda Coomarawamy, which Cage encountered at some point in the mid-1940s. See also *Silence*, 100, 155, 173, 194, and elsewhere.
[31] For example, Cage, *Silence*, 10.
[32] Branden W. Joseph, *Beyond the Dream Syndicate: Tony Conrad and the Arts after Cage (A "Minor" History)* (New York: Zone Books, 2011), 77.

Deleuze, in whose case we find the development of an experimental methodology as what he terms "transcendental empiricism",[33] or "science of the sensible". The use of the term 'transcendental' immediately places an apparent distinction and point of tension between Cage's and Deleuze's understandings of an experimental practice, the term being drawn from Immanuel Kant's use, as concerning a form of cognition that is "occupied not so much with objects but rather with our *a priori* concepts of objects in general"[34] – that is, with the "*a priori* conditions of the possibility of experiences".[35] How can such a determination of *a priori* conditions relate to a "thoroughgoing disarticulation of any and all abstract connections", and how can the Cagean approach, fundamentally resistant to the authority of any organizational schema, relate to a philosophy concerned with the "formal and objective condition of experience"?[36]

Hence the seemingly paradoxical status of anything called a transcendental empiricism is key. For Deleuze, while transcendental philosophy is a method of interpretation, empiricism is immediately experimental[37] – as he would later say, "[e]mpiricists are not theoreticians, they are experimenters: they never interpret, they have no principles".[38] The persisting role of empiricism in Deleuze's thought is hinted towards again in *Empiricism and Subjectivity*, where Deleuze argues that "culture is a false experience, but it is also a true experiment"[39] by which the constructive capacities of the imagination have an active role of schematization. For Deleuze the experimental urge of empiricism is defined as neither a reaction against concepts nor a recourse to lived experience, but as that approach which "undertakes the most insane creation of concepts ever seen or heard", the concept as an object of encounter,[40] only finding its "full

[33] Deleuze, *Difference and Repetition*, 56 and *passim*.
[34] Immanuel Kant, *Critique of Pure Reason*, trans. Paul Guyer and Allen W. Wood (Cambridge: Cambridge University Press, 1998), B25.
[35] Ibid., A94/B126.
[36] Ibid., A96/B129.
[37] At this point in Deleuze's thought the terms of interpretation and experimentation are not quite distinct – we will later see how the separation of experimental philosophy from any method of interpretation is a crucial step in the development of Deleuze's work.
[38] Gilles Deleuze and Claire Parnet, "On the Superiority of Anglo-American Literature," in *Dialogues II*, trans. Hugh Tomlinson and Barbara Habberjam (London ; New York: Continuum, 2006), 41.
[39] Deleuze, *Empiricism and Subjectivity*, 62.
[40] Deleuze, *Difference and Repetition*, xx.

experimental use"[41] under the terms of transcendental empiricism.

The Deleuzian experiment, then, will take into consideration what a situation presupposes, the common sense experience of the world that transcendental philosophy has traditionally implied, underneath which is posited "a swarm of differences, a pluralism of free, wild or untamed differences; a properly differential and original space and time".[42] For Deleuze it is only empiricism that "knows how to transcend the experiential dimensions of the visible".[43] As with the Cagean notion of experimentation, there is a concern with taking experience beyond the organizational schemas of the everyday, with allowing for the existence of a world not reducible to the fixed faculties of human understanding.

This is not yet reason enough to draw Cage together with a Kantian philosophical approach, but what we will begin to show here is how Cage's experience in the anechoic chamber cannot be taken as quite the break that Cage poses it as, and rather how it comes as part of a practice engaging with a tradition. With both Cage and Deleuze we pose an approach taking experience and experimentation as the basis for engaging with the impasses of a tradition of formalism from within.

Cage and the problematization of music

i. Future of music

'Future of Music: Credo' appears at a very early stage in Cage's career, coming at the tail end of his studies, conducted with Henry Cowell and Adolph Weiss, and later with Arnold Schoenberg, from 1933 to 1937.[44] The mature work and theory of Schoenberg is characterized by its bold step into atonality, the claim that the progression of Western classical music had led to the position where the validity of its harmonic foundations

[41] Ibid., 169.
[42] Ibid., 50.
[43] Gilles Deleuze, *The Logic of Sense*, trans. Mark Lester with Charles Stivale (New York: Columbia University Press, 1990), 20.
[44] See Silverman, *Begin Again*, 10-18.

could no longer be affirmed. Schoenberg's move to reinvent and reground composition in the wake of this dismantling was his dodecaphonic technique – later termed serialism and integrated into a European musical trajectory that will be central to our later discussions – founded on the principle of sounding each note of the chromatic scale an equal number of times, such that no priority is given to a note and no key signature is asserted.[45] The influence of Schoenberg weighs heavily on the text, with Cage noting that the new methods of music which will be discovered will bear "a definite relation to Schoenberg's twelve-tone system",[46] but even at this point Cage appears to be distinguishing himself from the developing serialist practice. In contrast to the serialism of the period, for Cage the modern composer is not limited to the traditional orchestral instrumental model. The focus of the 'credo' is rather on the use of technological advances to produce "new sound experiences",[47] a relation to technology that will be key throughout our discussion, and insofar as Schoenberg's approach is celebrated, it is with a surprising emphasis on the social rather than musical aspects of Schoenberg's method, concerning its relation between the individual and the group.

With the use of electric instruments that can, at the time in theory and now in practice, generate any sound whatsoever, with any rhythmic characteristic whatsoever, the division between musical sound and non-musical sound, between noise and music, is dissolved. The music of the future, says Cage, is an 'all-sound' music,[48] in which the composer deals with both the entire field of sound and the entire field of time. In this is reflected another aspect of Cage's departure from Schoenberg, which would not be explicitly expressed until many years later – a rejection of the reliance on stepped divisions found in both the Western classical tradition and in serialism, through either the twelve tones of the chromatic scale or the regularity of music that is tied to time

[45] See Paul Griffiths, *Modern Music: A Concise History from Debussy to Boulez* (London ; New York: Thames and Hudson, 1978), 25-28.
[46] Cage, *Silence*, 5.
[47] Cage, *Silence*, 4. The boldness of this position indicated by the fact that Cage is willing to cede the use of the word 'music' for this new sonic practice: "If the word 'music' is sacred and reserved for eighteenth- and nineteenth-century instruments, we can substitute a more meaningful term: organization of sound" (ibid., 3), a statement which carries through Cage's work and is perhaps amplified in those readings of Cage which wish to thoroughly separate him from any form of musical practice.
[48] Ibid., 5.

signatures. Cage's own commitment is clear, and it is to an American experimental tradition characterized Cowell and (French émigré) Edgard Varèse among others, a tradition which was ever more distinctly distinguishing itself from European serialism. This distinction will be clarified in the chapters to come, but in this period central to this for Cage is percussion music. Percussion music marks a point between the keyboard-influenced music of the past and the all-sound music of the future, as in percussion Cage saw a field where noise could be reclaimed into the territory of music – insofar as it is not concerned with a control of tones but only with rhythmic structures, any sound is permissible, and this, aligned with the increasingly technological capacity to create new sounds, sets a path for establishing what he terms, in the 1942 article 'For More New Sounds', "another valid form of musical expression".[49] The notion of the 'rhythmic structure' of a piece is positioned here as central to Cage's practice to come, replacing harmony as the structural basis for percussion music and the key to Cage's early compositional practice – a foregrounding not only of the entire field of sound but of the entire field of time, understood not in terms of notational divisions but related only to fractions of seconds.[50]

At this early stage a constellation of questions Cage has concerning music and sound are already clear, emphasizing a total sound field which the composer structures only temporally. This continuous sound field, we will see, persists in Cage's work in various forms, while the notion of temporal structure undergoes numerous mutations and shifts in emphasis but is likewise a persisting core element of Cage's compositional practice. Likewise we find here in nascent form the relation between this formulation of sound and music and the social – an element of Cage's work and thought that will become gradually and increasingly central over the decades to come. This comes, indeed, while Cage is only at the earliest stage of enacting it as a compositional practice, having only composed two percussion pieces to this point. As such the theory is perhaps not yet 'experimental' in the sense previously described. It appears rather as the proposed end

[49] Cage, quoted in James Pritchett, *The Music of John Cage* (Cambridge: Cambridge University Press, 1993), 11.
[50] John Cage, *Silence*, 5. See Pritchett, *The Music of John Cage*, 13-16 on the development of Cage's rhythmic structure form.

goal – an all-sound music – which must yet be achieved through experimental means. If this is the case, then what is the status of this stated goal within an experimental methodology? How do we understand such a goal within a non-teleologically structured practice?

The 1974 'Future of Music' text (no longer a credo) is found in a drastically different context from the 1937 text, and offers some insights into a path to be traced through Cage's work over the preceding decades. The concerns of the original text have now been filtered through four decades and dozens of compositions, encompassing what we are inclined to agree with James Pritchett as including five major (if fluid) shifts in practice,[51] alongside several volumes of written works and compiled lectures. A prominent element of this text is the idea that the goals of the original 'Future of Music: Credo' have to a large extent been achieved. Noises are now accepted in the vocabulary of music,[52] new temporalities have been incorporated into a standard model of listening – "We notice brief events that formerly might have escaped our notice and we enjoy very long ones" – and technological innovation has become inseparable from musical practice. The polemic tone of the 1937 text is left behind – Cage no longer stands in opposition to the features of orchestral music, but rather suggests that the model projected in that text has extended what came before – again following Schoenberg in an understanding of *Klangfarbenmelodie* which includes but goes beyond traditional melodic structures, where aperiodic rhythm contains within it periodic rhythm, and "processes do not exclude objects".[53] While still valuing the goals of the Credo, then, Cage is more elusive with defining the terms of a musical future, and even the terms of a musical present.

Much more prominently foregrounded, however, is the question of the social. The text opens with Cage noting that "[s]trictly musical questions are no longer serious

[51] Pritchett, *The Music of John Cage*, 4.
[52] John Cage, *Empty Words: Writings '73-'78* (Middletown, Conn.: Wesleyan University Press, 1981), 177.
[53] Ibid., 179.

questions" – music is not an activity that is separable from the rest of life.[54] Cage detects in modern music a blurring of the "Renaissance-honored" distinction between composers, performers, and listeners, for which he credits the use of indeterminacy in the work of Morton Feldman and Christian Wolff alongside technological advances and the interpenetration of cultures.[55] Echoing his idiosyncratic early interpretation of Schoenberg, Cage suggests that with experimental music we find a shift in how identity is constituted, a blurring of individual roles such that with a different mode of musical expression comes a different mode of collective existence – points which here are still obscure, but central. In this understanding of collective existence lies a fundamental shift between the two 'Future of Music' texts. In 1937 Cage's project had a single goal – an all-sound music, with Schoenberg central as a figure who presents a music that brings individual utterances into a grouping, a certain plurality that comes to be unified. Cage's move away from Schoenberg was already under the surface of this text, but the form of this move is, four decades later, clear. The future of music is not a case, as described in 1937, of a number of practices oriented towards a single goal. It is rather a number of distinct practices, indicated by the vast proliferation of names in the closing pages of the 1974 text, which nevertheless bear certain resonances with each other, circulating around certain problems concerning sound, art, and society, but without reducing these problems to concrete identities to be pursued. We find plurality, rather than fragments seeking unity. How does this shift occur? Cage guides us by offering a strikingly simple answer to the question of what his definition of music is, resisting finality or prescription to the utmost – "This is it. It is work. That is my conclusion".[56]

This gradual shift occurs through a complex interplay of developments and interruptions, and will be gradually mapped through this chapter and beyond. To begin the initial context for the 1937 text must be explored, by asking the question – if Cage is setting up the future of music, what constitutes the past and present of music? How does Cage's problematization of music relate to how it has been problematized in the

[54] Ibid., 177.
[55] Ibid., 181.
[56] Ibid., 186.

tradition to which he is responding? The 'music' of the past is quite clear – the straight line of a Western classical tradition grounded in functional harmony – so to begin to unfold Cage's position I will return to the theoretical root of this lineage.

ii. Formalist aesthetics

In Renaissance music theory, typified by the thought of Gioseffo Zarlino, music was considered a manifestation, and often a privileged expression, of universal order, but as such one which held no specific identity of its own, rather standing as one point of resemblance in an analogical system of knowledge.[57] As Foucault characterizes the Renaissance episteme, "sixteenth-century knowledge condemned itself to never knowing anything but the same thing".[58] The bold opening of Descartes' 'Musicae Compendium' indicates a shift from this model of thought: "*Hujus objectum est Sonus*", the object of the art of music is sound.[59] Descartes' piece has a curious character, oscillating with little sense of cohesion between musicology, mathematics, physics and acoustics,[60] at points seemingly 'pre-Cartesian' in nature, prior to the moment of modernity its opening line appears to inaugurate, but its sharpest moments can nevertheless be heard through the rest of Descartes' thought and into subsequent music theory.[61] While at this point there remains an ambiguity regarding the embodiment of the subject's mental faculties, there is nevertheless outlined a specific discourse of music, distinct from reference to universal order, via the constitution of sound as an object of study for a perceiving subject. This marks what Foucault terms the transition to the Classical episteme, wherein resemblance is no longer sufficient as a model of

[57] Gary Tomlinson, *Music in Renaissance Magic: Towards a Historiography of Others* (Chicago ; London: Chicago University Press, 1993), 55. Jairo Moreno's extensive and detailed work on the subject and representation in the historical development of music theory has been invaluable for our argument here. See Jairo Moreno, *Musical Representations, Subjects, and Objects: The Construction of Musical Thought in Zarlino, Descartes, Rameau, and Weber* (Bloomington ; Indianapolis: Indiana University Press, 2004).
[58] Michel Foucault, *The Order of Things: An archaeology of the human sciences* (London ; New York: Routledge Classics, 2002), 34.
[59] René Descartes, *Compendium of Music*, trans. Walter Robert (Rome: American Institute of Musicology, 1961), 11.
[60] See Bertrand Augst, "Descartes's Compendium on Music," in *Journal of the History of Ideas* 26, no.1 (1965): 119.
[61] On the status of sound and listening in Descartes' thought, see Veit Erlmann, *Reason and Resonance: A History of Modern Aurality* (New York: Zone Books, 2010).

knowledge, supplanted by *representation*, a rational order generated through the relation between subject, object, and intuition[62] – and so music theory is therefore present in the earliest stages of the emergence of a rational aesthetics.

With Descartes we have the construction of an object of study, but sound and music are rarely addressed in his later works. It is not until the work of mid-eighteenth century composer and music theorist Jean-Philippe Rameau, a reader of Descartes whose method he explicitly attempted to transplant to music theory,[63] that we find the development of a discursive practice concerning the question of the musical subject and its relation to musical structure and, through his debate with Rousseau, the beginnings of a tension which persisted into twentieth century theories of music and art. Rameau's 1722 work *Traité de l'harmonie*[64] is known as the most detailed formal theory of harmony that had been developed up to that point, and served as the basis for all Western harmonic theory of the eighteenth and nineteenth centuries.[65] Focusing on the specificity of Rameau's theory for a moment will be useful, as it reflects something wider than is immediately apparent and offers it a more significant role in this aesthetic and epistemological history.

The extent to which the harmonic features found in Rameau's theory were original rather than reducible to a synthesis of existing ideas is still a question of debate in the music theory literature, but Rameau's significance and the point at which he can be seen to break with harmonic theories past lies in the thoroughness of his systematization and naturalization of the laws of harmony and, in turn, what this entailed for the role of the listening subject. What is ultimately crucial in Rameau's thought is the notion that the act of judging music occurs through an asymmetrical union between our own rational capacities of judgement and the object (understood as a harmoniously structured nature) to which our judgement is directed. Prior to Rameau's work musical practice and theory

[62] Foucault, *The Order of Things*, 58.
[63] Jean-Philippe Rameau, *Démonstration du principe de l'harmonie servant de base à tout l'art musical théorique & pratique* (Paris: Durand, Pissot, 1750), 7-11.
[64] Jean-Philippe Rameau, *Treatise on Harmony*, trans. Philip Gossett (New York: Dover Publications, 1971).
[65] Brian Hyer, "Before Rameau and after," *Music Analysis* 15, no. 1 (1996): 80-81.

were considered disparate and diverse – Rameau's greatest success, perhaps, was to render the diverse conventions which came together under the new theory of harmony invisible, that is to say, to naturalize conventions.[66] His primary concept for grounding this naturalization was that of the *son fondamental*, or what has come to be known as the root note, by which any chord's place in a progression can be understood harmonically. Crucial to note is that while the *son fondamental* underlies any given chord, it is not necessary that it be sounded. Even when not sounded, Rameau suggests, it will nevertheless underlie the chord by implication, as a phenomenological characteristic distinct from any acoustical qualities – as Jairo Moreno argues, central to the listening subject depicted in Rameau's theory is "the mental capacity to conceive something not explicitly perceived".[67] This necessitates a move away from a music theory based on a practice, often loosely oriented towards a fundamental truth of the cosmos of which sound is a part (hence notions of cosmic harmony, 'music of the spheres'), to a music theory based on epistemology, whereby sonic characteristics themselves are not adequate to our understanding of music and it is only through cognitive representation that a musical movement can be adequately comprehended. As such we see with Rameau, for the first time, a listening subject whose cognition and perception is in harmony with nature but not merely reducible to it.[68] This provides a depiction of the constitutive role of the autonomous listening subject within a formal aesthetic regime, and a representative concept of music which is at once descriptive and prescriptive,

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[66] Ibid., 79. This naturalization of convention is at the core of what makes Rameau best known to a philosophical audience, namely his debate with Rousseau. We will not be addressing this topic at length in this piece, but it presents what could be a fascinating line of enquiry. See particularly chapters thirteen and fourteen of Jean-Jacques Rousseau, 'Essay on the Origin of Languages,' in *The* Discourses *and Other Early Political Writings*, trans. and ed. Victor Gourevitch (Cambridge: Cambridge University Press, 1997). Perhaps the best known contemporary analysis of this relation is that of Jacques Derrida in *Of Grammatology*, where he makes the key argument that Rousseau's reaction against Rameau, declaring melody as prior to harmony, is a reaction against formalism – Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore ; London: The John Hopkins University Press, 1976), 210. Deleuze, who states that Rameau's theory of harmony "might be considered as the manifesto of the Baroque" – Gilles Deleuze, *The Fold: Leibniz and the Baroque*, trans. Tom Conley (London: Continuum, 2006), 192 – will also in a 1981 lecture discuss this relation and, of particular interest concerning our final chapter, emphasize Rousseau's principle of the *modulation* of melody in contrast to Rameau's seemingly fixed matrix of harmony – see Gilles Deleuze, "La Peinture et la question des concepts," in *Cours 17 du 05/05/81- 3*, transcribed Sandra Tomassi, accessed 17/09/2015. http://www2.univ-paris8.fr/deleuze/article.php3?id_article=83

[67] Moreno, *Musical Representations, Subjects, and Objects*, 16.

[68] Ibid., 86.

serving to describe musical practice but counter-inductively coming to be used as a prefigured corrective to 'incorrect' practice.[69]

With the systematization of functional harmony came a line of musical theorists who, as Max Weber argues, found themselves rationalizing the anomalies of harmony, and in turn suppressing those sonic characteristics which could not be rationalized.[70] This tendency is not to be viewed wholly negatively, however, as it this closure of harmony and definition of the listener as *interpreter* that allows for the construction of modern orchestral music.[71] It was only with the systematization of harmony that the complex and contradictory whole that is the modern symphony orchestra could be brought to cohere, at the expense of elements which did not easily fit under the terms of harmony, such as untuned percussion. This development coincides with the emergence of custom-built concert halls, designed to offer a balance of sound such that the audience hears the sounding of the orchestra as a unified whole, and with as much of the audience as possible facing the orchestra, emphasizing an attentiveness to the performers in a way that had been less prominent in previous music venues. This development has been covered by several social histories, in the greatest depth by Michael Chanan's *Musica Practica*, but is best known to philosophical audiences through Jacques Attali's *Noise: The Political Economy of Music*. The scope of Attali's argument – a universal history in which musical change prefigures social change[72] – is perhaps excessively far-reaching and occasionally factually inaccurate,[73] but its emphasis on the philosophical model of representation that is reinforced by this move, insofar as the silence of the concert hall gives an autonomous existence to what previously was entangled in social practice and ritual, is crucial. It is the purification of thought as order found in representational

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[69] Ibid., 116.
[70] Max Weber, *The Rational and Social Foundations of Music*, trans. Don Martindale, Johannes Riedel, Gertrude Neuwirth (Carbondale: Southern Illinois University Press, 1958), 9 and *passim*.
[71] Michael Chanan, *Musica Practica: The Social Practice of Western Music from Gregorian Chant to Postmodernism* (London ; New York: Verso, 1994), 10.
[72] Music "is a herald, for change is inscribed in noise faster than it transforms society." Jacques Attali, *Noise: The Political Economy of Music*, trans. Brian Massumi (Minneapolis ; London: University of Minnesota Press, 1985), 5.
[73] For example, as Douglas Kahn notes, Attali's chronology with regards to Italian Futurism is incorrect. Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge, Mass. ; London: The MIT Press, 1999), 375n50 – see our discussion in the next chapter.

epistemology and the new emphasis on interpretation and *analysis*[74] which allows music to be an object of understanding in a way that would not have been conceivable before.

This model of concert music was coming into place in the late eighteenth and early nineteenth centuries, and it reflects the increasing formalism that had come to dominate music discourse after Rameau. Indeed, while in the *Critique of the Power of Judgement* Kant deems music the lowest of the arts because it is the art most concerned with the "mere play of sensations",[75] it is to a practice of music that was at that time being left behind that Kant specifically refers, discussing *tafelmusik*, the practice in which music was written as accompaniment for social gatherings, which is in contrast to beautiful art, that art which "is a kind of representation which is purposive in itself".[76] The Kantian aesthetics of the beautiful can, as such, be characterized as mapping onto the new laws of harmony which had made music the most formally-defined of the arts, with the *Critique of the Power of Judgement* extending this formalism to an argument that the judgement of taste in its entirety, and by consequence judgement itself, is founded on a judgement of form.[77]

These remarks offer us some basis for defining what we mean when we describe music and music theory as 'formalist', a term often slippery and opaque in its usage.[78] The history of a refinement of Rameau's formal techniques is long and dense,[79] but in Cage's context, a telling marker is the publication, two years before 'Future of Music: Credo', of Heinrich Schenker's *Free Composition*, which takes a reading of Rameau and those theorists who followed and emphasizes degrees of structural hierarchy so as to develop a

[74] Foucault, *The Order of Things*, 58.
[75] Immanuel Kant*, Critique of the Power of Judgement*, trans. Paul Guyer and Eric Matthews (Cambridge, Cambridge University Press, 2000), §53.
[76] Ibid., §44.
[77] Ibid, §51. Foucault characterizes Kant's thought as signaling the move from representation to modernity, but the sense in and extent to which Kant can still be considered a representational thinker will be discussed later.
[78] See Patrick McCreless, "Formalism, Fair and Foul," in *Nonsite* 8 (2013), accessed 17/09/2015.
[79] Perhaps of particular importance in this history is the work of Hanslick in the mid- to late-nineteenth century – McCreless suggests that with Hanslick we find arguable "the first great flowering of formalism within one of the fine arts, and the only one in the nineteenth century" (ibid.). See Eduard Hanslick, *The Beautiful in Music*, trans. Gustav Cohen (New York: The Liberal Arts Press, 1957).

model of analysis in which a fundamental, formal notion of structure is extracted from all that is considered extraneous.[80] Schenker's analytical methods came to underpin the dominant academic models of the coming decades, to which the cultural or 'new' musicology of the late 1980s and 1990s was a response, aiming to foreground social, political, and historical aspects which strictly formal models had excluded.[81]

From this we can derive some basic working definitions for musical formalism, from which the specificity of different approaches can be developed – first, as an aesthetic approach taking the work as something that is "hermetically sealed" from any outside, and second, as an approach which concerns itself with the operation of relationships *within* the work.[82] These tendencies, given detailed expression perhaps first in the musical context, begin to take prominence in the visual arts in the early twentieth century, through for instance the work of Clive Bell, who emphasized the understanding of a painting as distinct from its external relations, appreciation being derived rather through "nothing but a sense of form and colour and a knowledge of three-dimensional space".[83] As such, the contingency of Kant's denigration of music aside, Kantian thought is located at the core of an aesthetic framework for several generations ahead of him, in music as in the visual arts, in the latter up to the refined formalist modernism of Clement Greenberg which dominated the early understanding of American modern art. This lineage, in which aesthetics has a powerful grounding in the relationship between the judging subject and the structurally defined object, is implicated in a diverse set of compositional and analytical practices to which we will return in later chapters.

iii. A critique of representation

The co-emergence of the subject and object allowed, for the first time, the positioning of sound as the problem of music, but this problem is ultimately oriented away from sound

[80] Heinrich Schenker, *Free Composition: Volume III of New Musical Theories and Fantasies*, trans. Ernst Oster (Hillsdale: Pendragon Press, 1979), 10. See also Hyer, "Before Rameau and after," 87.
[81] For example, Susan McClary, *Conventional Wisdom: The Content of Musical Form* (Berkeley ; Los Angeles ; London: University of California Press, 2000), 128.
[82] McCreless, "Formalism, Fair and Foul".
[83] Clive Bell, *Art* (Chatto and Windus: London, 1914).

in itself and towards a transcendental realm of understanding due to the subject position we find in the representational regime of knowledge – the co-emergence is founded on assumptions regarding the subject element of the pairing. The twentieth century saw numerous attempts to break with this history of music theory, to pluralize music beyond one fixed representational framework, from the microtonal extensions of equal temperament found in Charles Ives or Harry Partch[84] to La Monte Young's explicit return to a pre-modern fundamental harmony (which we will look at in our final chapter), but here we will consider the lineage through Schoenberg and Cage. At the core of Schoenberg and Cage's response to the Western classical tradition is a questioning of the relegation in status the individual musical note suffers under the terms of structural harmony. To recapitulate some of the formalist aspects of functional harmony, any unit – chord or note - of a musical composition is defined only through its subordinate relation to the tonic chord to which it corresponds, and the aesthetic perception of the work is presented as a logical activity regarding the understanding of the work's structural qualities.

The individual sound unit, then, has no internal qualities as such, and instead its musical role is thought only in terms of its position in the vertical harmonic and horizontal melodic movement of a piece, under the terms of a significantly pre-defined and external structural language of functional harmony. The note is shorn of its fundamental difference and subsumed under a marker of the same – tonal music, as Deleuze notes in an essay on Boulez, "restore[s] a principle of specific identity".[85] In addition to this, Rameau's naturalization of the theory of harmony lent a rigidity to its development which may not have occurred were the previous conventionalist practices of harmony maintained. While the theory of Western art music continued to develop after Rameau, the continued centrality of Rameau's rationalization of fundamental harmonic rules ensured that any malleability or variation remained founded upon another principle of

[84] Edward Campbell offers a Deleuzian study of such instances of 'rethinking musical pitch' – see chapter three of Campbell, *Music After Deleuze*.
[85] Gilles Deleuze, "Occupy without Counting: Boulez, Proust and Time," in *Two Regimes of Madness: Texts and Interviews 1975-1995*, trans. Ames Hodges and Mike Taormina (New York: Semiotext(e), 2006), 296.

identity, and that as such the rules of harmony became an ever-denser extrapolation of Rameau's founding insights rather than a productive ordering of a particular note relation. The profusion of regulatory principles for the relations between notes leads to what Robin Mackay terms a "wasteland of redundancy",[86] where music theory serves to legislate and limit far beyond the purview of the specific musical situation with which a composer is faced. What, then, is the basis for a theoretical and practical response to this historical condition of music? Clarifying the philosophical structure of the problem will be helpful here – what precise form does representation take, and how can a critical response to it be constructed?

Deleuze and the problematic Idea

We find that Cage, in his 1937 'Future of Music: Credo', echoes Descartes' move of locating the problem of music in sound, but extracts it from the representational theory of harmony developed over the previous three centuries. What is the status of 'representation', and what does a problem look like when it is not shaped by representation, that is, when it is not thought in terms of what can appear as a prefigured subject cognizing its object? A closer analysis of both representation and the problem, and the relation between the two, is required. Key Deleuze's project of transcendental empiricism is his reading of Kant – a Kant who, for Deleuze, stands as a kind of culmination of philosophies of representation but also as the unrealized source of a retreat of thought from representation.[87]

It is perhaps in *Difference and Repetition*'s third chapter, 'The Image of Thought', that the specifically post-Kantian character of Deleuze's own critique of representation is most closely developed. Here it is on Kantian terms that this critique takes place, Kant

[86] Robin Mackay, "Capitalism and Schizophrenia: Wildstyle in Full Effect," in *Deleuze and Philosophy: The Difference Engineer*, ed. Keith Ansell Pearson (London: Routledge, 1997), 249.
[87] This in seeming contrast to the Foucault of *The Order of Things*, where the ambivalence of the Kantian critical project is less marked, with Kant for the most part being located at the first point where we find "the withdrawal of knowledge and thought outside the space of representation" (Foucault, *The Order of Things*, 263).

being subjected to a kind of *auto-critique*, by which Kantian philosophy is pushed to its limits on an immanent basis. It will be useful here to quote at length from this chapter, and work both forwards and backwards from this point:

> The transcendental form of a faculty is indistinguishable from its disjointed, superior or transcendent exercise. Transcendent in no way means that the faculty addresses itself to objects outside the world but, on the contrary, that it grasps that in the world which concerns it exclusively and brings it into the world. The transcendent exercise must not be traced from the empirical exercise precisely because it apprehends that which cannot be grasped from the point of view of common sense, that which measures the empirical operation of all the faculties according to that which pertains to each, given the form of their collaboration. That is why the transcendental is answerable to a superior empiricism which alone is capable of exploring its domain and its regions. Contrary to Kant's belief, it cannot be induced from the ordinary empirical forms in the manner in which these appear under the determination of common sense. Despite the fact that it has become discredited today, the doctrine of the faculties is an entirely necessary component of the system of philosophy.[88]

Both the historical root and a projected orientation of Deleuze's thought, towards transcendental empiricism as experimental method, can be extracted from this passage. Kant's introduction of the transcendental as concerning the conditions of experience remains central – Deleuze's project can be read as a regeneration of the Kantian doctrine of the faculties. For Deleuze Kant's mistake is in deducting the transcendental via a mere tracing from the empirical,[89] that is to say, the transcendental is derived from the mode of representation that is the empirical – a difficulty we likewise encounter in the history of music theory, wherein music comes to no longer pertain to its purported object of sound, but rather only to its own principles of harmonic structure. The form of this tracing requires closer analysis, and returns us to Deleuze situating Kant firmly within a long lineage of philosophy which falls back on what Deleuze calls 'common sense'. Deleuze's suggestion in the opening pages of 'The Image of Thought' is that while philosophy has traditionally been understood as beginning with the elimination of all presuppositions, this has generally been enacted as a rejection of objective presuppositions which has nevertheless fallen back onto subjective presuppositions[90] – as concerning the conditions for possible experience, a presupposed subject, rather than

[88] Deleuze, *Difference and Repetition*, 149.
[89] Ibid., 143.
[90] Ibid., 129.

those of real experience.[91] This ultimate reliance on subjective presupposition has taken the basic form of "[e]verybody knows, no one can deny",[92] and with this comes a distinct form and discourse, namely of representation and of the representative.

The Cartesian image of thought, Deleuze suggests, takes the "old saying" that good sense is of all things in the world most evenly distributed and transforms it into a philosophical principle of pure thought, whereby thought, in its purity distinct from the contingencies of imagination, memory and so on, has *a priori* an affinity with truth. While thought may remain difficult to attain in the face of the contingencies of the world, once it has been achieved it becomes its own marker of validity, on the assumption that with thought immediately comes a good sense and a common sense linked to truth *in principle*.[93] In this lies the subjective presupposition of Descartes' philosophy, which leads us to a philosophical model in Descartes and Kant alike built upon a doctrine of recognition. For thought to be in principle good and common, it must in its nature have a capacity to unify, both internally, within the individual thinker, and externally, within the community of thinking beings. In the case of Kant we have him placed in the role of the "great explorer" with his discovery of the transcendental, deducing that individual faculties contributing to thought can "[grasp] that in the world which concerns it exclusively and [bring] it into the world", that each faculty is synthesized and functions independently of the others. However, we ultimately see a faculty of recognition appear as a culmination of this analysis, transcending the other faculties by both operating within them and remaining outside of them, and taking the guise, again, of an 'I think', a psychological consciousness whose recognition of objects every function of a faculty is traced to.[94]

In terms of the musical lineage we have set out, many points of connection are evident. Deleuze's broad critique of recognition is itself a critique of formalism – that the "form

[91] Ibid., 68 and *passim*.
[92] Ibid., 130.
[93] Ibid., 132-33.
[94] Ibid., 135. It would be interesting to consider how this relates to that in Kant which resists the subject being equated with the mind, such as through the very complex notion of the *Gemüt*, not easily settling in terms such as 'mind', 'human', or 'understanding'.

of recognition has never sanctioned anything but the recognizable and the recognized; form will never inspire anything but conformities"[95]. As Levi Bryant articulates this point, formalism "always sanctions the universalization of that which is historically produced in such a way that the production of the produced […] becomes invisible" – "Formalism sanctions the decontextualization of the produced".[96] The Cartesian formulation marks a path towards an increasingly rigorous purification of understanding, exemplified in music's shift away from the contingencies of plural practices, brought under the sole organising tool that is a structural harmonic articulation of recognition. Harmony comes to unify the diverse practices it considers, but only by excluding those aspects deemed aberrant and retroactively erasing the role that those practices served as the basis for the development of harmony itself.

While for Deleuze the philosophical commitment to recognition leads to a political commitment to conservatism,[97] it is not yet clear in this context why the method of recognition should be rejected. To make this shift in the argument, Deleuze expands this critique of recognition by arguing that the method of recognition depends upon the more fundamental principle of representation, with which the earlier chapters of *Difference and Repetition* had been concerned. In this case we find recognition as the instance of representation specifically when applied to the faculties – the understanding concerns identity with regards to concepts, the imagination depends on oppositions, judgement concerns analogy, and perception depends on resemblance.[98] Under these terms, Deleuze argues, difference in itself is "crucified", insofar as it is conceived only in terms of identity, as an object of representation determined under the strictly delimited scope of each faculty.

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[95] Ibid., 134.
[96] Levi R. Bryant, *Difference and Givenness: Deleuze's Transcendental Empiricism and the Ontology of Immanence* (Evanston, Illinois: Northwestern University Press, 2008), 85-86.
[97] In some of the few explicitly politically charged moments of *Difference and Repetition* (in this respect notable also is Deleuze's discussion of a Marxist notion of social Ideas – *Difference and Repetition*, 186) Deleuze names "derisory" the voluntary struggles for recognition which accept and seek to attain currently held values (Ibid., 136) and suggests that the Kantian project of critique is one that is ultimately respectful with regards to questions of morality and knowledge (Ibid., 137).
[98] Ibid.

This points back to Cage's early understanding of sound, and to what in Cage's work will be considered an interest in 'sound in itself' as a musical articulation of the notion of difference in itself – whereby Cage, from his earliest works, will attempt to extract sound from its reduction to an object of representation under the operations of functional harmony. The theoretical status of this break is not yet clear, however, and to develop it and understand the significance of a transcendental or superior empiricism and the importance of a rehabilitated doctrine of faculties, it will be useful to retrace this argument through Kant. Deleuze offers some hints as to the continued significance of a Kantian mode of thought, suggesting that Kant "seemed equipped to overturn the Image of thought" (namely that of recognition) but "in spite of everything, and at the risk of compromising the conceptual apparatus of the three Critiques, Kant did not want to renounce the implicit presuppositions".[99] The key to deducing what Kant's missed opportunity was – how the conceptual apparatus of the three Critiques could have operated if not for the persistence of subjective presuppositions – is found in Deleuze's specific sense of the "transcendent exercise" of a faculty.

'Transcendent' here is not being used in the same sense as when the faculty of recognition was described as transcendent. In the case of the faculty of recognition, 'transcendence' concerns how the faculty of recognition regulates and limits the other faculties while remaining distinct from them, and the faculties are left relying on a principle which lies outside of – transcends – their own operation. The transcendent exercise of a faculty which is found in the rehabilitated doctrine of the faculties that is transcendental empiricism, on the other hand, concerns the use of the faculty to and beyond its limit, considered in relation to other faculties outside of itself. The Kantian use of the faculties can be described as 'immanent' insofar as its exercise is internal to its boundaries, but this is, as François Zourabichvili notes, down to "the confusion of immanence with closure,[100] a closure which relies on the transcendent faculty of recognition – for Kant the exercise of the faculties is immanent because the faculty of

[99] Ibid., 136.
[100] François Zourabichvili, *Deleuze: A Philosophy of the Event*, trans. Kieran Aarons (Edinburgh: Edinburgh University Press, 2012), 47.

recognition allows us to determine the boundaries of a faculty, the operation 'proper' to a faculty under the terms of good and common sense.

In this distinction between the immanent and transcendent exercise of the faculties we see why Deleuze would famously describe his *Kant's Critical Philosophy* as "a book about an enemy",[101] but Deleuze's move in this regard is to turn Kant against himself, to find within Kant a site of auto-critique – it is in Kant himself that we find the clue to how a revised, transcendental empiricist theory of the faculties can function, in his concept of the sublime. In his study of the *Critique of Pure Reason* in *Kant's Critical Philosophy* Deleuze suggests that in immanent exercise of the faculties under the subjective presupposition of recognition we find that a form of harmony is illegitimately posited as existing not merely between subject and world but in turn within both subject and world[102] – ultimately, the 'free accord' between the faculties that Kant claims to discover beneath the faculties can be founded only on a pre-established harmony. With the discussion of the sublime in the *Critique of the Power of Judgement*, however, we find another kind of harmony, one not pre-ordained under the terms of recognition and identity, but what Deleuze describes as the first example of "discordant harmony",[103] whereby the relation between faculties is not posited from a prior term but a form of communication between them nevertheless exists. Under these terms the communication would not take place under the terms of pre-existing laws which serve to maintain the boundaries of the exercise of a faculty, but would rather open the faculties to metamorphosis through an opening to that which is outside of them, where the interiority of the faculty is overcome and thought is seized by that which is exterior to it.

Deleuze's use of Kant against Kant, then, centers on bringing to the forefront of critical philosophy the idea of genesis he locates in the *Critique of the Power of Judgement*, and deploying it against conceptual predeterminism. Within Kant himself, the

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[101] Deleuze, *Negotiations*, 6.
[102] Gilles Deleuze, *Kant's Critical Philosophy: The Doctrine of the Faculties*, trans. Hugh Tomlinson and Barbara Habberjam (Minneapolis, University of Minnesota Press, 1984), 20.
[103] Deleuze, *Difference and Repetition*, 146 ; see also "The Idea of Genesis in Kant's Esthetics," in Deleuze, *Desert Islands*, 62.

epistemological core of this is found in the distinction between reflective and determining judgements in the *Critique of the Power of Judgement*, but this formulation is prefigured in the *Critique of Pure Reason* by what Kant calls the "hypothetical" use of reason[104] – when it is used "problematically". This realm concerns universals which are not certain or given, but are nevertheless assumed, as an Idea, and tested to determine their universality. For Deleuze, Kant too quickly settles on three such universals – God, World, and Self – but this structure nevertheless forms the basis of *Difference and Repetition*'s concept of the problematic Idea. A break with representation is staged insofar as the problem is no longer a knowable object, but rather concerns the movement of a regulative process – the inexhaustible exploration of a virtual Idea.

In order to articulate this reformulation of Kant, Deleuze turns to Kant's contemporary and one of his earliest critics, Salomon Maimon.[105] Maimon finds in Kant a failure to prove the fact of 'possible experience', arguing that Kant rather presupposes necessary and lawlike connections,[106] a consequence of which is an absolute and illegitimate heterogeneity between the faculties between sensibility and understanding.[107] For Maimon, Kant requires an understanding of the *internal genesis* of a Kantian external conditioning. This points us to one of the key concerns in Deleuze's critique of Kant, and a distinction which will be central to our mapping of Deleuze's transcendental critique over our coming chapters – that Kantian aesthetics is "divided into two irreducible domains".[108] We find in the *Critique of Pure Reason* a theory of the sensible which pertains to the real only insofar as it conforms with the possible experience of the subject, and in the *Critique of the Power of Judgement* a theory of the beautiful which "deals with the reality of the real".[109] Deleuze's concern with transcendental empiricism is to understand how we can invert the Kantian formula and understand the conditions

[104] Kant, *Critique of Pure Reason*, A646f/B674f.
[105] Our reading here draws from Daniela Voss, "Maimon and Deleuze: The Viewpoint of Internal Genesis and the Concept of Differentials," in *Parrhesia*, 11 (2001): 62-74, and Beth Lord, *Kant and Spinozism: Transcendental Idealism and Immanence from Jacobi to Deleuze* (London: Palgrave Macmillan, 2011).
[106] Salomon Maimon, *Essay on Transcendental Philosophy*, trans. Nick Midgley, Henry Somers-Hall, Alistair Welchman and Merten Reglitz (London ; New York: Continuum, 2010), 100.
[107] Ibid., 98.
[108] Deleuze, *Difference and Repetition*, 68.
[109] Ibid.

of real experience, as the basis for sensible experience more generally.

Crucial for Deleuze is that Maimon's solution to this comes through the development of an understanding of differential relations – as the most basic elements of sensation, the rule for generation of sensible objects. Representation, in the Kantian sense, is here understood as being produced by an accumulation akin to that of Leibniz's *petites perceptions*, but through which its self-subsistence cannot be maintained. Leibniz speaks of "the confused murmur coming from the innumerable set of breaking waves heard by those who approach the seashore",[110] which, as Deleuze interprets it, unbinds the traditional Cartesian logic of the clear and distinct. Instead we find an apperception of the whole that is *clear and confused*, insofar as it finds itself incapable of grasping the fundamental elements of the sound, or *distinct and obscure*, insofar as the *petites perceptions* themselves are grasped, as differential relations or singularities, but their distinction into the whole of the sound has not yet been established:

> These singularities then condense to determine a threshold of consciousness in relation to our bodies, a threshold of differenciation on the basis of which the little perceptions are actualised, but actualised in an apperception which in turn is only clear and confused; clear because it is distinguished or differenciated, and confused because it is clear.[111]

By this understanding of the differential basis for sensibility and understanding, we see a notion of genesis inserted into transcendental philosophy, first at the level of qualities, then of space and time, and then of concepts, and it is in the "reciprocal synthesis of differential relations" that we find "the substance of Ideas".[112] As such Deleuze pushes Kantian transcendental philosophy through Maimon so as to confer an objective status onto the Kantian problematic Idea. In this understanding the Idea is made up of differential elements in reciprocal relation,[113] and is completely determined, differen*t*iated, at the level of the virtual, but not yet actualised into species and distinguished parts, differen*c*iated – at the level of its virtual differentiation it remains

[110] Gottfried Wilhelm Leibniz, 'Discourse on Metaphysics,' in *Philosophical Essays*, trans. Roger Ariew and Daniel Garber (Indianapolis ; Cambridge: Hackett Publishing Company, 1989), §33.
[111] Deleuze, *Difference and Repetition*, 213.
[112] Deleuze, *Difference and Repetition*, 173.
[113] Ibid., 203.

"enveloped and in need of interpretation",[114] that is to say, it remains a problem awaiting a solution. As Deleuze writes, "[w]hereas differentiation determines the virtual content of the Idea as problem, differenciation expresses the actualisation of this virtual and the constitution of solutions (by local integrations)".[115]

Deleuze offers a useful example to reconnect to our musical discussion – the Idea of colour, Deleuze says, is like white light, it is 'perplicated', its singular points folded through itself, providing genetic element of all colours, individual visible colours 'solving' the 'problem' posed by white light as the Idea of colour.[116] Likewise, as Deleuze notes, the Idea of sound is white noise, and, if we bear in mind the understanding of the Idea as reciprocally determined elements held together in a differential relationship, we find a key artistic forebear to this in Cage's idea of 'sound-space'.

Sound-space and *Music of Changes*

In Cage's characterization of this space in the mid-1950s, differing little from his original articulation of sound in 1937, any given sound is determined by five distinct but inseparable variables – frequency, amplitude, timbre, duration, and morphology, resembling what is called envelope in modern electronic music practices.[117] In a musical practice where the production of sounds is oriented towards this sound-space, sound is no longer a matter of a gradated schema of predetermined pitch relations, but is rather

[114] Ibid., 24.
[115] Ibid., 209.
[116] Ibid., 206. The discussion of white light indicates also the importance of Bergson for this aspect of Deleuze's thought, echoing the account in his early essay 'Bergson's Conception of Difference' (*Desert Islands*, 43). From Bergson we derive the virtual-actual distinction and the concept of multiplicity which will resist the fixing of the problematic Idea towards which Maimon tends, integrating a vital element at the level of the Idea rather than only its genesis (see Éric Alliez, "On Deleuze's Bergsonism," trans. Tom Conley and Melissa McMuhan, in *Discourse* 20:3 (Fall 1998): 223). This degree of mobility at the level of the problem, as well as the role of Bergson for both Deleuze and for Cage, will be significant in the chapters to come.
[117] Cage, *Silence*, 9. Cage later removes morphology from his list of fundamental variables, but advances in electronic technology perhaps justify its inclusion, as opposed to being reduced to a combination of frequency and timbre.

concerned with an actualisation of given sounds from the condition of the problematic field of sound-space. The plane of all possible musical sounds is as such an immanent and continuous one, wherein any sound can be seamlessly transformed into another through a change to any or all variables, with no qualitative distinction imposed on the difference between one sound and another and no principle for determining the sense of a sound that are external to the sound itself.[118]

A model similar to this is used in Cage's 1951 work *Music of Changes,* famously composed using two compositional techniques with which Cage became closely associated – the use of charts and the employment of the *I Ching*, the Chinese 'Book of Changes'.[119] The use of chance as a compositional practice is key and will be addressed in chapter four, but it is not of immediate concern here – it suffices to know that it is used so as to resist the imposition of intentional compositional decisions in the piece and on sound more generally. Due to the great complexity of *Music of Changes* it will be useful to first look to Cage's first use of these techniques, in the *Concerto for Prepared Piano and Chamber Orchestra* (1950-51), to gain some insight into the function of these compositional devices.[120] In this piece, while the piano part of the first movement was freely composed much as in Cage's prepared piano works of the 1940s, for the orchestral second movement Cage constructed a chart of fourteen columns and sixteen rows, with each row indicating a different instrument and each column indicating a different sound or sound aggregate, specifically defined and weighted depending on the corresponding row. An additional chart was constructed representing the eight-by-eight configuration of the *I Ching*, with its cells featuring different simple instructions indicating simple moves across to be taken across the chart of instruments and sonorities (such as 'two cells down, three cells right'). Cage would then toss coins and consult the *I Ching* to determine his choice of cell in his second chart, and sequence the sound

[118] The relation between Cage's use of variables and that found in European serialism will be important throughout the coming chapters.
[119] Our reading of *Music of Changes* here is selectively oriented towards developing an understanding of sound-space within a compositional practice – other aspects of its composition and performance will be addressed in chapters three and four particularly.
[120] The use of sound charts originates slightly earlier, in 1950's *Sixteen Dances* – more on this in our fourth chapter.

selections of the first chart accordingly.[121]

As such we have the use of charts and chance procedures to give sequence to sounds without the intention of the composer, but ultimately these techniques serve *only* to sequence the pre-determined totality of sound groupings which was itself generated by Cage's compositional decisions regarding the first chart. With the composition of *Music of Changes* Cage appears aware of this shortcoming, and responds by both simplifying some aspects of the composition and complexifying others. In terms of simplifying, the piece is reduced to one instrument – the piano – and all compositional decisions are determined by chance, and by the single chance procedure that is the use of coin tosses and the *I Ching*. In terms of complexifying, the use of charts was multiplied dramatically – after determining the work's temporal structure Cage constructed twenty-six charts, with eight for sounds (half of the 'sounds' being silence), eight for amplitudes, eight for durations, one for tempi, and one for superpositions (events occurring at any one time). As a result we find, instead of the relatively small number of carefully defined sound complexes found in *Concerto for Prepared Piano and Chamber Orchestra*, Cage's attempt to reduce the sound field to its barest, most fundamental variables. The sounds produced as such do not pre-exist their sounding, on account of the unpredicted and unpredictable events that take place due to relations drawn between independently determined charts. Rather than chance providing a sequencing of pre-determined sound events, chance *creates* sound events by combining the twenty-six charts in unexpected ways.

There are, however, important questions to be raised here about formalism. By defining sound with reference to a sound-space characterized in terms of a completely determined field defined by its internal relations, are we not reinstituting formalism on another level? What is the status of Cage's critique of formal tendencies in music in relation to both prevailing and expanding formalist understandings of art? At this level it raises questions of the problematic Idea as well, particularly regarding the somewhat obscure and opaque point that is the constitution of these problematic Ideas themselves.

[121] See Pritchett, *The Music of John Cage*, 60-78.

Deleuze refers to problems "emanat[ing] from imperatives of adventure", referring to the throw of the dice, the power of decision which makes us "semi-divine beings" playing a divine game.[122] It is in this divine game that process and becoming, genesis, is instilled into the problem itself, as the encounter with the problem allows the faculties to be thought genetically. But how does this occur in an Idea defined by its complete determination at the level of the virtual, how can an experimental practice have effectivity at the level of problems themselves? How does the problematic Idea resist subsumption under a formalist framework?

These are key questions which we will gradually explicate over the coming chapters, but to begin it is crucial to consider the thought of Clement Greenberg. The early twentieth century saw the development of non-aesthetic and anti-aesthetic approaches, such as Duchamp's notions of aesthetic indifference and anti-retinal art or, closer to the field of music (though far from exclusive to it), the noise compositions of the Italian Futurists, which resulted in an unprecedented pluralism whereby the notion of a privileged aesthetic realm was supplanted by considerations such as cross-disciplinarity and political engagement.[123] Greenberg, on the contrary, developed – simultaneous with Cage's most significant formulations, from the mid-1940s to the mid-1960s – a renewed aestheticism centered on a medium-specific modernism, culminating with the essay 'Modernist Painting'. For Greenberg, the beginning of modernism is marked by Kant, as "the first to criticize the means of criticism itself",[124] to render criticism immanent. In this period Greenberg develops his artistic take on this form of criticism, beginning with his early theory of artistic development as 'purification', whereby, following Lessing's eighteenth century division of the arts, each art form has principles specific to the properties of its materials,[125] and the work of modernist art is to reduce the number of

[122] Deleuze, *Difference and Repetition*, 197-98.
[123] See Hal Foster, "Postmodernism: A Preface," in *Postmodern Culture*, ed. Hal Foster (London: Pluto Press, 1983), xiii.
[124] Clement Greenberg, "Modernist Painting," in *The Collected Essays and Criticism, Volume 4: Modernism with a Vengeance, 1957-1969*, ed. John O'Brian (Chicago ; London: University of Chicago Press, 1993), 85.
[125] Gotthold Ephraim Lessing, *Laocoon: An Essay upon the Limits of Painting and Poetry*, trans. Ellen Frothingham (Mineola, N.Y.: Dover, 2005) – a text written in the mid-eighteenth century but not published until 1850.

expendable conventions and reduce the medium to its purest form. As Greenberg writes, "[i]t seems to be a law of modernism – thus one that applies to almost all art that remains truly alive in our time – that the conventions not essential to the viability of a medium are discarded as soon as they are recognized".[126] Modernist painting, for example, as the essay of that name argues, finds its medium-specificity in the "ineluctable flatness" of the canvas,[127] that condition which it shared with no other art form, and it is this flatness with which the modern painter is to work. By this model the broad artworks which utilize non-aesthetic and anti-aesthetic approaches find themselves serving merely as a model of confusion between the arts.

Alongside the musical formalism of functional harmony Cage was also working in an artistic climate in contention with these ideas, and not in as clear a distinction from them as from their traditional musical equivalents. Cage, with his sound-space, appears to have constructed an Idea of sound as a five-dimensional multiplicity, dimensions, following Deleuze's definition in *Difference and Repetition*, being "the variables or co-ordinates upon which a phenomenon depends".[128] But if Cage has, with *Music of Changes*, engaged in a procedure of refining the art of music, as that art which deals with sound, to its simplest elements, then how is this to be distinguished from the refined formalism of medium-specific modernism?

Experimentation as method – preparing the piano

To begin to respond to this problem, we return again to the question of the shift that occurs between Cage's two 'Future of Music' pieces. While few of Cage's written works can be neatly characterized in terms of either intent or function, the two 'Future of Music' pieces tend more than most towards being theoretical texts, and can be clarified by turning to two pieces that tend towards being methodological texts, namely the two

[126] Clement Greenberg, "'American-Type' Painting," in *Art and Culture: Critical Essays* (Boston: Beacon Press, 1961), 208.
[127] Greenberg, "Modernist Painting," 87.
[128] Deleuze, *Difference and Repetition*, 182.

'Experimental Music' pieces of the mid-1950s. Here we make a crucial point, however – that *this method of experimentation is itself only 'discovered' by experimentation* – and in particular by Cage's compositional practice between 1937 and 1955. Key to this is the invention of the prepared piano. The prepared piano was developed, as Cage tells the story, in a practical context, through his work with dance pieces – an element of Cage's early practice curiously not discussed in 'Future of Music: Credo'.[129] Cowell, Varèse and other experimental composers had by the early 1930s all written pieces for percussion ensembles, but in this period percussion's primary use was as accompaniment in modern dance. It was in this context that Cage fully entered into the field of composition for percussion, beginning an association with UCLA's dance school in 1937,[130] and it is to this context that Cowell would later credit Cage's increasingly well-developed percussion compositions, suggesting that "[c]omposers who work with dancers come to know percussion instruments and their possibilities; daily association with the problem of rhythm forms their background".[131]

Cage would soon form a percussion ensemble at the Cornish School, and it was through the practical concerns of this group that the prepared piano was developed. In the 1972 piece 'How the Piano Came to be Prepared', Cage recounts being faced with writing music for a dance piece to be held in a hall too small for a percussion ensemble. In this period Cage was still writing music in the serial form along with percussion pieces, so he attempted to write an appropriate serial piece to be performed on the hall's piano – an attempt which was unsuccessful. Here the tension between Cage's serial and experimental inclinations took a sharp turn towards the latter approach – Cage recalls witnessing Henry Cowell's manual modifications to the inside of the piano while studying under him, and already in 1939 Cage had made used of Cowell's percussive 'string piano' for *Imaginary Landscape No. 1*, and it is to this technique that Cage turns to solve the problem of the dance piece.[132] After experimenting with the effects of various objects on the piano strings, Cage eventually found that screws and bolts would

[129] Cage's first major discussion of dance is in 1939's 'Goal: New Music, New Dance', in *Silence*.
[130] Silverman, *Begin Again*, 27.
[131] Henry Cowell, "Drums along the Pacific," *Modern Music* (Nov-Dec 1940): 48.
[132] Cage, *Empty Words*, 7.

remain fixed between the strings and would, through use of the piano's pedals, produce multiple tones. With later compositions items including coins, weather stripping, and pieces of rubber were also inserted into the strings, and metal washers and other larger items placed on top of the strings. Cage would then carefully map out the placement of the preparations, determined by his judgement of the tones:

> All the factors of the piano preparations, objects and their positions, were found experimentally. They represent a choice determined by taste rather than reasoned relations. In most cases, the preparation preceded a composition. In the course of writing, however, it was sometimes found desirable to introduce an additional mute.[133]

The prepared piano was designed as an element of the 'all-sound' music towards which percussion music was oriented, its primary purpose to allow an individual player to perform the role of a percussion ensemble, but the experimental nature of its production came to refigure this compositional practice. The sounds produced by the nuts and bolts to which Cage first turned are complex, resonant, gong-like tones of varying length, reminiscent of gamelan ensembles, and unlike the relative timbral refinement and constancy of tone colour integral to the design of the standard piano and the other instruments of the classical canon,[134] inconsistent. This characteristic is key to prepared piano's role in the development of Cage's methodology – Cage notes that as his prepared piano pieces came to be used in different contexts, with different pianos, performed by different players, the sounds are not perfectly recreated: "Instead of the possibility of repetition, we are faced in life with the unique qualities and characteristics of each occasion".[135] What was intended to produce a multiplication of the sounds within the composer's musical vocabulary ultimately took these sounds out of the composer's grasp.

The culmination of Cage's experiments with the prepared piano is *Sonatas and Interludes*, twenty short pieces composed between 1946 and 1948. The overall structure of the majority of the *Sonatas* is surprisingly anachronistic – a binary model inherited

[133] John Cage, *The 25-Year Retrospective*, [not on label], 1959, LP.
[134] See Chanan, *Musica Practica,* 242-43.
[135] Cage, *Empty Words*, 8.

from the early eighteenth century, in which the pieces are split in two with each half repeated. This simplicity, however, reflects the increasingly austere and personal route the prepared piano had taken Cage, away from the harsh plenitude of his early focus on noise. The rhythmic structures of the prepared piano pieces are simpler than Cage's earlier work, but rendered more mobile by the intimacy of the arrangements and emphasis on individual sounds, and in the case of *Sonatas and Interludes* we find simple binary and ternary structures within which complex, sometimes fractional structural units appear to interpenetrate. This indicates the beginning of an undoing of the solid rhythmic structures that had characterized Cage's work to this point - the fluidity allowed by the soloistic nature of the prepared piano makes for a living structure, rhythm as 'grace' in which elements ebb and flow in relation to each other,[136] subtly departing from the overall structure of which they are ostensibly part and into an internal rhythmic relation between sections. This functions at the level of particular sounds also – the simple repetition of these pieces is, due to the nature of the prepared piano, not a repetition at all, notes sounding with slight variations in each iteration.[137]

Cage goes into detail about the generalized compositional methodology he had settled upon at this point:

> I conceived of the composition as involving structure (the division of whole into parts, large and small), method (note to note procedure), materials (sound and silences) and form (continuity). The first three, I thought, could be rationally controlled. These pieces represent an attempt to compose freely within a controlled structure.[138]

This division was developed in more detail contemporaneously to the composition of the *Sonatas and Interludes*, in the schematic 1949 article 'Forerunners of Modern Music' (among the earliest of the post 'Future of Music: Credo' texts that Cage deems

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[136] Pritchett, *Music of John Cage*, 25.

[137] *Sonatas and Interludes* also sees one of the first prominent uses of non-Western thought, prior to his famed engagement with Zen, in Cage's work, with Cage foregrounding the concept of rasa, or aesthetic emotion, derived from the Indian aesthetics developed by Ananda Coomaraswamy. On this see Kyle Gann, *No Such Thing as Silence: John Cage's 4'33"* (New Haven ; London: Yale University Press, 2010), 96, and further discussion in our fourth chapter. The precise connection between the pieces and the nine permanent emotions is unclear, but Cage strongly emphasized (particularly in his text written on *Sonatas and Interludes* for his 25 year retrospective concert) the non-teleological tendency of the rasas, but nevertheless a general tendency towards tranquility.

[138] Cage, *The 25-Year Retrospective*.

appropriate for the *Silence* collection). The simplest condition of modern music here is that 'atonality has happened' – a moment in history has been reached where structural harmony has become ambiguous and lost its claim to providing the structuring principle of music. This means, says Cage, that the problem of the modern composer is to "supply another structural means"[139] – something that twelve-tone row composition fails at, as it concerns only note-to-note procedures rather than a compositional whole and parts, and which Satie and Webern succeed at, by basing structure on lengths of time. Cage's claim here is a more technical development of the 'Future of Music: Credo' statement that the modern composer does not deal with the steps of chromatic pitch but with the whole field of sound. Cage asserts, anticipating the idea of sound-space, that as the material of music is sound, that sound's characteristics are pitch, timbre, loudness, and duration, and that the "opposite and necessary coexistent of sound is silence" to which pitch, timbre and loudness have no bearing, it is duration that is the 'correct' structuring principle of music. Structure is rhythmic, and rhythm concerns the relationships between lengths of time.[140] This allows the other characteristics of sound to be manipulated for what Cage terms "formal (expressive)" purposes.

At the end of the series of works across the 1940s we find that the prepared piano has inaugurated the development of an 'experimental' methodology that is distinctly Cage's, and it is under these terms that he, in the 1950s, rehabilitates the term, it having fallen out of favour among composers of modern music after the 1930s. Experimental, as defined before, concerns actions performed without knowledge of the outcome, implying the understanding that the composer cannot have full control over the sound environment. This notion can be derived from the use of the prepared piano in two respects – in the ambiguity it brings about with regards to the composer's control of the sound, and in the representational shift that occurs by stripping the piano of most of its tonal qualities while still writing in traditional notation – that rather than notes on the page representing the sounds of the piece, they rather represent the actions to be performed in order to produce the sounds, taking us another step away from the

[139] Cage, *Silence*, 63.
[140] Ibid., 64.

authority of the composer.

These concerns seem to take us a step away from formalism, and a step away from sound-space as an adequate ground for the practice of an experimental music. There appears to have been a shift in the ontological status of sound, opening it away from its status as problematic Idea. This is difficult to understand if we are to take Cage at his word and locate his visit to the anechoic chamber as being the point where his practice becomes experimental properly speaking, both in terms of the gradual erasure of formalist elements and of those formalist elements which may persist even after this 'epiphany'. Indeed, in 'Experimental Music: Doctrine', Cage credits magnetic tape and the prepared piano alike with producing sound in such a manner as to disrupt habit and introduce the unknown,[141] and as such Cage's crediting the anechoic chamber visit with the qualities of an epiphany, and a break with the past, seems peculiar. This is emphasized further still in his 1948 article 'A Composer's Confessions' – excluded from the collection *Silence*, in this piece Cage discusses his idea for a piece named 'Silent Prayer', planned as three or four-and-a-half minutes of silence to be distributed by the muzak company.[142] Here Cage's claims are explicitly political – his aim is to disrupt the pacifying comfort that muzak normally provides in places of mass consumption such as shopping centres. The anechoic chamber story downplays these moments in Cage's path which anticipate and set the grounds for his theoretical and practical developments to come, perhaps overdetermining his work and thought and diminishing the proliferation of factors which play into its unfolding, and complicate developing any understanding of the historical and conceptual constitution of his work.

Over the coming chapters we will attempt to extract Cage from this overdetermined bind, to follow his practice as it develops, through its own immanent logic and in relation to broader artistic, musical, and cultural historical contexts, and think anew the development of Cage's experimental practice. Coming off of the determination of sound as the problem of music, seen to be in some tension with a more practically realized

[141] Ibid., 16.
[142] John Cage, "A Composer's Confessions," in *John Cage: Writer*, 43.

musical process, our next chapter will more closely situate the practical and theoretical status of sound as it develops through musical and artistic practices of the twentieth century. In so doing we will explore how this implicates musical experimentation in a phenomenological grounding, a relation which will deepen the terms of our Deleuzian transcendental critique via Husserl and likewise deepen our understanding of experimentation, but also produce a new layer of problems.

Music and the development of sound as object

In the previous chapter we outlined the emergence of a twentieth century practice of experimental music which can be interpreted as performing a transcendental critique on the history of Western classical music, enacted through a rejection of the governing formal rules of functional harmony. We see attempts, from Schoenberg onto Cage, to reinscribe sound into the understanding of music, without subordinating it to harmony, but in so doing we find that this does not yet distinguish a practice of experimental music from formal aesthetics, rather revealing points of intersection with a broader philosophical and artistic lineage of formalism. From this standpoint the anti-formalism of Cage's experimental music and the formalism of a Greenbergian medium-specific modernism are difficult to disentangle, but once we consider the passage of the *practice* of Cage's musical experimentation, a series of tensions and points of departure from this impasse begin to emerge. Through this the practice's formal certainties and its immanence to the field of music appear to begin to fray, to come into contact with other fields and take on a problematization which becomes unbound from its initial conditions.

In the next two chapters we will investigate how the concept of sound, as it develops within and without the borders of musical practice, is developed and transformed through twentieth century musical and artistic practices, so as to better understand the contours of this relation and to more accurately situate experimental music, Cagean and otherwise, alongside and against the formalist models such as that of medium-specific modernism. By exploring this through the implication of the development of musical and artistic experimentation with phenomenology, specifically that of Husserl and Merleau-Ponty, this will also help us deepen our understanding the precise status of Deleuze's transcendental critique. First, this chapter will look in more detail at the specific form of music as a sonic practice, how this notion transforms the idea of 'music', and how it both comes to overlap with but also go against the grain of theories of medium-specificity, and ultimately point towards – and beyond – the reinvigoration of cross-disciplinary practices we see developing going into the 1960s.

While our previous chapter indicated the degree of sufficiency to the development of Cage's practice through an immanent critique of the tradition of Western classical music, the development of the problem of sound asks that we turn back and consider an undercurrent to this musical trajectory, an overlapping and entangled history in which music takes on a question asked from its outside. This chapter will focus on a lineage of early-to-mid twentieth century musical practices which increasingly try to clarify the conceptual status of sound and create a musical practice adequate to it. Through early developments from Debussy and the Italian Futurists, the shift of emphasis from the undoing of harmony to an opening to sound quickly raises the question of a connection to extra-musical elements, and, in particular, through the notion of non-representational artistic approaches, to painting and the other art forms. The development of ideas pertaining to a medium-specificity of music in line with a wider artistic trajectory come into particular focus through the work of Edgard Varèse, whose terming of music as the 'organization of sound' attempts to rid music of any conventions not necessary to its articulation as an art form dealing with the medium of sound.

This turn is often characterized as a turn to noise, the admission of noise as non-musical sound into music and a connection with a wider avant-garde. This understanding broadens the critical and theoretical moves of our previous chapter and has provided the impetus for much illuminating work,[143] but in so doing can increasingly deviate from the original problems posed, leaving critical questions unanswered. Here we suggest that the problems posed are given particular clarity in the field of music through the development, as Cage noted, of sound reproduction technologies, and it is the constellation of musical practices making use of such technologies in Europe from the 1940s onwards which this chapter will primarily investigate. Central again is the notion

[143] For instance, Kahn, *Noise, Water, Meat*; Attali, *Noise: A Political Economy of Music*; Alex Ross, *The Rest is Noise: Listening to the Twentieth Century* (London: Harper Perennial, 2007); Paul Hegarty, *Noise/Music: A History* (New York ; London: Continuum, 2010); Greg Hainge, *Noise Matters: Towards an Ontology of Noise* (London: Bloomsbury, 2013); the volumes *Reverberations: The Philosophy, Aesthetics and Politics of Noise*, ed. Michael Goddard, Benjamin Halligan and Paul Hegarty (London: Continuum, 2012) and *Resonances: Noise and Contemporary Music*, ed. Michael Goddard, Benjamin Halligan and Nicola Spielman (London: Bloomsbury, 2013), and many more.

of experimentation – here we will focus on Pierre Schaeffer's notion of 'experimental music' through his development of *musique concrète*, unfolding parallel to that of Cage and likewise in relation, both sympathetic and antagonistic, internal and external, to practices of serialism.

By temporarily shifting away from Cage and turning to Schaeffer we hope to clarify the musical and theoretical status of those aspects of Cage's understanding of experimentation that are left in some ways obscure through a focus on Cage alone, and particularly by the mythologization of his anechoic chamber experience at the expense of mapping a practice in process. By considering the music theoretical struggles taking place in Europe surrounding early electronic research in music, the historical and practical significance of routes taken with regards to musical experimentation will become clearer. Likewise, as Schaeffer was a voluminous technical theorist in a way Cage ultimately came to resist, the broader theoretical questions regarding musical experimentation can be pinpointed more precisely, particularly with regards to how the musical questions under discussion are, implicitly or explicitly, entrenched in a phenomenological problematic which must be taken into account to understand the status of musical experimentation.

With Schaeffer we find a transformation of musical practice enacted through the early twentieth century's most thorough development of a concept of sound, in the sound object, and by tracing his experimental engagement with sound through his practical and theoretical armory of sound reproduction technologies, philosophy, science, poetry and more, we will see how many of the fundamental problems of experimental music practice – for instance, of its relation to technology, of composer-performer-listener relations, of the theme of developing a 'language' appropriate to music, be it notation (a theme to which we will return over the coming chapters) or otherwise – develop and begin to attain a practical clarity. We will also, however, consider the risks encountered in experimental music practice, the impasses and limitations to be encountered within it, of the kind which led Schaeffer to ultimately deem his project to develop a new musical practice to be a failure. This will relocate the problem of sound and music within a

philosophical register, by considering Schaeffer's 1960s reformulation of his diffuse experimental practices through the theoretical grounding of Husserlian phenomenology. Philosophically, we will begin to outline more precisely the trajectory of transcendental critique which we set up between Kant and Deleuze in the previous chapter, discerning in Husserl's problematization of Kant what will be seen as a crucial moment in the unfolding of Deleuze's own transcendental critique. Musically, we begin to outline a notion of music as a distinct conceptually definable practice that is nevertheless not closed off to its encounter with sound and other 'extra-musical' elements – how can 'music' avoid being a sovereign, unifying arbiter of the field of sound while still maintaining some kind of determinacy as a practice? Both of these aspects together, we continue to develop our problem concerning form or structure and experience, negotiating the apparent impasse that persists between the two.

Looking at Schaeffer's Husserlian turn, we will argue that for Schaeffer this leads to a shutting down of his experimental process for a fixed method, but in so doing leaves open key questions about the function of experimentation. Having found a general tendency towards formally defined taxonomical and parametric understandings of sound – Cagean sound-space, Schaefferian typo-morphology, or serialist methods of dimensional control – we must ask how formal tendencies relate, how, practically and theoretically speaking, *can* they relate, to a processual experimental approach. To begin to develop this question we will consider Cage's own tape music, positing it as part of a moment in Cage's practice which, while situated in distinct connection to the medium-specific trajectory posed here, nevertheless points towards the artistic conceptual transformation of sound moving into the 1960s and in turn to the opening and undoing of music as a self-determining discipline.

Debussy to Varèse

In his exploration of the role of ambient sound in twentieth century music practices, *Ocean of Sound*, David Toop suggests that the beginning of the musical twentieth

century is located in one moment, at the 1889 Paris Exposition. Here a young Claude Debussy encountered a Javanese gamelan orchestra, and here, as the mythologization goes,[144] heard the possibility of a model of music distinct from that which had developed through the Western classical tradition, a model characterized by the lack of progression and development across its pieces alien to that of Western classical music, and rather driven by elements in combination producing fluctuating, dynamic sheets of sound.[145] Debussy, as expressed in an 1893 intellectual salon held by Pierre Louÿs, sought to repeat this new musical structure in his own compositional practice – "I would like to see, and I will succeed myself in producing, music which is entirely free from 'motifs', or rather consisting of one continuous 'motif' which nothing interrupts and which never turns back on itself" – in distinction to that western model of repetition we find in Beethoven and hear "exaggerated […] almost to the point of caricature" in Wagner.[146] Cage will later summarize Debussy's discovery as a claim that "[a]ny sounds in any combination and in any succession are henceforth free to be used in a musical continuity".[147]

For the Italian Futurists, Debussy's discovery of a field of sound was not enough, his work maintaining too much of a deference towards the musical past.[148] As Luigi Russolo saw it, the time of the symphony had passed, "we have had enough of them", "and we delight much more in combining in our thoughts the noises of trams, of automobile engines, of carriages and brawling crowds, than in hearing again the 'Eroica'

[144] Debussy's tendency towards mythologization is reflected in his statement, in a letter to Jacques Durand regarding his passion for the sea, that "I have endless memories and, in my opinion, they worth more than reality, which weighs down one's thoughts too heavily". Quoted in Keith Spence, 'Debussy at Sea,' in *The Musical Times*, 120 no. 1638 (Aug., 1979): 640.
[145] David Toop, *Ocean of Sound: Aether Talk, Ambient Sound and Imaginary Worlds* (London: Serpent's Tail, 1995), 17.
[146] Stefan Jarociński, *Debussy: Impressionism and Symbolism* (London: Eulenberg Books, 1976), 103 ; Toop, *Ocean of Sound*, 19.
[147] Cage, *Silence*, 68. Cage claims to be quoting Debussy but I have been unable to locate a matching quote in Debussy's own texts, although numerous similar claims can be found – for instance, "[e]very sound perceived by the acute ear in the rhythm of the world about us can be represented musically. Some people wish above all to conform to the rules, I wish only to render what I can hear." "Statement of 1910," in Claude Debussy, *Debussy on Music*, ed. and trans. François Lesure and Richard Langham Smith (Ithaca, N.Y.: Cornell University Press, 1977), 243.
[148] See Francesco Balilla Pratella, "Manifesto of Futurist Musicians," in *Futurism: An Anthology*, trans. Lawrence Rainey, ed. Lawrence Rainey, Christine Poggi, Laura Wittman (New Haven ; London: Yale University Press, 2009), 76.

or the "Pastorale'",[149] a sentiment echoing Marinetti's assertion in 'The Founding and Manifesto of Futurism' that the roaring automobile is more beautiful than *The Victory of Samothrace*.[150] The Italian Futurists took on the noise of war and the electrical age, and in particular Italy's belated but accelerated industrialization, and used it to attempt to produce a new medium of performance.[151] In Russolo's writings on noise, collected under the name *The Art of Noises* (including a manifesto of 1913 and a book of 1916), is an inventory of what Russolo deems "the most characteristic of the fundamental noises", a curious taxonomy featuring categories such as "Rumbles, Thunderings, Explosions, Hissing roars, Bangs, Booms", "Noises obtained by beating on: metals, woods, skins, stones, pottery etc." and "Voices of animals and people: Shouts, Screams, Shrieks, Wails, Hoots, Howls, Death rattles, Sobs".[152] From this the art of noises is extended to a compositional and performance practice, for which Russolo built his own noise-making machines for concert performance, their names self-explanatory – the Howler, the Hummer, the Crackler, the Burster among them.[153]

In this seemingly everyday collection of sounds, Russolo saw the capacity for an infinite degree of movements in rhythm and pitch. To accommodate this, he devised a new system of notation. Russolo's notation, while based on standard notation, simplifies rhythmic motion and theoretically does away with the fixed pitch steps of the latter, substituting in 'progressions' and 'transformations'.[154] This characteristic is reflected in the design of his noisemakers, on which a precise and continuous control of pitch was possible, indicated in the first English translation of the Italian *intonarumori* – 'noise tuners'.[155]

Among those provoked by Russolo's art of noises were Debussy himself, Satie, and,

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[149] Luigi Russolo, "The Art of Noises: Futurist Manifesto," in *The Art of Noises*, trans. Barclay Brown (New York: Pendragon Press, 1986), 25.
[150] Filippo Tommaso Marinetti, "The Founding and Manifesto of Futurism," in *Futurism: An Anthology*, 51.
[151] Toop, *Ocean of Sound*, 74.
[152] Russolo, "The Art of Noises," 28.
[153] See also Kahn, *Noise, Water, Meat*, 56-67.
[154] Mark A. Radice, "*Futurismo:* Its Origins, Context, Repertory, and Influence," in *Musical Quarterly*, 1 no. 17 (1989): 7.
[155] Caroline Tisdall and Angelo Bozzolla, *Futurism* (Oxford: Oxford University Press, 1978), 105.

particularly central to this unfolding of music's encounter with sound, Varèse.[156] Varèse has already been mentioned in our previous chapter, as part of a generalized transcendental critique of the history of music that constitutes a founding element of 'experimental music' broadly speaking, but the tension we find between this critique of art theoretical formalisms and the relation between Cage – and experimental music practice in a wider sense – and medium-specific modernism requires us to turn to the question of music's 'medium-specificity' as an art of sound, a question we find first given precise form by Varèse.

For Varèse, like Debussy, attendance of a Paris Exposition, in this case that of 1900, proved crucial in his musical development. It appears, however, that the concert performances there left little impact on the seventeen-year-old Varèse, but the scientific and technological exhibitions present sparked a line of research beginning over the next several years.[157] Varèse would also befriend Russolo, but would later strongly criticize his work, and attempt in his own practice to leave behind the literalism that limits the Futurist exploration of noise, derived from their noise machines being designed to imitate the everyday sounds of industrial society – indeed, sounds which would in some sense soon come to be dated by their association with obsolete technologies.[158]

In 1917, four years after Russolo's 'The Art of Noises', Varèse berated the Italian Futurists for "merely reproduc[ing] the vibrations of our daily life only in their

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[156] Kahn, *Noise, Water, Meat*, 56.
[157] Joan Peyser, *To Boulez and Beyond* (Lanham, MD: Scarecrow Press, 2008), 108.
[158] Jacques Attali, following the fundamental claim of his *Noise: A Political Economy of Music*, suggests that we find in the Italian Futurist glorification of noise a musical moment which anticipates a historical-political shift, in this case the First World War (Attali, *Noise*, 10). Attali argues that the entry of noise into music prefigures a new form of social noise that the First World War marks the beginning of. As Douglas Kahn notes, however, the mingling of music with the noise of war derives from, as both Russolo and Marinetti highlight, the actual experience of regional warfare in its new, industrialized, noise-laden form (Kahn, *Noise, Water, Meat*, 375n50). For this reason, the precise kind of sociality which the Futurist embrace of noise celebrated should not go unmentioned, and is perhaps more worrying than it would be if it were an insight into an impending political-economic shift. This is bombastically clear in a comment on war made in Marinetti's first manifesto of 1909 - "We intend to glorify war – the only hygiene of the world – militarism, patriotism, the destructive genius of anarchists, beautiful ideas worth dying for, and contempt for woman." (Marinetti, "The Founding and Manifesto of Futurism," 51). For Marinetti one key element of the form sound was coming to take in the twentieth century was its new power of oppression and destruction.

superficial and distressing aspect".[159] In this context, Varèse's friend and biographer Fernand Ouellette is quick to distance Varèse's practice from that of Russolo: "It is a mistake to link Varèse's researches in any way with Russolo's. Although he was a friend of the man, he could not accept the noise-artist. Their conceptions were on two very different levels and could never have come together".[160] Oullette's reading, however, belies both a shared initial impetus and connections in solutions offered despite the distinctly different problematizations between the two, and as such obscures the precise move Varèse makes. Louise Varèse, a translator of French poetry and Edgard's wife, indicates that early in the latter's career he had much in common with both Russolo and Marinetti, and was "in enthusiastic accord with many of the tenets proclaimed by Marinetti in his *Le Futurisme*".[161] This is reflected in Varèse adapting some of Russolo's noisemaker designs for his own compositions (and naming one such device the *Russolofono*), in a division of noisemaking devices similar to that employed by Russolo in the piece *Ionisation*, and in the use of sirens in early works such as *Amériques*, *Ionisation*, and *Hyperprism*. Indeed, in *Hyperprism* we find a moment of unconscious representation – Varèse was puzzled to hear audience laughter on the sounding of a particular C sharp during its first performance, only later realising he had imitated a siren sound often heard on the rivers of New York City.[162]

However, in using sirens Varèse attempted not, as some contemporary critics suggested, a simple sound painting, but rather "the portrayal of a mood".[163] The use of devices outside of the standard orchestral configuration was intended not as a representation of the everyday but rather as an alien element in the expressive device of orchestra, an expansion towards sounds unknown to orchestral music through technological means. "I refuse to submit myself only to sounds that have already been heard. What I am looking

[159] Fernand Ouellette, *Edgard Varèse*, trans. Derek Coltman (New York: The Orion Press, 1968), 39.
[160] Ibid., 38.
[161] Louise Varèse, *Varèse: A Looking-Glass Diary* (New York: W. W. Norton & Company, 1972), 105-06. In this context, and taking into consideration the social and political perspective of the Italian Futurists, it should not be overlooked that Varèse was known to hold extremely prejudicial positions until at least as late as the 1940s – see Vivian Perlis and Libby Van Cleve, *Composers' Voices from Ives to Ellington: An Oral History of American Music* (New Haven: Yale University Press, 2005), 100.
[162] Toop, *Ocean of Sound*, 81.
[163] Quoted in Oullette, *Edgard Varèse*, 57.

for are new technical mediums which can lend themselves to every expression of thought and can keep up with thought".[164] The representational characteristic in Varèse's work is, then, indicative of a legacy from Russolo carrying over, but also, and more significantly, of the negative imprint of this step still present in Varèse's limited attempts to reformulate the question of sound – as he states in the 1939 piece 'Music as an Art-Science', "I need an entirely new medium of expression: a sound-*producing* machine (not a sound-*reproducing* one)".[165] Varèse appeared frustrated by the failure of the tools available to him to realize his ideas – he deemed the symphonic orchestra cumbersome, an "*éléphant hydropique*", hence his exploration of the jazz ensemble, "*un tigre*",[166] and his work with percussion – and his eventual work with early tape music techniques came after a period of fifteen years in which only a handful of minor pieces were composed.

Varèse came to term his work as "organized sound",[167] largely abandoning the traditional compositional concerns of pitch, melody, and form, and terming himself not a composer or a musician but rather a "worker in rhythms, frequencies, and intensities".[168] Distinct from the Italian Futurists, from an early point Varèse understood sound as a complex and multi-faceted entity in its own right, and from this understanding attempted to formulate a new language of music drawing not only from its past but from the vocabulary and conceptual armory of the sciences – particularly acoustics, and especially the work of Helmholtz,[169] but also crystallography, chemistry, geology, and

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[164] Ibid., 46.
[165] Edgard Varèse, "The Liberation of Sound," in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (London ; New York: Continuum, 2004), 19. We note in advance that Deleuze & Guattari make a much quicker gesture with regard to Varèse's understanding of sound production in relation to twentieth century musical practices in *A Thousand Plateaus* than that which we are following here, a question we will address in our fifth chapter – by closely mapping the historical context and trajectory of Varèse's thought we hope to show something of the richness and expansive and productive reach of these ideas.
[166] Toop, *Ocean of Sound*, 86.
[167] A term to which Cage, as we have noted, refers in his 'Future of Music: Credo' essay and which he used elsewhere in the same period, to the displeasure of Varèse – considering it a term specific to his own practice, Varèse wrote to Cage asking that he cease making use of it – "Shall consider unfriendly further use" (Silverman, *Begin Again*, 43).
[168] Varèse, "The Liberation of Sound," 20.
[169] While we will not be addressing it in detail here, Helmholtz's neo-Kantian project of forging a new bond between empiricism and transcendental philosophy sets a precedent for many of the problems we are addressing, and would be a valuable area for further research. See Hermann Helmholtz, *On the Sensations*

more, oriented towards making music an art which could match the advances in the visual arts.[170]

With Varèse, then, we see an inaugural moment in defining music as a medium-specific art whose medium is sound. Music had in the past valued its unique self-determination and singular expressivity as an art form – for example the romantic idea of absolute music, or Walter Pater's 1873 claim that it is only in music that form and matter are indistinguishable,[171] but the passage in the early twentieth century of, first, as discussed in the previous chapter, the bringing into question of functional harmony, and second (entangled but in some respects distinct), the musical foregrounding of sound itself, brings to light this ideal characteristic in relation to the other arts. Likewise, the painter Wassily Kandinsky saw in music a model of nonrepresentational art, but one which music as practiced had significantly failed to realize. This is reflected in a quite sudden shift in his attitude towards Wagner. In the 1911 piece 'Whither the "New" Art?' Kandinsky celebrates Wagner's direct use of sound, the heroes of his operas having a relation to sound not merely formal, whereby the sound indicates not a name, but rather the *leitmotif* being a sounding, the hero expressing sonically rather than sound representing the hero.[172]

However, by the 1912 pieces 'On Stage Composition' and *Concerning the Spiritual in Art*, this position has shifted – Wagner is associated with program music and the *leitmotif* becomes no longer a sounding but rather an association, an identification, an "obstinate recurrence" which in its repetition evokes nothing but familiarity and recognition.[173] In the earlier text, Kandinsky indicates a relationship between sound and the external world of nature, but by the following year this relation has been superseded

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of Tone as a Physiological Basis for the Theory of Music, trans. Alexander J. Mellis (New York: Dover Publications, 1954), and Erlmann, *Reason and Resonance*, chapter seven.

[170] Ibid., 18; Toop, *Ocean of Sound*, 81. It is this *overdetermination* of the construction of sound that I will later suggest gives Varèse persisting importance outside of the terms of this lineage of medium-specificity.

[171] "In all other kinds of art it is possible to distinguish the matter from the form, and the understanding can always make this distinction, yet it is the constant effort of art to obliterate it" – Walter Pater, "The School of Giorgione," in *The Renaissance: Studies in Art and Poetry* (London: Macmillan, 1912), 135.

[172] Wassily Kandinsky, *Complete Writings on Art*, trans. Peter Vergo, ed. Kenneth C. Lindsay and Peter Vergo (Boston, Mass.: Da Capo Press, 1994), 101.

[173] Kandinsky, *Complete Writings on Art*, 261.

by the notion of 'inner sound' or 'inner note',[174] a value internal to sound and not only independent of the distinct language of external nature, but degraded by attempts to conjoin the two.[175] Modern art music – Debussy standing as an exemplar[176] – has attained an expressiveness "outwardly unfettered by nature", while painting remains "almost exclusively concerned with the reproduction of natural forms and phenomena".[177] For Kandinsky it is the task of the painter to "know herself", without recourse to the representation of nature.

Here we can return to Greenberg's 1960 essay, 'Modernist Painting'. In outlining modernist painting's "stressing the ineluctable flatness of the surface",[178] Greenberg argues that the moment of self-criticism of which Kandinsky is part is not precisely that which is necessary to the modernist move of painting. Kandinsky is among those painters who, Greenberg suggests, have deemed abstractness, the non-figurative, to be the key moment in painting's critique of modernist art, while Greenberg suggests that this is merely one aspect of painting's divestment of its qualities from those of sculpture, of which representation itself is but an epiphenomenon. Insofar as, for example, elements of representation in painting separate it from its two-dimensional pictorial space, the problem is not of representation as such, but of the suggestion of three-dimensional space which is proper to sculpture. Kandinsky indeed stands in contrast to Greenberg insofar as he locates his practice within an increasing overlapping of the arts – suggesting that "the arts are encroaching one upon another".[179] However, the distinction between a generalized critique of representation and the development of medium-specific practices is one which, in his painterly deployment of an idealized notion of musical creation, Kandinsky seems already to recognize to a degree. It is not precisely the anti-representational character of music which is key, but, more fundamentally, it is music's exemplary understanding of its own specific formal

[174] Wassily Kandinsky, *Concerning the Spiritual in Art*, trans. Michael T. H. Sadler (Auckland: The Floating Press, 2008), 45; 69.
[175] Ibid., 123n23.
[176] Ibid., 47-48.
[177] Ibid., 55.
[178] Greenberg, "Modernist Painting," 87.
[179] Kandinsky, *Concerning the Spiritual in Art*, 55.

characteristics, holding, unlike the other arts, a certain notion of its material to be used as is appropriate to its qualities.

We see, then, that the opening of the field of music to sound immediately implicates itself in wider theoretical currents concerning the formal status of art in general and the individual arts in particular. At this point it is important to take a step back and relocate this problem within the terms of musical practice and its relation to a specifically musical tradition. We will return to the question of the arts more broadly speaking in our next chapter, after first looking more closely at this formal, aesthetic, and practical entanglement of sound and experimental music through the most comprehensive theorist of the relation, Pierre Schaeffer.

Origins of *musique concrète*

These practices, Varèse through Cowell and beyond, act as a partial spark for a series of new explorations of the field of sound emerging at the turn 1950s, not limited to the work ongoing in the United States. In Germany, the Westdeutscher Rundfunk studios were established in 1951 under the directorship of Herbert Eimert, and a research programme towards the development of '*elektronische Musik*' using early sound manipulation technologies was initiated, with similar centres founded in Italy and the Netherlands.[180] As Reginald Smith Brindle notes, these musical practices were generally composed in the manner of traditional music, developed in the mind of the composer and scored, with the realization in sound coming last of all.[181] Contemporaneously in France, however, the Groupe de Recherche de Musique Concrète (GRMC, later renamed the Groupe de Recherches Musicales, GRM) was founded by Pierre Schaeffer and Pierre Henry in 1951 in order to explore a field of music from the precise origins of a developing context of new technologies of audio recording and sound manipulation,

[180] Frederick Charles Judd, *Electronic Music and Musique Concrète* (London: Neville Spearman, 1961), 73.
[181] Reginald Smith Brindle, *The New Music: The Avant-Garde Since 1945* (London ; Oxford ; New York: Oxford University Press, 1975), 104.

rather than through pre-existing musical ideas. Schaeffer would come to see Varèse as "our sole great man, and the only precursor anyway",[182] insofar as Varèse concerned himself precisely with the material of sound, and insofar as this positioned music as attempting to follow the path of the plastic arts in "say[ing] good-bye to any resemblances, any known words, any notes, any conventional figures",[183] in stripping down to a simplicity of form with no representation to be interpreted.[184] With Varèse's work, many of the principles of a practice realigning the relation between sound and music, and the consequent new image of music, that carries on into the GRMC are to be found – the use of new electronic technologies as an opening of the musical field, connections forged between music and the still relatively young science of acoustics, and an acknowledgment of the inadequacy of musical notation to new musical practices among others.

While the GRMC was the first organization to be formally invested in the development of *musique concrète*, Schaeffer, through his work at Radiodiffusion-Télévision Française from the 1930s, made use of early examples of such technologies to explore sound through the earlier groupings of Studio d'Essai (1942-46, founded as a centre for the French Resistance) and Club d'Essai (1946-60), of which the GRMC was part.[185] Under this series of organizational umbrellas Schaeffer worked to develop a practice, overlapping composition and scientific investigation, centered on taking sound, and, more precisely, individual sounds, as objects of study.[186] While Schaeffer's earliest recordings date to 1942,[187] it was not until 1948 that the development of the new

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[182] Pierre Schaeffer, "Vers une musique expérimentale," in *Revue musicale* 236 (1957): 20.
[183] Pierre Schaeffer, *In Search of a Concrete Music*, trans. Christine North and John Dack (Berkeley ; Los Angeles ; London: University of California Press, 2012), 153.
[184] Ibid., 94; 104.
[185] See Carlos Palombini, "Machine Songs V: Pierre Schaeffer – From Research into Noises to Experimental Music," in *Computer Music Journal* 17:3 (Fall 1993): 14-19; Évelyne Gayou, "The GRM: landmarks on a historic route," in *Organised Sound* 12:3 (December 2007): 203.
[186] For detailed background information see Richard S. James, *Expansion of Sound Resources in France, 1913-1940, and Its Relationship to Electronic Music*, PhD dissertation (University of Michigan, 1981).
[187] Documented on the compilation Pierre Schaeffer, *Dix ans d'essais radiophoniques du studio au Club d'Essai: 1942–1952*, Phonurgia Nova, 1989, CD. Of note is that the initial explorations were not strictly musical but of radio as a form in itself, a 'relay art' (the 'relay' being between abstract and concrete). See Colin Black, "International Perspectives on the Historic Intersections of Electroacoustic Music and the Radio Medium," in *Organised Sound* 19:2 (August 2014): 182-191.

musical practice that would be named *musique concrète* began to coalesce. Schaeffer's journals of the time, as collected in the 1952 text *In Search of a Concrete Music*, document the development of both a practice and a theory of *musique concrète*, underscored by what Brian Kane terms an "improvisational ontology",[188] a process of formalization concerning music, sound, composition and listening.

The earliest entries in Schaeffer's journal concern his unsteady and hesitant gathering of sounds for a proposed "symphony of noises",[189] before what appears as a moment of epiphany – when the attack (the initial part of a sound before it falls to a sustained level, such as the striking of percussive instruments or the plucking of strings) of a bell sound is removed, "the bell becomes an oboe sound".[190] This is quickly presented by Schaeffer as the genesis of his new line of enquiry, or more specifically, as a discovery, an invention the nature of which is not year clear but which serves as the grounding for *musique concrète*:

> Where does the invention come from? When did it occur? I reply unhesitatingly: when I *interfered with* the sound of the bells. Separating the sound from the attack was the generative act. The whole of concrete music was contained in embryo in this inherently creative act with sound material.[191]

While this 'interference' is primary, it is nevertheless part of a musical practice which "seek[s] direct contact with sound material",[192] and at this stage we can see the germ of Schaeffer's reorientation of traditional musical understandings of the relationship between subject and object. The composer, the listener, and the composer *as* listener – as one who acts on sound as it is received – all begin to enter into a new relation with the musical object that is sound.

Shortly afterwards, while in the process of composing his first pieces from this basis, Schaeffer shifts from his earlier speculative notion of a 'concrete music' to beginning to

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[188] Brian Kane, *Sound Unseen: Acousmatic Sound in Theory and Practice* (Oxford: Oxford University Press, 2014), 15 and *passim*.
[189] Schaeffer, *In Search of a Concrete Music*, 4.
[190] Ibid., 7.
[191] Ibid., 8.
[192] Ibid., 7.

give form to the specific musical practice that is *musique concrète.* As written on the 15th of May 1948, less than one month after his discovery of the bell sound stripped of its attack:

> I have coined the term *Musique Concrète* for this commitment to compose with materials taken from 'given' experimental sound in order to emphasize our dependence, no longer on preconceived sound abstractions, but on sound fragments that exist in reality and that are considered as discrete and complete sound objects, even if and above all when they do not fit in with the elementary definitions of music theory.[193]

From this basis Schaeffer, with some haste, produced his first series of compositions, which were performed publicly in June of 1948 under the title *Cinq études de bruits.* These five pieces were composed for phonograph, and constructed from slowed down and speeded up recordings of both musical (e.g. piano) and non-musical (e.g. train) sounds. As Schaeffer details in his journals of this period, his discovery of procedures regarding sound and the development of compositional techniques is at all turns entangled with the capacities of the technologies available to him – primarily that of the turntable, but also the mixing desk's potentiometers.[194] Ultimately, the basic compositional techniques in the earliest formalizations of *musique concrète* are guided by the specific functions of the given technologies of the recording studio – the closed groove loops, speed variations, reversals and removals made possible by the turntable, the combination of sounds and reshaping of a sound's dynamic outline through the mixing desk, the use of reverberation, particularly to 'fuse' sounds together, and the elimination or enhancement of frequencies using filters.

The presentation of the *'Concert de bruits'* saw Schaeffer clarify further, and for the first time in public, his use of the term *musique concrète*, defining it at this point as music reached from an "inverse path", making clear his adversarial stance towards the classical tradition, "set[ting] out from sound data instead of notation".[195] The *bruits* of the title makes reference to Russolo's Art of Noises,[196] but by terming the pieces "attempts at"

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[193] Ibid., 14.
[194] Ibid., 6.
[195] Gayou, "The GRM: landmarks on a historic route," 203.
[196] On the relation between Schaeffer and Russolo, see Makis Solomos, "Bruits « entonnés » et sons « convenables » : Russolo et Schaeffer ou la domestication des bruits," in *Filigrane. Musique, esthétique,*

musique concrète Schaeffer, as Cage did before him, moves to reframe the question of that which has been considered noise, to reclaim it under the territory of music and shift from a question of noise to a "method of musical composition".

Experimental method and the critique of abstract music

At this point it will be useful to step back and consider, outside of this historical trajectory, the methodology at work in Schaeffer's practice, and specifically how Schaeffer's understanding of experimentation and its critical relation to musical tradition relates to and connects with that of Cage. The practice of experimentation, and of the experiment, is found across the span of Schaeffer's writings and attains a formal status when the GRMC becomes the GRM in 1958. While the GRMC's research area was the specific field of *musique concrète*, the GRM (the 'R' now standing for the plural *Recherches*) took its field to be that of 'experimental music' broadly speaking, *musique concrète* now standing as "the starting point of a more general procedure",[197] a procedure towards the development of an international avant-garde under which projects of *musique concrète*, electronic music, tape music, and 'exotic music'[198] could be considered under a common orientation towards musical materials.[199]

Prior to this generalization, however, an understanding of the experiment more specifically aligned to a mobile methodology appears in Schaeffer's journal entries. In one of his earliest entries, Schaeffer describes what it would mean for a musical experiment to 'pay off' – only "if it gives rise immediately to experimentation". The experiment attains a kind of success when it sets into motion, or continues, a practical process. Schaeffer, like Cage, saw such an experimental drive in Schoenberg's

sciences, société, Numéros de la revue, Musique et bruit, mis à jour le : 16/06/2011, accessed 19/09/2015 http://revues.mshparisnord.org/filigrane/index.php?id=227.

[197] Schaeffer, "Vers une musique expérimentale," 19.

[198] Roughly speaking what is now known, in a scarcely better term, as 'world music' – i.e. a not entirely coherent nor distinct grouping of ethnographic recordings, folk and popular musics, and other non-classical and/or non-European musical practices.

[199] See Carlos Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," in *Music & Letters* 74:4 (1993): 542-57.

compositional practice, with dodecaphonic music offering an early engagement with some of the problems that later experimental practices would raise in a more radical manner, namely the absolute rejection of a certain kind of musical language (namely, functional harmony) but also, more implicitly, a kindling of a concern with the sound object.[200] Schoenberg's practice, suggests Schaeffer, used principles as means only for research paths, rules applied towards unknown outcome, an act "in keeping with an instinct that is still obscure, although we can discern its resources"[201] – that is to say, following our understanding in the previous chapter, the problem is distinct but obscure, an approach has been established but its solutions are not determined in advance of the experiment. This experimental trajectory is one which later serialist composers would fail to live up to – rather we find in later serialism a school of composers who, says Schaeffer quoting Luc-André Marcel, "demand miracles at set times".[202]

It is this critique from which the term *musique concrète* stems – a concrete music standing in opposition to abstract music, or *a priori* music.[203] In 1953 Schaeffer produced a text titled 'Vers une musique expérimentale', to be included in a special issue of the journal *Revue musicale*, edited by Schaeffer and set to coincide with the GRMC's First International Decade of Experimental Music event.[204] Here Schaeffer develops his critique of serialism:

> In reality, the prison had no bars. Why twelve notes when electronic music has introduced so many more? Why series of notes when a series of sonic objects is so much more interesting? Why the anachronistic use of an orchestra whose instruments are handled with such obvious anti-naturalness by Webern and his imitators? And above all, why limit the horizon of our research to the means, usages and concepts of a music after all linked to a geography and a history; certainly an admirable music but still no more than the Occidental music of the last few centuries.[205]

For Schaeffer serialism marked what he would later call a "total grip of abstract

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[200] Schaeffer, *In Search of a Concrete Music*, 126.
[201] Ibid., 128.
[202] It is René Leibowitz whose adherence to dodecaphonic principles receives the most scorn from Schaeffer, who suggests that Leibowitz "is not building on any past in this way, nor is he prefiguring the future" (Ibid., 127).
[203] Pierre Schaeffer, *Traité des objets musicaux: essai interdisciplines* (Paris: Éditions du Seuil, 1966), 20.
[204] Despite final proofs being approved in July of 1953, publication was in the end postponed until 1957.
[205] Schaeffer, "Vers une musique expérimentale," 18, quoted in Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 546.

intelligence on both the subjectivity of the composers and over sound material",[206] marking a culmination of the history of classical music's development of a one-way movement of musical creation, from abstract concept and notation towards concrete performance with a representational relation to that abstraction – that is to say, as with Cage's understanding, a history in which the composer's authority is final, where there can be nothing unexpected or unplanned in rendering the piece concrete. The instrumental beginnings of music had served to complicate this passage from abstract to concrete, with the sounding of the instrument serving as a concreteness in the service of abstraction and intimating a reciprocity between the two, but serialism and its increasingly refined methods of controlling musical material reduces music to the "by-product of a game of parameters".[207]

Schaeffer's explicit critique here is largely a contemporary rather than a historical one, but its basis is the extent to which contemporary music, particularly that of the serialist school and its adoption of *concrète* techniques through *elektronische Musik*, has only taken music theory's abstraction of music from its sonic source in sound to a higher level yet. For Schaeffer, *elektronische Musik* presented a school of concrete music practice in distinct opposition to that of the GRM/C, as a kind of extension of the conceptual basis of the laws of harmony, at the expense of experience properly speaking, i.e. real experience versus possible experience. Here the GRM/C is rightly speaking experimental, standing for "empiricism in construction, which essentially relies on the instinctive ear", with *elektronische Musik* on the other hand being concerned with the application of "arbitrarily preconceived schemas to concrete matter".[208] This distinction is borne out (in less polemical terms) through Herbert Eimert's presentation of his notion of electronic music in Schaeffer's same edited collection in which 'Vers une musique expérimentale' was published. In this piece Eimert argues that "[i]t is meaningless to speak of electronic music unless the central processes involved are musical processes, that is, unless all essential decisions

[206] Schaeffer, *Traité des objets musicaux*, 20.
[207] Ibid., 66.
[208] Schaeffer, *In Search of a Concrete Music*, 127.

concerning form and sound are taken from musical points of view"[209] – here Eimert and Schaeffer would be agreed, but with differing perspectives on what would constitute the "musical point of view".

Key to Schaeffer's rejection of the techniques of *elektronische Musik* is the insistence on what Schaeffer sees as an evolution of Western music rather than a substantive break and creation of a new music. For Eimert, with the introduction of new sonic materials into music came a demand to discover the "tonality laws of electronic music", technology standing as a neutral means to continue the unfolding of a long tradition. With Schaeffer we have already seen the beginnings of a complex feedback loop between composer-as-listener and sound objects which structures the basis of musical composition, but for Eimert, and for Boulez, at bottom there persists a priority of the composer, neutrally utilizing technology and sound for the development of a predetermined compositional programme. For Schaeffer, on the contrary, a demand for experimentation in music and the availability of new technological means provides an exceedingly rare opportunity to produce a break with the musical past.

Indeed, in Schaeffer's eyes music had developed since Bach without a "real revolution", and several centuries had passed exploring the terrain opened up by the development of equal temperament.[210] The radicality of Schaeffer's experimental approach is his absolute refusal of the notion that this long history of the development of a complex musical language could be adequate to the new form of music emerging through the use of electronic technologies – traditional music, as noted in Schaeffer's list of ironic 'facts' about music to be minimized by experimental practice, is "contained in the symbols of the solfège", while experimental music is concerned with "those sonorities which, being too complex and new, escape such a system of notation".[211] This is not to say that *musique concrète* and Schaeffer's musical theory and methodology in general rejects abstraction in the realm of music – as Boulez and Stockhausen among others

[209] Quoted in Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 553.
[210] Schaeffer, *In Search of a Concrete Music*, 124.
[211] Schaeffer, "Vers une musique expérimentale," 11-13.

suggested, criticizing the 'empiricism' and 'anarchy' of concrete procedures[212] – but rather that Schaeffer sees an increasing need to redefine the relation between the abstract and the concrete. The radicality of Schaeffer's gesture towards the inadequacy of traditional notation is exceeded still by his resistance to applying any new language with excessive haste, but a desire to reach a degree of formal practicability, a model of deciphering sound objects,[213] emerges across his early journals, and ends with a preliminary attempt at a vocabulary towards a theory of concrete music. The experimental approach, then, comes down to approaching sound without a preordained understanding of the language of music, and is resistant towards new languages and forms ossifying into bare abstractions, but what emerges across Schaeffer's journals and into the early 1950s is a picture of experimental music that is ultimately not antithetical to the notion of musical language.

While a resistance to the fixing of *musique concrète* persists even afterwards, it appears that a gradual shift in Schaeffer's approach to experimentation is being indicated here, whereby 'experimental' seems to take on a different sense, and away from prior resonances with Cage's perspective, to one now internal to the specific practice of *musique concrète*. By 1957, in his 'Lettre à Albert Richard', Schaeffer's notion of the experimental appears to have moved away from a plurality of complementary practices under the banner of experimental music,[214] towards rather a "synthesis of different efforts",[215] but a lack of appreciation for those musical practices taking place outside of the GRMC is hinted at in the 'Vers une musique expérimentale' text, where Schaeffer is critical of both the serialism which had been his target for several years but also, it appears, of Cage's prepared piano and his recent turn to chance[216] – "[t]he Americans, dynamic and naïve, put their pianos out of gear and apply to composition (somewhat

[212] Michel Chion, *Guide des objets sonores: Pierre Schaeffer et la recherché musicale* (Paris: Institute National de l'Audiovisuel/Chastel, 1983), 40.
[213] See Schaeffer, *In Search of a Concrete Music*, 91.
[214] Schaeffer, "Vers une musique expérimentale", 14.
[215] Quoted in Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 550.
[216] This despite his own independent use of piano preparations (Schaeffer, *In Search of a Concrete Music*, 18) and his belief that the prepared piano could act as a possible transitional point between the language of traditional music and a possible language of sound objects, lying, as it does, between the means of expression of the traditional language – the keyboard – a world of sonic material exceeding this language (Schaeffer, "Vers une musique expérimentale," 20).

rashly) the laws of probability"[217] – and to international practices of electroacoustic and electronic music, such as, but not restricted to, *elektronische Musik*.

Amidst these discussions, Schaeffer locates what he determines to be four common points uniting experimental research practices. There is a certain degree of broadness to these points, remarking on the opening up of limited practices (such as the use of classical notation) and the necessity of general but largely undefined rethinking of the roles and relations between composer, performer, listener, and society, akin to Cage's comments in his 1974 'Future of Music'. There are, however, also 'common points' which appear to be specific to the practice and theorization of *musique concrète.* The first of these common points refers to a calling into the question of the notion of the instrument:

> Sound can no longer be characterized by its causal element, it has to be characterized by the effect only. Hence it must be classed according to its particular morphology, rather than according to instrumental provenance. It must be considered in itself. The best proof of this: once the most interesting sonorities produced by the new techniques have been recorded on tape, it is impossible to say how, and by what ensemble of procedures or instruments, they have been produced.[218]

Schaeffer's approach reveals a distinctly formal side, concerned with the internal structure of sound. This gives it some correspondence with the Cagean sound-space, but less so with those aspects of Cage's work, and that of others, which slip outside of this formal categorization, with the work of those who utilize new technologies in service of new sounds but nevertheless seek to maintain some relation, however obscure, between sound and its production, and indeed from an early stage attempt to forge new sound-outside relations rather than, more broadly, music-outside relations. We find, therefore, a tension between a plurality of practices being endorsed and a specific research programme being prioritized. The idea of an international avant-garde appears as something of a projection of the grounds of *musique concrète* – and indeed, when *musique concrète* is later determined to become more of a historical term than an ongoing musical practice, its replacement in 'experimental music' loses its syncretic

[217] Ibid., 14.
[218] Ibid., 26-27, quoted in Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 556.

qualities and begins to operate under the terms previously applied to *musique concrète*.[219]

The shift here appears quite distinct – from a pluralistic experimental procedure with a small number of broad initial critical points towards a hardened, foreclosed practice. Across this period there are hints towards Schaeffer's increasingly formalized theoretical positions regarding sound, the point at which the sound object, the nebulous problem circulating through the early journals, becomes a discrete theoretical object, the *sound object*, and through which the status of Schaeffer's experimental practice appears to undergo a significant shift.

The sound object and the formalization of experimentation

Alongside the production of a compositional approach and the refinement of an institutional scientific research programme, a third element crucial to grounding the overarching practice of *musique concrète* is the development of a theory of sound and of listening appropriate to the aesthetic and scientific redistribution of the sonic field taking place.[220] Increasingly central in this theoretical project is the notion of the 'sound object'. The term 'object' is present in Schaeffer's theorizations from their tentative earliest stages – noting, for instance, in only the third entry of his 1948 journal, that he had "started to collect objects" for use in his 'symphony of noises'[221] – but its formal figuration becomes increasingly evident in the essayistic texts published in the third part of *In Search of a Concrete Music*, written in 1952.

Here Schaeffer begins to explicate more deeply his critique of 'abstract music', arguing that classical music theory operates on a relation between two subjects – namely, the

[219] Ibid., 556-57.
[220] Invaluable in developing our reading of Schaeffer here, both technically and theoretically, has been the work of Brian Kane, Michel Chion, and Carlos Palombini, particularly Kane, *Sound Unseen*, Chion, *Guide des objets sonores*, and Carlos Palombini, *Pierre Schaffer's Typo-Morphology of Sonic Objects*, PhD dissertation (Durham University, 1993), accessed 19/09/2015, http://etheses.dur.ac.uk/1191/.
[221] Schaeffer, *In Search of a Concrete Music*, 4.

composer and the listener – and that the zone between the two, where the score or performance as something objective "independent of the subjects who have composed or who will hear",[222] remains undertheorized. By not attending to this zone, music theory, argues Schaeffer, presents only "the rules of a completely fabricated art", its analyses of structure pertaining not to structure properly (i.e. objectively) speaking, but rather only to "customary ways of packaging sound ensembles"[223] – in terms of the aforementioned critique of abstract music, the parameter-based approach organizing sound based on distinct music theoretical and acoustical categories which do not in fact pertain to the structure of sounds themselves. The implication here is that an intersubjective relation between composer and listener is posited but is rendered incoherent by a failure to consider the "gap", "a no-man's-land where nobody ventures"[224] between the two, where the musical object properly speaking lies, and to which Schaeffer directs his investigation.

Having set out this field of enquiry, Schaeffer, in a chapter entitled 'From the Object to Language', locates his starting point for exploring it by quoting from Paul Valéry:

> Looking at this seashell, in which I seem to see evidence of 'construction' and, as it were, the work of a hand not operating by 'chance,' I wonder: *Who made it?* […] But soon my question changes. It penetrates further into the recesses of my simplicity, and now I strive to find out how we know that a given object is or is not made by a man?[225]

The theme of the seashell appears early in Schaeffer's project, in the 1944 radio essay *La coquille à planètes.*[226] In this piece Schaeffer intends to turn the "obvious analogy" between the seashell and the ear "inside out and outside in", to complicate the relation between the shell, the equally shell-like form of the loudspeaker, and the ear of the

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[222] Ibid., 132.
[223] Ibid., 133.
[224] Ibid., 132.
[225] Paul Valéry, "Man and the Sea Shell," in *Paul Valéry: An Anthology*, trans. Jackson Mathews, ed. James R. Lawler (London ; Henley: Routledge and Keegan Paul, 1977), 118, translation modified; quoted in Schaeffer, *In Search of a Concrete Music*, 147.
[226] On the radio essay format, see Martial Robert, *Pierre Schaeffer: des Transmissions à Orphée: Communication et Musique en France entre 1936 et 1986* (Paris: L'Harmattan, 1999). Cage also had an early interest in the format of broadcast radio, but drifted away from the idea after the underwhelming response to his first such work, *The City Wears a Slouch Hat*, produced with the poet Kenneth Patchen and broadcast on CBS in 1942 (Silverman, *Begin Again*, 47-50).

listener beyond an equivalence bound up in unaltered transmission – a neglect of the listening ear in favour of a focus on the loudspeaker. The act of listening to the seashell itself undermines the passive, everyday form of behaviour associated with listening to radio transmissions. Schaeffer expands on this theme in a text from the same year, 'Sur l'expression radiophonique'. Here he presents the childhood experience with the seashell as almost an epiphany in the vein of Cage's experience in the anechoic chamber. The standard scientific stance on the shell, as Schaeffer posits it, reduces the 'ocean' sound the listener hears when putting the shell on his or her ear to a form of equivalence, the shell drawing the listener's attention only to the circulation of blood in the ear.[227] The simple act of listening to the seashell, however, brings to mind a more profound resonance between the circuit of ear, shell, body, world, something reducible to neither only subjective experience nor only objective fact.

Schaeffer's 1952 reading of Valéry's 'Man and the Sea Shell' closes in on this question further – by positing a dynamic between an in some sense mysterious object and the possibility of its making, Schaeffer begins to develop the implications for the subjectivity of listening, the objectivity of sound, and the relation between the two. Many aspects of Schaeffer's reading appear quite obscure, so it will be useful to first turn to Valéry. Valéry's text concerns the reaction of the mind to its encounter with natural forms, less so the "common disorder of perceptible things" than to "privileged objects", "a *crystal*, a *flower"* and, the focus of the following pages, "a *sea shell*".[228] For Valéry these kinds of objects compel us to think on account of a fundamental tension between our understanding of them as formed objects, structured objects that we could conceive of making, and an irrecoverable mystery behind the forces of their formation.[229] As Schaeffer interprets this there is, in this compulsion to think, a sense of the object having a voice, an expression of a tensile relation between the disparate

[227]Pierre Schaeffer, *Machines à communiquer: volume 1, Genèse des simulacres*, (Paris, Éditions des Seuil, 1970), 90. While this understanding of the shell-ear relation was, and remains, a common one, it had already been the case for several decades that scientific understanding was closer to Schaeffer's perspective and took environmental resonance to be the key to the sounds of the shell. See Stefan Helmreich, "Seashell Sound," in *Cabinet* 48 (Winter 2012/13), accessed 18/09/2015 - http://www.cabinetmagazine.org/issues/48/helmreich.php.
[228] Valéry, "Man and the Sea Shell," 112.
[229] Ibid., 113.

realms of the mind and the outside world – "the miracle of concrete music, which I am trying to get across to my interlocutor, is that in the course of experimentation, things begin to speak by themselves, as if they were bringing a message from a world unknown to us and outside us".[230] There is an increasing interest in precisely the *objectivity* of the object – against any notion of the sound object as merely a "human phenomenon".[231]

Schaeffer suggests that Valéry here lays out two mindsets with regards to an object (the comparison between seashells and sound objects is, says Schaeffer, "perfectly adequate"[232]), dependent on whether or not the observer is a specialist in the objects in question. To the uninitiated, the object is a mystery, striking them as unexpected, unforeseeable by the imagination. To the informed mind, on the contrary, the object is seen as something which holds a certain form, despite its complexity a certain understanding of its existence, of how it could be made, is approached. This element of the unexpected and unforeseeable, however, appears only as one moment in Valéry's text, and Schaeffer's emphasis on it is telling with regards to the broad scope of his argument. Schaeffer here is aligned with what in Valéry leads Gaston Bachelard to describe the latter as "essentially Cartesian",[233] namely a geometric form of clear and distinct understanding of the objects we perceive. For Bachelard the ambiguity in Valéry's thought, between the "original vortex"[234] of life that is responsible for formation and beyond human understanding, and the Cartesian belief that "all genuine knowledge reduces itself to what one sees and what one has power over",[235] ultimately settles on the latter – the concern with formation, of *genesis*, serves only to precede what Bachelard calls a "museum of forms", not valuable in itself but rather opening a path, however endless, towards a systematic understanding of the mind.

Here we see an immediate alignment between Schaeffer and the Cartesian image of thought outlined in our previous chapter, but more must be extracted from this

[230] Schaeffer, *In Search of a Concrete Music*, 91-92.
[231] Ibid., 133.
[232] Ibid., 147.
[233] Gaston Bachelard, *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1969), 106.
[234] Ibid.
[235] Valéry, "Man and the Sea Shell," 126.

understanding of the sound object as object. Schaeffer ties this into the question of language by turning again to his critique of abstract music, through a comparison between the seashell and the marble. Against the complexity of seashells, marbles represent the units – notes – of classical music, their commonality and simplicity allowing for their easy organization – "in piles, in staggered rows, in nice rhythmical series" – while seashells prove "too complicated and disparate" for this kind of ordering. This apparent simplicity of the note relies on what Schaeffer terms "musical rhetoric" – namely the fact that classical music has a language, and more precisely, suggests Schaeffer, a prose language. Following Valéry, the question of language does not arise immediately on the encounter with the object, and, says Schaeffer, "we would do well to stop here for the time being".[236] Schaeffer posits a tension between the a decisive listening subject, "the importance of considering music in its subjective reality",[237] and a kind of autonomy of sound which appears to elude any simple categorization, reminiscent of Cage's 'discovery' of a subjective inadequacy in the face of unintentional sound:

> the object forces us to listen to it, not by reference, but just as it is, in all the reality of its substance. As it doesn't say much, and certainly not what we would like it to say, once we have heard it, it makes us fall silent. In this silence we perceive new disturbances.[238]

What had been construed as musical listening, then, is in fact no real kind of listening at all.

As Schaeffer has seen it there have traditionally been two poles of critique in the study of music and sound, the first, on the side of the subject, a linguistic, relativistic conventionalism, the second, on the side of the object, a scientism[239] – both tendencies at play in serialism and in particular its electronic manifestations. For Schaeffer the complexity of the sound object demands not a prose language but a poetics,[240] the form of which is not yet known to us but which can begin to emerge once the sound object

[236] Schaeffer, *In Search of a Concrete Music*, 126.
[237] Ibid., 165.
[238] Ibid., 165.
[239] Ibid., 158.
[240] Ibid., 149.

has become "a proper subject for inquiry, that is, for analysis and experimentation",[241] and it is through this that Schaeffer believes, in a telling remark anticipating the direction ahead, that the "intrinsic" rather than conventional relation between subject and object can be discovered.[242]

After mapping out a research programme towards a musical poetics in opposition to either linguistic or scientistic formulations of music and sound, the closing pages of *In Search of a Concrete Music* come as a surprise. Schaeffer begins his 'Outline of a Concrete Music Theory' with 'Twenty-five initial words for a vocabulary' – a glossary of simply-defined features and procedures of any concrete music, from 'extract' to 'cell' to 'montage'. This is then supplemented with an acoustical account of the characteristics of the sound object, mapping out in great detail its various wave characteristics projected onto a musical structure of harmony, melody, and dynamics. There is, perhaps, something of a tactical and tentative aspect to this, a juxtaposition of two types of taxonomy such that their tensions reveal something of the space between the two, but there seems also a closure of possibilities, which will come to be articulated through the search for this "intrinsic" relation.

Phenomenological grounding

After the period of intense experimental productivity from 1948 to 1953, Schaeffer published little for a period of over a decade, until his extensive *Traité des objets musicaux* in 1966, followed by 1967's *Solfège de l'objet sonore*, a book and illustrative set of recordings compiled with fellow GRM member Guy Reibel. In these texts Schaeffer seeks to give a detailed theoretical grounding for a new musical practice, borne of the experimental process that took place over the turn of the 1950s. While *In Search of a Concrete Music* ends with surprising certainty, there nevertheless appear several theoretical paths which could have been taken by Schaeffer. One such path appears to be characterized by Schaeffer's reading of Maurice Merleau-Ponty, an aspect

[241] Ibid., 158.
[242] Ibid., 161.

emphasized by readers including Michel Chion in his authorized *Guide des objets sonores*.[243]

It is not clear whether Schaeffer had directly encountered phenomenology at the time of *In Search of a Concrete Music*, and many of the themes he finds in Valéry he later recasts in entirely Husserlian terms, but there are hints of Merleau-Pontyan approach and, as Makis Solomos notes, it was most likely Merleau-Ponty's *Phenomenology of Perception*[244] that introduced Schaeffer (as it did many others of his generation) to phenomenology.[245] This aspect of Schaeffer's thought can be heard in numerous passages in his early writings, the connection to Merleau-Ponty yet known or not, particularly through his references to the primordial and bodily aspect of hearing[246] – where he speaks of how "instruments of flesh, irrigated by our blood, maintained by the sweat of our brow, are capable of a symbolism of sensations more strange than the symbolism of language",[247] or his discussion of a "whole body involved in the stimuli of his ear", of "muscular states of mind" which cannot be captured by "rational rhythm".[248] Indeed, there appears at points in the texts of the 1950s to be a fledgling materialist rationalism of sorts, a fleshly suturing of listening subject and sound object through which understanding can occur.

While these resonances with Merleau-Ponty indeed persist throughout the *Traité*, here, however, we will follow Brian Kane in arguing that the fundamental theoretical grounding for Schaeffer's late theory of the sound object comes through Husserlian phenomenology, and later suggest that this move closes off aspects of what could have been a Merleau-Pontyan understanding of the sound object. While the intimations of a distinctly phenomenological project, be it Merleau-Pontyan or Husserlian, are present in

[243] Chion, *Guide des objets sonores*, 32.
[244] Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (London ; New York: Routledge, 2012).
[245] Makis Solomos, 'Schaeffer phénoménologue,' in *Ouïr, entendre, écouter, comprendre après Schaeffer* (Paris: Buchet/Chastel-INA/GRM, 1999).
[246] In the four-fold division of hearing in the *Traité* this aspect is rendered as *Ouïr*, and while its Merleau-Pontyan resonance remains, Schaeffer dedicates little time to it, focusing instead on the aspects of hearing defined in terms of intentionality.
[247] Schaeffer, *Machines à communiquer*, 91.
[248] Schaeffer, *In Search of a Concrete Music*, 159.

the early writings, albeit still suffused with the experimental and critical outcomes developed through the early journals, by the time of the *Traité* Schaeffer had developed a theory grounded on a single procedure with a specifically Husserlian origin, namely the *acousmatic reduction*.[249]

With the acousmatic reduction Schaeffer brings together two terms of philosophical origin, 'acousmatic' derived from a group of Pythagoras' disciples, the *akousmatikoi*, and 'reduction' from Husserlian phenomenology. The Neoplatonist philosopher Iamblichus presents the most detailed early depiction of the practices of the *akousmatikoi* in his *De vita pythagorica*, recounting their practice of listening to Pythagoras' teachings while he himself remained hidden from view behind a veil. The presentation was intended to separate the spoken presentation of the teachings from their accompanying physical demonstrations, which the *akousmatikoi* understood to impose an external order on the auditions as spoken.[250] The use of the term by Schaeffer draws from but also elaborates on this original account.[251] Michel Chion, in his authorized guide to Schaeffer's *Traité des Objets Musicaux*, notes that from the Greek term the word 'acousmatique' transferred into French, as an adjective meaning "indicating a noise which is heard without the causes from which it originates being seen".[252] It remained little used, however, until Schaeffer and author Jérôme Peignot adopted it to describe the listening situation with which *musique concrète* is concerned.

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[249] While there are some who dismiss the theoretical integrity of Schaeffer's thought – as in Bastien Gallet's argument that Schaeffer "only modifies our relationship with the world technically" (this deriving from Gallet's conflation of acousmatics and reduced listening) (Bastien Gallet, "Techniques électroniques et art musical : son, geste, écriture," in *Revue des musiques populaires* 1:1 (2002): 22), or Jean-Jacques Nattiez's accusation of "pseudo-philosophical padding" (Jean-Jacques Nattiez, *Fondements d'une semiologie de la musique* (Paris: Union Générale d'Éditions, 1975), 10 – a position he seems to soften by the time of *Music and Discourse: Towards a Semiology of Music*, trans. Carolyn Abbate (Princeton, N. J.: Princeton University Press, 1990), chapter five) – here I do not wish to defend in detail Schaeffer's interpretation of and use of Husserlian phenomenology (although I agree with Solomos in believing that Schaeffer's use of Husserlian phenomenology is, while simplified, coherent and productive with regards to its task) but rather only to show that there are significant connections in methodological structure between the two.

[250] Iamblichus, *Life of Pythagoras or Pythagoric Life*, trans. Thomas Taylor (London: J.M. Watkins, 1818), 42.

[251] Brian Kane dissects the 'myths' surrounding the accounts of the *akousmatikoi* that Schaeffer, François Bayle and others associated with *musique concrète* offer – *Sound Unseen*, chapter two.

[252] Chion, *Guide des objets sonores*, 18.

The historical situation brought about by sound recording and reproduction technologies allowed for an expanded recognition of the acousmatic situation, an opening to a form of listening which, Schaeffer suggests, is not new (for it is the same listening situation as that of the *akousmatikoi*), and not uncommon, but which had not yet been theorized – as Schaeffer notes, "once, the apparatus was a curtain; today, the radio and methods of reproduction place us, modern listeners to an invisible voice, under similar circumstances".[253] Sound transmitted through radio provides an initial step in bringing about awareness of the possibility of listening being directed towards sounds with no known cause, and the capacity to alter sound electronically and eliminate their anecdotal implications expands the acousmatic situation out towards a generalized acousmatic *experience*, whereby technology renders possible a separation of the senses, or more specifically an isolation of sound broadly speaking from the audiovisual complex to which it belonged, and orients listeners towards a way of hearing concerned with "giving oneself over entirely and exclusively to listening"[254] – a type of listening which Schaeffer will term 'reduced listening'.

This indicates one aspect of the necessity of viewing Husserlian phenomenology, rather than any other approach, as fundamental to Schaeffer's theory. The acousmatic situation in itself does not imply any particular reading – there is a specificity to Schaeffer's interpretation and extrapolation of the acousmatic situation which does not allow for the easy conflation of the acousmatic experience and reduced listening often found in readings of Schaeffer.[255] For Schaeffer this connection cannot be taken as a given – while the acousmatic situation in which sounds are separated from their sources creates the conditions for acousmatic experiences, the Pythagorean veil as a tool for isolating and exploring the world of sound is not in itself adequate – as Schaeffer says, "Pythagoras' curtain is not enough to discourage our curiosity about causes to which we are instinctively, almost irresistibly drawn"[256] – so their connection must be theorized otherwise. Reduced listening, then, takes place as an intentional procedure oriented

[253] Schaeffer, *Traité des objets musicaux*, 91.
[254] Ibid., 98.
[255] See Kane, *Sound Unseen*, 37.
[256] Schaeffer, *Traité des objets musicaux*, 93-94.

towards understanding the formal characteristics of the kinds of experiences that the acousmatic situation renders possible but not necessary.

From this stems the *necessity* of a disengagement from what Husserl terms the "natural attitude" – the belief that there is a "factually existing" world "out there",[257] that things in the world, from physical objects to logical laws,[258] exist independently of us – so as to allow for the experience of perception itself to be grasped

> at the same time as the object which it presents to me. And then I realize that it is in my experience that the transcendence [of the object in relation to the changing flux of the different ways it is perceived] is constituted.[259]

By separating hearing from the other sensory modalities Schaeffer extends the Husserlian 'anti-natural' step, taking it as necessary for reifying the sonic effect as object rather than event and as such for understanding sound-in-itself – disregarding the physical causation of a given sound so as to posit the sonic effect as an autonomous object. We have come to understand various characteristics of the sound object as progressively and improvisationally determined by Schaeffer through his experimental research, characterized in the passage from sound *fragments* drawn from a whole to objects considered as "discrete and complete" in themselves,[260] but it is ultimately Husserlian phenomenology which provides the tools for a formal and systematic definition.

For Schaeffer the reduction allows for an approach which takes an intermediary position between two extreme poles in the theorization of sound, namely the natural attitude of an objective science of acoustics and, again, the subjective projection of music theory onto sound matter. As Kane presents this move, "[l]istening becomes a sphere of investigation containing its own immanent logic, structure, and objectivity".[261] In this

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[257] Edmund Husserl, *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy: first book* trans. F. Kersten (Dordrecht: Kluwer Academic Publishers, 1998), §30.
[258] Ibid., §59.
[259] Schaeffer, *Traité des objets musicaux*, 267, quoted in Chion, *Guide des objets sonores*, 31.
[260] Schaeffer, *In Search of a Concrete Music*, 14.
[261] Kane, *Sound Unseen*, 24.

respect the theoretical grounding of Schaeffer's early writings, namely his critique of abstract music – developed in *In Search of a Concrete Music* through a series of intuitive and experimental leaps drawing from a number of conceptual sources is – is given an ontological status through which it can be recast in a Husserlian context. The critique of abstract music, from a starting point of positing it as an abandonment of music's concrete grounding and instantiation in favour of a formal theoretical framework, is positioned to echo Husserl's transcendental critique of the Kantian deduction of the transcendental categories we find in *Logical Investigations*. Husserl here argues that Kant's deduction fails to adequately account for the "deep difference between intuition and signification",[262] and as such that the categories cannot serve as the condition of intuition as intended.

More precisely, for Husserl there is, derived from the Kantian critical project, a general confusion regarding the distinction between intuiting and thinking, which results in a misunderstanding of the distinctions between not only intuition and signification, but in turn between sensuous and categorial intuition, inadequate and adequate intuition, and individual intuition and universal intuition. Kant's inquiries lean heavily towards explaining both terms of these pairings through the latter aspect, emphasizing the logical function of intuition at the expense of "pre-logical objectivation", that is to say, the manner in which objects are given to intuition. This givenness, on the contrary, stands as a conditioned part of the critical apparatus which is nevertheless taken as conditioning. This enquiry into givenness was also at the root of Schaeffer's objection to music theory and is borne out earlier in his reading of Valéry – the seashell was representative of a kind of objective givenness which could not be thought solely through a pre-given critical apparatus such as that of music theory – and as such we begin to see a more precise theoretical alignment between Schaeffer and Husserl's procedure of transcendental critique with regards to music theory and Kant, respectively, and that laid out through Cage and Deleuze in our previous chapter.

Husserl's critique of Kant turns on the same problem as that of Deleuze, and through

[262] Husserl, *Logical Investigations, Volume II*, §66.

this Husserl plays a significant role in the articulation of Deleuze's transcendental empiricism, particularly in its projection from *Difference and Repetition* into *The Logic of Sense*, insofar as Husserlian phenomenology stages an attempt to recast transcendental philosophy without a denigration of experience or the matching of a conditioned to its condition. Setting Schaeffer's response to abstract music in this light clarifies the structural connections between his critique, his practice, and his theory, in the latter instance particularly in his formulation of the sound object. In chapter 15 of the *Traité*, entitled 'The Reduction of the Object', Schaeffer makes explicit this adoption of phenomenology as a means to theorize his development of the sound object, and turns to Husserl in order to determine the conditions for the recognition of the object's very objectivity, insofar as the object sustains a unified existence underneath the stream of lived particulars. Writing of the 'transcendence of the object', Schaeffer moves through Husserl in order to ask a question which formalizes his many paths of enquiry with regards to the sound object – "What are the conditions which permit the recognition, for us and for others, of *objectivity*?"[263]

Schaeffer begins this exposition by considering a "well-known passage" from Husserl's *Ideas*, in which Husserl considers the relation between a table and its perception. In this passage Husserl discusses viewing a table, walking around it, seeing it from different positions in space, throughout which "I have continually the consciousness of this one identical table as factually existing 'in person' and remaining quite unchanged"[264] – a self-identicality of the table which persists despite changing perceptions, even periods of no perception such as during the closing of one's eyes. Perception, says Husserl, is a "continuous flux", despite the perceived thing remaining the same. It is for this reason that the perceived thing, the object, "and all its parts, aspects, and phases", is considered 'transcendent' to perception. Schaeffer's notion of the 'transcendence of the object' follows precisely – the intended object is not found immanent to the stream of perceptual states which Husserl will call adumbrations, but rather in an act of synthetic

[263] Schaeffer, *Traité des objets musicaux*, 263. The "and for others" element of this will pose problems for Schaeffer, Husserl, and phenomenology more broadly speaking, under the general question of accounting for intersubjectivity.
[264] Husserl, *Ideas*, §41.

constitution. As Schaeffer describes it, again following the terminology of Husserl, "the object perceived is no longer the cause of my perception. It is 'the correlate'".[265]

Here Schaeffer and Husserl pose the (sound) object as a response to those approaches which posit a simple isomorphic or causal relation between subject and object, the object neither as given stimulus nor categorization. In this vein, Husserl's development of his critique of Kant after *Logical Investigations* centered precisely on a displacement of the question of self-givenness, in which it is not the object that is self-given, but rather a fundamental form of consciousness itself – it is the transcendental ego, as absolute consciousness, which is self-given to itself, and which in turn makes possible the givenness of objects. Against the natural attitude of a world 'out there', what the phenomenological reduction attempts to reveal is the nature of objects as correlates of consciousness – that is to say, what stands as transcendent to consciousness in the natural attitude becomes, as a correlate of consciousness, immanent-to-consciousness, and a detached transcendence is redefined as transcendence-in-immanence, allowing us what Husserl deems the only route towards "an objectively valid knowledge of something transcendent".[266] The transcendence of the object then pertains, for Schaeffer as for Husserl, to its status as reducible to neither its objectivity nor its subjective perception, but to its ambiguity as "an objectivity linked to a subjectivity".[267]

After the phenomenological reduction, then, the object of knowledge is no longer an external object, but rather what Husserl comes to term the noematic correlate. This offers, to return to Husserl's critique of Kant, a means of gaining knowledge of an object without falling into a state of infinite regress, in the form of an oscillation without adequate relation between the relation between subject and object. This can also be understood as the paradox of sense, whereupon sense can only exist in its own sphere and as such will only coincide with itself, as it can never, as described in Deleuze's consideration of the 'paradox of regress',[268] coincide with the transcendent object –

[265] Kane, *Sound Unseen*, 21.
[266] Husserl, *Ideas*, §97.
[267] Schaeffer, *Traité des objets musicaux*, 97.
[268] Deleuze, *The Logic of Sense*, 28.

were the two to coincide we would again find a point of presumed identity between condition and conditioned. The noematic correlate, on the contrary, provides a point between the immanent subject and the transcendent object such that understanding can occur through immanence-in-transcendence, with the particular subject-object relation being replaced by what Husserl calls the noema.

As such the noema is neither subject or object, but rather takes a neutral position with regards to both – it is only productive insofar as it serves as an expression of sense that does not fall into regress. As Husserl notes, in a passage quoted multiple times by Deleuze, "its productivity, its noematic service, exhausts itself in expression".[269] Through the phenomenological reduction there is a shift from causal relations towards what Deleuze terms "double causality",[270] by which the object is not reduced to either subjective or objective operations but understood through its immanence to the field of sense – "sense is the characteristic discovery of transcendental philosophy".[271] For this reason Deleuze asks if in phenomenology we have, in the terminology of *The Logic of Sense*, a "rigorous science of surface effects",[272] phenomenology deployed as that which in a transcendental empiricism withholds foreclosure into either subjective or objective realm.

However, Husserlian phenomenology ultimately does not satisfy Deleuze, and one aspect of why is a fundamental question which appears to remain undeveloped in our discussion of Husserl and Schaeffer so far – why, after all, are we discussing objects? Schaeffer comes to this term in a seemingly improvisational and somewhat arbitrary manner in the course of his musical experimentation, yet by the time of the *Traité* is has become a seemingly ontologically grounding. Indicated here is the strongest marker of why Schaeffer's theory in the *Traité* is specifically Husserlian, and where the distinctness of Schaeffer's formulation of the relation between the acousmatic situation, acousmatic experience, and reduced listening lies. While acousmatic experience could

[269] Husserl, *Ideas*, §124; Deleuze, *Difference and Repetition*, 322n18; Deleuze, *The Logic of Sense*, 32.
[270] Deleuze, *The Logic of Sense*, 94.
[271] Ibid., 105.
[272] Deleuze, *The Logic of Sense*, 21.

have been thought of otherwise, Schaeffer makes the move to bind together a theory of acousmatic experience with a theory of the sound object precisely by supplementing the original acousmatic reduction with what Husserl terms the *eidetic reduction.*[273]

The eidetic reduction is used to bring to the fore precisely 'the objectivity of the object', a reality grounded in the fact that "it endures through these changes"[274] – grounding the object as object, the object in its objectivity. For Husserl, the eidetic reduction starts with the arbitrary selection of an object and extraction of it from its context to act as "a point of departure for the production of an infinitely open multiplicity of variations".[275] In imagining these variations through the technique of 'imaginative free variation', argues Husserl, it becomes "evident that a unity runs through this multiplicity" – that "an *invariant* is necessarily retained". Husserl uses the table again as an example of this procedure – we start with the perception of a table and consider how this perceptual object could be different – in shape, in colour – through which we come to understand that which is invariable in its objectivity – that is, its *essence* as an object.[276]

The act of imaginative free variation also indicates an important aspect of the initial bracketing of the world – there is no meaningful distinction to be found between perception and imagination. In this we see the basis of Schaeffer's solution to the tension between subject and object that has run through his theorizations of sound and listening – no longer is there a question of a subject's distortion of external reality, nor of a subjective fiction imposed on the outside world, but rather "hearing itself becomes the origin of the phenomenon to study".[277] Schaeffer demonstrates this by taking examples of recorded sounds and altering it by various electronic means – that is,

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[273] Husserl, *Ideas*, §19. This aspect of Schaeffer's phenomenology is perhaps where the distance from Merleau-Pontyan reading becomes most distinct – for Merleau-Ponty the eidetic reduction can never be complete and as such the investigation into essences cannot take objects as primary, insofar as "our existence is too tightly caught up in the world to know itself as such at the point where it casts itself forth" – Merleau-Ponty, *Phenomenology of Perception*, xviii.
[274] Schaeffer, quoted in Kane, *Sound Unseen*, 32.
[275] Edmund Husserl and Ludwig Landgrebe, *Experience and Judgement*, trans. James L Churchill and Karl Ameriks (Evanston, Illinois: Northwestern University Press, 1973), §87.
[276] Edmund Husserl, *Cartesian Meditations*, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1960), §34.
[277] Schaeffer, *Traité des objets musicaux*, 92.

producing variations – through which, Schaeffer suggests, the listener will nevertheless hear one and the same sound object, its essence present across the variations.

Critique and consequences of the phenomenological sound object

With this the characteristics of the sound object, threaded through Schaeffer's theoretical development with varying degrees of obscurity, become more precise. A sound object is neither a piece of empirical data, nor is it a subjective fiction – it is rather, aligned with Husserl's noema, an ideal object possessing invariant features which are identified through synthetic mental acts which, by imagining it in variation, discloses that which is essential. Elements of the precise operation of the sound object as noema, however, remain unclear. As Paul Ricoeur notes in his influential *Husserl: An Analysis of His Phenomenology*, the noema's relation is intended to constitute a "sense-intending-a-being", in relation to the central question of Husserl in *Ideas I* of, quoting Ricoeur, "bringing the theme of sense-giving (*Sinngebung*) into coincidence with the theme of self-givenness (*Selbstgegebenheit*)".[278] This is to say, the place of the noema is to come into coincidence with the self-givenness of an object at the same time as it comes into coincidence with a self-given consciousness, or, using Schaeffer's terms, how the listener and sound as perceived can have a relation amounting to a single procedure of identifying the sound object. How this coincidence can take place remains ambiguous throughout Husserl's writings, with two leading strands of interpretation with regards to the noema, which, adopting Hubert Dreyfus' terminology, can be named 'concept theory' and 'percept theory'.[279] Put simply, concept theory, to which interpreters including David Woodruff Smith subscribe, argues that the meaning of noema falls within the linguistic sphere[280] – a hypothesis which takes the noema away

[278] Paul Ricoeur, *Husserl: An Introduction to his Phenomenology*, trans. Edward G. Ballard and Lester E. Embree (Evanston, Illinois: Northwestern University Press, 1967), 105.
[279] Peter M. Chukwu, *Competing Interpretations of Husserl's Noema: Gurwitsch Versus Smith and McIntyre* (New York: Peter Lang Publishing, 2009), 74.
[280] Most thoroughly developed in David Woodruff Smith, *Husserl* (London ; New York: Routledge, 2007). Smith's emphasis on the mereological character of Husserl's thought goes some way towards resisting the one-sided characterization, but nevertheless with an ontological commitment to abstract and ideal entities, in some respect timeless, Husserl's resistance to the label of Platonism seems somehow unearned. Smith

from the world and towards its abstract, conceptual understanding, as the content of a positing consciousness rather than an actual object in the world,[281] and as such opens Husserl again to the threat of the paradox of regress. Percept theory, on the other hand, most prominently put forward by Aron Gurwitsch, places the noema on the side of the perceptual object, but ultimately at the expense of the validity of the transcendental ego itself ("there is no place in the body of phenomenological doctrines for the pure or transcendental ego"). Instead, the structural unity of the perceived thing receives primacy, demanding a redefinition of the role of consciousness.[282]

While the two cannot strictly be separated, it is the concept theory understanding which provides the basis for Deleuze's rejection of the phenomenological method. While phenomenology provides an exemplary articulation of the operations of the field of sense, the genetic conditions of this field remain elusive, ultimately settling back into the common sense of the transcendental ego rather than rightly speaking the genitive production of a transcendental field.[283] As Ricoeur argues, with the eidetic reduction the notion of origin "no longer signifies historico-causal genesis but rather grounding".[284] For Dreyfus it is only the concept theory interpretation which remains faithful to Husserl's project, a reading we can extend to Schaeffer – their respective projects concern a grounding of objective understanding, antithetical to the epistemologically ungrounded nominalism of objects implicit in percept theory. Indeed, despite tendencies in either direction in Husserl's thought, his ultimate orientation is always towards perception being constituted by a self-constituting consciousness,[285] but if we accept concept theory then Husserl's attempt to avoid a Kantian epistemological regress through the neutrality of the noema cannot be accounted for. Insofar as Husserl and Schaeffer are positing concept theories, they risk succumbing to the same problems as

counters (*Husserl*, 161), but somewhat unconvincingly, positing a rather simplified Platonism as his target.

[281] See Bell, *The Problem of Difference*, 80.

[282] Aron Gurwitsch, *Studies in Phenomenology and Psychology* (Evanston: Northwestern University Press, 1966), 291, 341.

[283] Deleuze, *The Logic of Sense*, 97. See also Jean-Paul Sartre, *The Transcendence of the Ego: An Existentialist Theory of Consciousness*, trans. Forrest Williams (New York: Noonday, 1972).

[284] Ricoeur, *Husserl*, 146.

[285] See Bell, *The Problem of Difference*, 82.

their respective points of critical departure – namely Kant and classical music theory. What we would like to suggest, however, is that the concept theory reading occludes a fundamental problematic which animates Husserl's and Schaeffer's projects, and that in their respective works a more subtle distinction emerges from an ultimately irreducible tension between concept and percept interpretations of the noema and sound object, respectively. This will allow us to more precisely locate the philosophical and musical problematics being explored, and situate Husserl and Schaeffer within these unfolding explorations.[286]

In Schaeffer's case, the tensions between concept and percept, essentialism and nominalism, music and noise and so on eventually, as he sees it, overwhelm his project. Interviewed shortly before his death, Schaeffer argues that music "has to find a compromise and an evasion at the same time" with regards to its two sources of sounds, namely noises and instruments.[287] The former are circumscribed by their association with the moments of the everyday, the latter by the weight of music theory, and neither attain an adequate level of objectivity – a tension which, in another contemporary interview, Schaeffer is resigned to deeming irresolvable, *musique concrète* never attaining the status of music: "It took me forty years to conclude that nothing is possible outside Do-Re-Mi […] In other words, I wasted my life".[288]

Despite Schaeffer's own rejection of the musical value of his project, a quite different interpretation is possible. Brian Kane argues that the sound object, contrary to Schaeffer's claims and his aspirations for *musique concrète* as a whole, fits perfectly adequately under the terms of music theory. The sound object, says Kane, "re-inscribes

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[286] An interesting route of enquiry here comes through the notion that Valéry could perhaps be understood as a kind of percept theorist phenomenologist. Jacques Bouveresse's reading of Valéry's Cartesianism indicates a more subtle distinction which is obscured in the path Schaeffer takes, namely that Valéry's 'system' is one in which the mind is only understandable in transformations – see Jacques Bouveresse, "Philosophy from an Antiphilosopher: Paul Valéry," in *Critical Inquiry* 21:2 (Winter, 1995): 379. The turn to concept theory is ultimately a turn to language, a turn which was being resisted in the engagement with Valéry. As such the interest in Valéry indicates an interest in this more unstable form of rationalism, one which gives primacy to the voice of its object, but which is somewhat buried under the Husserlian model.

[287] Quoted in Kahn, *Noise, Water, Meat*, 110.

[288] Ibid.

the ideality that was previously attached to the note".[289] Following a concept theory reading of Schaeffer, the sound object is oriented away from its materiality, heard *in* sounds but distinguishable from them in their sounding, and towards an ideal stability grounding a method of compositional intentionality.[290] With the sound object musical material is not *produced* but rather, like the note of music theory, preexists and presents itself to compositional intentionality.[291] As such Kane argues that Schaeffer is, far from breaking with the history of functional harmony and starting with music anew, in fact reinserting himself into an unbroken "lineage of musical phantasmagoria", regrounding it as an attempt to give it the ideality of form which Pater or Kandinsky would ascribe to its romantic model.[292]

We have an image of music still tied up in the kind of conceptual formalism that moved through Rameau, Kant, and Greenberg – see Douglas Kahn's argument that the moves of Russolo, of Varèse, of Schaeffer, and of Cage alike 'liberate' sound only to bring an increasingly greater span of it under the conceptual rubric of 'music',[293] an inclusivity which renders it ever more exclusive in its functioning as a medium-specific art form.[294] How, then, do we make sense of Schaeffer's declaration of the musical failure of his project? Moreso, how do we account for those comments on and critiques of *musique concrète* which find an ineliminable extra-musical element in its use of 'found' rather than synthesized sounds, from Roger Maren, whose 1955 outlining the different

[289] Kane, *Sound Unseen*, 34.
[290] Hence Roger Scruton being able to borrow Schaeffer's concept of acousmatic experience to ground a conservative aesthetics of music – Roger Scruton, *The Aesthetics of Music* (Oxford, Oxford University Press, 1997), 2.
[291] While we will suggest that this unbinding of the sound object from sound as sonorous and material is not as complete as Kane renders it, readers like Seth Kim-Cohen or Christoph Cox who, from different critical perspectives, credit Schaeffer with an interest in "sound-in-itself" as a material essence (Seth Kim-Cohen, *In the Blink of an Ear: Towards a Non-Cochlear Sound Art* (London: Bloomsbury, 2009), 126 ; Christoph Cox "Wie wird Musik zu einem organlosen Körper? Gilles Deleuze und experimentale Elektronika," in *Soundcultures: Über digitale und elektronische Musik*, ed. Marcus S. Kleiner and Achim Szepanski (Frankfurt: Suhrkamp Verlag, 2003), accessed 18/09/2015 http://faculty.hampshire.edu/ccox/Cox-Soundcultures.pdf) have equally obscured elements of Schaeffer's theory – just as the Husserlian return to 'things themselves' is not a reification of the thing-in-itself as such, nor can Schaeffer be valorizing an unhindered notion of sound-in-itself.
[292] Kane, *Sound Unseen*, 10
[293] Douglas Kahn, "Track Organology," in *October* 55 (Winter, 1990): 68. We also find this argument made regarding Russolo and Schaeffer in in Solomos, "Bruits « entonnés » et sons « convenables » : Russolo et Schaeffer ou la domestication des bruits."
[294] More on which in our next chapter.

approaches to tape music since its international spread suggests that in Schaeffer's work the remnant of referentiality gives us "closer to cubist poetry than to music",[295] to Boulez and Stockhausen criticizing *musique concrète* on what they present as its own terms for the persistence of anecdotal connotations in its sounds?[296]

Schaeffer's own claim that "nothing is possible outside Do-Re-Mi" is a claim that there can be no break with music theory of the sort that Schaeffer had attempted – that the language of traditional music theory *is* the language of music. A nascent element of this is indicated in Schaeffer's early reaction to Stockhausen's concrete pieces – in these pieces Schaeffer saw "two faces", one an orientation towards the future, whereby *musique concrète* had begun to form a new musical language entirely distinct from that of traditional music theory, and one an act of violence towards the past, as part of a general serialist relation to functional harmony which was solely destructive and which denied "a past I believe everlasting (that is, the reality of the scale)".[297] Schaeffer's 'failure' is therefore a paradoxical one – a failure to create a new language which is adequately 'musical' while nevertheless being entirely dissociated with music theory past. The ideal language to which Schaeffer was aspiring becomes obscured under an essentialized notion of 'music'.

A peculiar couplet of theoretical reversals take place in Schaeffer's project. First, the practical development of the concept of the sound object through diverse means leads more widely to a redistribution of the sonic field and to modes of orienting listening, before being retroactively justified by its *outcome*, in the notion of the acousmatic reduction. Second, an experimental trajectory is taken away from the field of music through the figure of sound, only to turn back to the starting point and recoil in despair when it is found that this starting point cannot accommodate where this experimentation with regards to sound has taken music. The relation between sound and source comes to

[295] Kahn, *Noise, Water, Meat*, 114.
[296] Ibid., 112.
[297] In the same late interview in which he denounces his work Schaeffer turns to Lévi-Strauss to claim for an essential structural nature to music, seemingly accepting Lévi-Strauss's critique of *musique concrète* found in *The Raw and the Cooked* – more in this our fourth chapter.

bind these reversals. While a concern with this relation permeates the early writings in various forms, and the kinds of sounds appropriate to *musique concrète* is a persisting concern for Schaeffer throughout this period (for instance in the question of whether the noise of buffers is not "first and foremost anecdotal, and thus antimusical"[298]), it is not until the phenomenological justification of the *Traité* that this question is given formal specificity.

Schaeffer defends his retroactive phenomenological theorization of his practice by suggesting that

> [f]or years we often done phenomenology without knowing it, which is better, after all, than to speak of phenomenology without practicing it. It is only after the event that we recognized in Edmund Husserl's heroically rigorous definition the conception of the object that our research is premised upon.[299]

To this extent, as we have suggested, a level of circularity enters the process, it becomes grounded in itself, opening up again to contestation at the level of transcendental critique. From here we can consider two overlapping issues which comprise the 'compromise and evasion' which Schaeffer felt with regards to music – first, the role of technology in the development of a practice of *musique concrète*, and second, the selection of suitable sonic materials for *musique concrète*.

As discussed earlier, the composition of Schaeffer's *Études de bruits* was entangled with the capacities of the radiophonic technology of the time. In this process, which led to the development of the theory of the acousmatic, Schaeffer increasingly sought to erase the referentiality of sound, as indicated by his escalating frustration – "wasted time, failures, exhaustion"[300] – as he documents trying to find sounds and a model of combination appropriate to *musique concrète.* This is the proscribed role of technology even from an early stage – to detach sounds from their context, to isolate them and make them repeatable, to help determine, through a process of experimentation and listening, how

[298] Schaeffer, *In Search of a Concrete Music*, 12.
[299] Schaeffer, *Traité des objets musicaux*, 262.
[300] Schaeffer, *In Search of a Concrete Music*, 93.

sound events can become the objects of music.[301] Much of this frustration stemmed from what Schaeffer considered the limited capacities of the technology available to him – while Pierre Henry, as current GRM director Daniel Teruggi notes, appeared to see the limitations of the machinery and the accidents caused by its unpredictable operations as a spark for invention, Schaeffer was from an early stage more inclined to view these qualities as rendering it inadequate to the realization of his ideas.[302] While Henry worked closely with the technologies at hand, all of their contingencies intact, Schaeffer inclined more towards promoting the construction of new machines to render his operations on sound simpler.[303] The divide between Schaeffer and Henry in this respect reflects a consistent question central to the early practices of the GRM, regarding the role of the composer and his or her relation to sound.[304]

Schaeffer's perspective on sound synthesis and early synthesizer technology is telling here. For Schaeffer the electronic synthesis of sounds, at least in its early form, and carrying into the use of computers in music, was antithetical to the practice of *musique concrète* and its exploration of the raw material of sound objects. Schaeffer took the synthesis of sound to imply *parametric control* – the composer would decide the value of various sound variables in advance, adding another level of compositional predetermination of sound on top of those of music theory more widely speaking. This model of the synthesis erased the role of listening, and indeed Schaeffer and the GRM would develop their own sound synthesis technologies based on typo-morphological principles, that is, such that the global whole of the sound as an object can be varied and controlled over time.[305] Synthesized sound has, for Schaeffer, two twinned problems – it

[301] Daniel Teruggi, "Technology and musique concrète: the technical developments of the Groupe de Recherches Musicales and their implication in musical composition," in *Organised Sound* 12:3 (December 2007): 213.
[302] Schaeffer, *In Search of a Concrete Music*, 94.
[303] Hence the creation of new technologies specifically purposed towards the creation of *musique concrète*, such as the keyboard phonogéne, slide phonogéne, tape recorder and spatialization desk (Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 542).
[304] See Marc Battier, "What the GRM brought to music: from musique concrète to acousmatic music," in *Organised Sound* 12:3 (December 2007): 189-202.
[305] Teruggi, "Technology and musique concrète: the technical developments of the Groupe de Recherches Musicales and their implication in musical composition," 220. It is notable that the ASDR (attack-sustain-decay-release) envelope function found on modern synthesizers, developed in 1965 by Vladimir Ussachevksy working with Robert Moog, is precisely a morphological device, even if not necessarily

is at once both all too subjective all too empirical, the synthesizer is generally not a tool appropriate to the production of *musique concrète* as its design is, for Schaeffer, perpetuating the subject-object divides he diagnoses as inherent to the tradition of classical music.

Schaeffer's persisting hesitance towards purely synthesized music, however, reflects a key feature of the sound object – that it is not to be created but to be discovered, uncovered, and if compositional intention is in play at the beginning of this process then already the capacity for the sound object to speak for itself is compromised.[306] This technological ambivalence is clarified by considering again Schaeffer's use of the Pythagorean *akousmatikoi*. The technological advances of radiophony and other music and sound technologies are important in the discovery of the concept of the acousmatic, but this discovery is a *re*discovery, one which the *akousmatikoi* had, per Schaeffer's account, known before. There is no specificity to any given technological apparatus, which rather only offer a path towards understanding that which was already essential to the sound object – the fact that certain technologies reveal this to us is attributable to these qualities of the sound object, not to individual technological devices themselves. The neutrality of Boulez's and Eimert's view of technology, as a pliable corrective to meet the composer's wishes, finds itself repeated in Schaeffer.[307] We saw this too, in a more limited form, with the childhood discovery of the sound of the seashell, and that in the early stages of the development of *musique concrète* of the sound stripped of its attack.

Common to these is what we can term the application of *myth*, as an explanatory principle, through which all chains of events are given sense. Cage's anechoic chamber experience could equally fit here – that by which the unfolding of an experimental

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used as such (Trevor Pinch and Frank Trocco, *Analog Days: The Invention and Impact of the Moog Synthesizer* (Cambridge: Harvard University Press, 2002), 59.)

[306] Carlos Palombini's argument for a strongly Heideggerian aspect to Schaeffer's views on technology points towards a promising line of enquiry on this topic. See Carlos Palombini, "Technology and Pierre Schaeffer: Pierre Schaeffer's *Arts-Relais*, Walter Benjamin's *technische Reproduzierbarkeit* and Martin Heidegger's *Ge-stell*," in *Organised Sound* 3:1 (April 1998): 35-43.

[307] Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 555.

practice is given retroactive and foreclosed sense. Deleuze's complex and contradictory take on myth is of interest here. In 'The Simulacrum and Ancient Philosophy' Deleuze poses an opposition between Nature and myth, where myth, on a trajectory taking in the origins of language, conventions of law and justice, and the development of war among much more, is the expression of a "false infinite"[308] and the force of the negative, a principle of totality and closure, opposed to the pluralism and affirmation associated with Nature, Naturalism being that by which the speculative object and the practical object of philosophy coincide.[309] On the other hand we have, in the text 'Desert Islands', another side of myth, as the basis for "beginning anew", the ingenious interpretation of that which is no longer understood,[310] or of T. E. Lawrence's projection of his own mythic image, "an image that is always stitched together, patched up, continually growing along the way, to the point where it becomes fabulous".[311] The myth that has a degree of obscurity to it persists as a source of invention, but with this comes a risk of closure, the assertion of a false totality rather than the application of an expansive diagram. We do not wish to draw any conclusions on this point yet, but this understanding of myth and its relation to the formalization of experimental processes and practices should remain in mind as we move on.

In following Schaeffer's experimental practice we have seen a number of resonances and structural connections between the development, through Schoenberg-Cage, of experimental music as an immanent procedure on the tradition of music, and hence between Cage and Schaeffer of the conceptual development of sound under a musical rubric, allied through, and to, a post-Kantian opening of transcendental critique. The two trajectories appear to conjoin, reaching their theoretical culminations in Cage's sound-space and Schaeffer's typo-morphology of sound objects, where we find a process of experimentation slowed and formalized through a taxonomical, scientistic demarcation of the field of sound which ultimately formally encapsulates both the full field of sound

[308] Deleuze, *The Logic of Sense*, 279.
[309] Ibid., 278.
[310] Deleuze, "Desert Islands," in *Desert Islands*, 12.
[311] Gilles Deleuze, "The Shame and the Glory: T. E. Lawrence," in *Essays Critical and Clinical*, trans. Daniel W. Smith and Michael A. Greco (Minneapolis, University of Minnesota Press, 1997), 118.

and of music. From this point we return to the notion of practice, and specifically, now that the theoretical terms of experimental music and sound have been developed and contextualized, to Cage's practice, to that of it which appears to exceed its formal, modernist setting in ways which in our previous chapter were obscure but can now be approached with more certainty.

Tape music beyond Schaeffer – the reopening of sound

In some distinction from Cage's early remarks, in 'Future of Music: Credo', of reclaiming noise into the territory of music, Cage would later reproach Schaeffer for his approach to sound proving all too *musical*.

> When I spoke about Schaeffer, I said that noises had not been liberated but had been reintegrated into a new kind of harmony and counterpoint. If that were the case, that should mean that we had only changed prisons![312]

While the procedures that Cage developed for and around *Music of Changes*, including the 'gamut' techniques which developed into various taxonomies of sound including the 'all-consuming' sound space, provided the basis for a relatively stable period in Cage's compositional practice, there are nevertheless subtle shifts across this period which distinguish Cage's more formalized practices from the strong and rigid formalization of Schaeffer, and which reflect a wider processual movement in the deployment of an experimental methodology. Key in highlighting this moment's place in Cage's work is his own work for tape, particularly his second such piece (after *Imaginary Landscape No. 5* (1952), which comprised of sounds from 42 jazz phonograph records), 1952's *Williams Mix*.

The charts method of composing *Music of Changes* was used with minor variations for several other pieces in 1951-52, including *Water Music* and *Imaginary Landscape No. 4*, and with these chart-derived pieces Cage was making use of his taxonomy of sounds to

[312] John Cage, *For the Birds: In Conversation with Daniel Charles* (London ; New York: Marion Boyars, 1976), 230.

open the conditions for their *sounding*. In the instance of *Imaginary Landscape No. 4*, its instrumentation of twelve radios suggests cacophony, but the detailed use of volume controls in the charts ensure a subtlety, sparseness, and thinness to its performance, allowing individual sounds to occupy space and come into intricate but accommodating contact with other sounds. As Cage stated, "it was certainly not […] a rabble-rouser".[313] While the sounds the radio produces are of course not predetermined, there is nevertheless, in this instance, like in that of *Music of Changes*, a certain limitation or predetermination of what the piece can sonically contain, the kind of soundings that can occur in performance, written into it at its point of origin – even, at the most expanded level, of concerning sounds as related to sound-space exclusively.

Williams Mix, however, appears to present a different sonic space. Part of the series 'Project for Music for Magnetic Tape', or, 'Project: Sound',[314] *Williams Mix*'s sonic material comprises approximately 600 sound recordings on magnetic tape, cut together by Cage with the assistance of Earle Brown, Bebe and Louis Barron, David Tudor, Ben Johnston, and others.[315] The collection of source materials is split into perhaps Cage's most detailed taxonomy of sound yet. The sounds of *Williams Mix* are split first into six categories – 'city sounds', 'country sounds', 'electronic sounds', 'manually produced sounds, including the literature of music', 'wind-produced sounds, including songs', and 'small sounds requiring amplification to be heard with the others'[316] – then, alluding to the characteristics of the sound-space, further categorized by whether their frequency, amplitude, and timbre, respectively, are 'controlled' or 'variable'. Sounds are then taxonomically designated for use in the score based upon these variables.

The composition itself was then produced through chance and chart procedures modified only slightly from those of *Music of Changes*, resulting in not a score *per se*, but rather what Cage would call, in the detailed description of the process found in his

[313] Pritchett, *Music of John Cage*, 88.
[314] Patricia Hall and Friedemann Sallis, ed. *A Handbook to Twentieth century Musical Sketches* (New York: Cambridge University Press, 2004), 189.
[315] See http://johncage.org/pp/John-Cage-Work-Detail.cfm?work_ID=246 (accessed 18/09/15).
[316] John Cage, "[Williams Mix]," in *John Cage*, ed. Richard Kostelanetz (London: Allen Lane The Penguin Press, 1971), 109.

correspondence with Boulez, a "dress-maker's pattern",[317] mapping out the cutting and splicing of pieces of magnetic tape. The result is a 'score' some 193 pages long, for a piece little over four minutes in length.

Some of Cage's rhetoric regarding the use of magnetic tape is very similar to that we find from Schaeffer – in the notes for his 1958 25-year retrospective Cage presents tape splicing as a means to "heighten the unique element of individual sounds, releasing their delicacy, strength, and special characteristics",[318] but in several aspects *Williams Mix* is quite different from Schaeffer's notion of *musique concrète* composition. Cage exhibits no interest in the careful, composerly control of sound we find in Schaeffer – the manipulations of sounds are minimal and strictly speaking more oriented towards the tape itself rather than the sounds they hold, and there is no explicit attempt to differentiate between sound-as-sourced and 'sound objects'. Indeed, there appears to be little specificity *as* tape music to *Williams Mix* – structurally it differs little from Cage's other chart-derived pieces. We find in it, however, a number of hints towards a new configuration of ideas being developed within the short moment of formal stability that was Cage's chart pieces, where a renewed, accelerated sense of process comes to the fore. From a compositional perspective, there is the use of graphical and other non-standard notation and an ever-increasing relinquishing of compositional control of the sonic materials used. From a performance perspective, the most significant shifts are those shared with *musique concrète* practice – an increased shift from the orchestral form, no requirement for trained virtuosity, a technological repeatability – though in this Cage comes to pinpoint an exemplary case of a more general dissatisfaction of his, insofar as despite the implementation of chance at many levels, the performed piece itself, as sound on tape, is still in many respects a fixed object. Across these two we see also a collectivity of construction, and a shift from the artistic emphases which would be common in the early development of electronic music – a construction process grounded not in the individual trained musician but rather in a team of what are effectively

[317] Cage in Pierre Boulez and John Cage, *The Boulez-Cage Correspondence*, trans. Robert Samuel, ed. Jean-Jacques Nattiez and Robert Samuel (Cambridge: Cambridge University Press, 1993), 131.
[318] Cage, *The 25-Year Retrospective*.

engineers.

It is significant that the taxonomy of sounds used here does not aim to be totalizing with regards to the field of sound, but rather indicates disparate groupings not reducible to each other nor to any overarching category. Between them there are different degrees of referentiality and non-referentiality – from the highly referential and anecdotal to entirely unidentifiable synthesized sounds – and at times heavy tape manipulation is used to introduce "complete transformation of the original materials to create new ones" – that is to say, there is no commitment to the integrity of the original sound as an object. From the perspective of the listener, we find that the predetermination of sonic material is as such superseded by its presentation – an erratic and frantic blurring of the textual and the sensate, with moments of recognition usually brief and quickly supplanted by a new sound at the moment of their recognition. Unlike the discarding of the inessential in medium-specific modernism and many forms of abstraction, or an investigation into an independent, locatable sound object as sound-in-itself or otherwise, we find a richly and densely textured landscape, a number of codes of referentiality and non-referentiality, models of organization, and ways of sounding present at once and moving across the piece.

In these features that distinguish Cage's engagement with tape music from Schaeffer's we find nascent forms of the indeterminacy that will be central to the development of Cage's compositional process over the remainder of the decade, and an opening into the wider set of art practices that emerge with startling rapidity at the turn of the 1960s. This does not stand to supersede Schaeffer's work however, nor to cement his place in a unified formalist lineage of music. It is crucial to see how Schaeffer is at once a kind of theoretical culmination of a lineage of music which Cage too is within and without, and also a key part of formulating the problematic that will take music and sound into the context of 1960s art and beyond. We find much to credit in Schaeffer's experimental movement through the problematic fields of sound and music – a refiguration of the composer-listener relation and a displacement of the sovereign authority of the composer, a rethinking of the role of performance and instrumentality, a perspective on

technology that, however compromised by later theoretical assumptions, attempts to cut a path between compositional intention and technological determinism, and likewise a notion of sound which attempts to undo the impasses, regresses, and essentialisms of compositional and empirical models, a model for a collective musical practice within an institutional setting, and more.

We also find important questions left open in the impasses Schaeffer reaches himself. The carefulness and thoroughness of Schaeffer's experimentation, from its earliest stages favouring precise studies within specific frameworks,[319] provides an important counter to the exploratory looseness associated with the notion of 'experimental music' which caused many composers to dismiss it until its revival by Schaeffer and Cage in particular. In slowly seeking a new language and a robust institutional basis for experimental practice to operate through,[320] Schaeffer offers a study of how moments of stability, elements of organization, can be present within experimental, process-oriented practices, Cage's and elsewhere. In Schaeffer's case we can see what is produced if an experimental practice is thought of as process of formalization but also what is excluded when the process slows to a stop – experimental practice as a transcendental empiricism, suffused with the risks and impasses that linger in any methodology of transcendental grounding.

In Schaeffer's case we find, as Carlos Palombini suggests, a distinction between an early process in which contradictions in practice were accepted, understood indeed a necessity of the process, and a later phase when contradiction is merely an accidental element to occasionally be tolerated for facilitating a later moment of unity.[321] This reflects also the shift we see from the diffuse experimentation of the turn of the 1950s to the phenomenologically grounded theory of the *Traité* – in the early period Schaeffer finds a

[319] Schaeffer, *In Search of a Concrete Music*, 62.
[320] François Delalande's assertion that Schaeffer was an "administrative virtuoso" paints an amusing picture of Schaeffer as a master bureaucrat, but indicates the significance for Schaeffer of producing the structures required for a detailed, long-term investigation to take place. François Delalande, "The technological era of 'sound': a challenge for musicology and a new range of social practices," in *Organised Sound*, 12:3 (December 2007): 252.
[321] Palombini, "Pierre Schaeffer, 1953: Towards an Experimental Music," 549.

productively overdetermined model of research through engagement with music, technology, poetry, philosophy, acoustics, radiophonics, and beyond, and while tensions arise through excessive leaning on scientism here, the elevation of poetry there, stasis here and unfettered flows there, Schaeffer's mode of countering these tensions is not to work with and through it, to derive a procedure to account for tensions, but to see them as a flaw and reduce them to an anxious paralysis under the stable ground of a single theoretical model. As such when Schaeffer continues to find a constitutive ambiguity in the sound object and in *musique concrète* practice in general he is neither able to resolve it nor willing to work with it – hence in his eyes the ultimate 'failure' of his project.

Cage's own moment of formal stability in his work with charts is highly productive, but remarkably short – from *Concerto for Prepared Piano and Chamber Orchestra* to *4'33"* in eighteen months. The question of how Cage's process of formalization becomes concrete enough to open the space for a moment of great productivity but resists cementing its formal properties, or undoes its formal properties through its process and practice, is crucial – how does Cage avoid that to which Schaeffer succumbs? Central here will be the overdetermined and forked path of critique that give Cage his diffuse and mutating theoretical tools, in contrast to Schaeffer's retroactive decision to locate his critique within a distinctly phenomenological realm. By working through this moment of formalization and its undoing we will begin to clarify the precise conceptual moves that take place within a shared critical trajectory, and to understand the distinctions that gradually but with increasing significance come into place. Our next chapter will develop this question by considering the theoretical status of the increasing openness, to the other arts and to 'life', of Cage's thought, and how this relates to the constellation of diverse artistic practices that follow Cage from the 1950s into the 1960s as well as to the status of an experimental practice of music.

Sound, music, and art after Cage

Through the context of an understanding of Cage's musical trajectory which would align him with the Schaefferian reassertion of a "lineage of musical phantasmagoria", regrounded in an ideal listener and essentialised notions of music, sound, and listening, this chapter will engage with Cage's relation to artistic practices contemporary to his compositional developments, and begin to consider the relation between these practices broadly speaking and Cage's practice characterized as a musical practice. In Schaeffer's case the reification of the figure of music comes explicitly via phenomenology, and here we will map how Cage's thought regarding sound, music, and listening, particularly as oriented through the anechoic chamber narrative, is itself implicated in such a phenomenological grounding, and consider the concomitant problems posed. It is this phenomenological grounding which will also project the 'other' side of Cage – that is, his position within the art practices of the 1960s which will later be termed 'postmodern' – towards the risk of an unchecked nominalism. To understand this reading of Cage and of his artistic context, we will begin to address the status of sound and silence in Cage's work by extending the philosophical and musical-artistic transcendental critique through Merleau-Ponty. This will function through two paths – first in terms of the relation of a Cagean silence to a philosophical 'invisible', explicating the theoretical implications of the anechoic chamber narrative, and second through a consideration of the use of a certain Merleau-Ponty in theorizing the artistic breaks and transitions which followed Cage through the 1960s.

The fundamental connections between these two seemingly disparate forks in Cagean artistic practice will be mapped by considering the interconnection between the pieces that Cage's stay at Black Mountain College made possible, primarily the aforementioned *Williams Mix* as well as here *Black Mountain Piece* (1952) and *4'33*" (1952), and the theoretical movement in Cage's work that these pieces were part of. In these pieces we find the development of a new group of concerns for Cage's work – centered around the shift from art object to process, and with it the introduction of elements of indeterminate performance, the foregrounding of the listener, with the

introduction of ‘theatre’ as an involvement of music with its outside, an interest in everyday life, the foregrounding of the specific situation of a performance, an increasing resistance towards imposition of controls, including the control of the score on the performer, and so on.

That these shifts take place ‘alongside’, or within, the more specifically musical practice Cage had developed up to the late 1940s is considered problematic in some critical readings of Cage, and the source of the forked path. There appears to be a tension, as there was with Schaeffer, between ‘music’ as a determining term for any orientation towards sound, and an openness through which any organizational schema is to be resisted. By considering the relation of theoretical and practical reciprocity that takes place between Cage and the artists and art movements ‘influenced’ by him, as part of a process of the development of his own compositional practice, we will begin to outline how these seemingly disparate elements operate together in Cage’s practice, mapping the movement of Cage’s work and thought through both its internal development and in terms of external relations and context. We will begin to argue for an understanding of Cage in which rather than being posed in a dichotomy between a kind of musical modernism and an artistic postmodernism, there is rather a more complex set of relations, contexts, and practices of experimentation constituting a rich Cagean musical and artistic process. In particular we will follow a subtle but distinct shift in the conceptual understanding of sound, and the implications of such an understanding – when sound shifts from the object of music to a conceptually mobile aspect of more diverse artistic practices, to the extent that these practices can take the conceptual developments produced by an engagement with sound and implement them in artistic environments in which sound has no role, can, and should, any specificity of sound or a practice of music be maintained?

Black Mountain College

In particular two performances of August 1952 mark out the terrain Cage will traverse

over the coming decade and form the shape of the wider artistic engagement with Cage that takes place into the 1960s, namely *Black Mountain Piece*[322] and *4'33"*. *Black Mountain Piece* took place during Cage's second summer, after that of 1948, resident at the Black Mountain College in North Carolina. In Cage's first spell at Black Mountain, his primary contribution was his class on 'Structure of Music',[323] in which he detailed his theorization of what he then deemed the four basic elements of musical works – structure, form, method, and material.[324] In this period the work is defined through a dualistic relation between structure and content. Structure, understood temporally, is the minimal condition for both sounds and silences still existing (here those two terms still distinct, silence as the absence of sound), and allowing for the distinction between the musical piece and 'nonbeing' – structure as a partitioning of piece into separate parts which together make a whole, rendering the piece as a discrete object.[325] Form, method, and material together constitute content. We will see the general deviation from this theme across this chapter, and contextualize it musically in our next chapter.

In his 1952 Black Mountain visit, by contrast, Cage steered away from teaching music entirely, his activities centering instead on organizing the construction of *Williams Mix*,[326] hosting a reading of Huang-Po's *Doctrine of Universal Mind*, and, alongside Cunningham and David Tudor, putting together *Black Mountain Piece*.[327] In his notion of 'theatre', which he would later say applied to all of his post-*Black Mountain* works,[328] Cage drew on his recent engagement with the writings of Antonin Artaud, particularly *The Theatre and Its Double*.[329] Cage's initial reading of Artaud is in

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[322] Also known as *Theatre Piece #1*, although Cage himself did not assign any name to it – see Richard Kostelanetz, *The Theatre of Mixed-Means: An Introduction to Happenings, Kinetic Environments, and Other Mixed-Means Presentations* (New York: RK Editions, 1980), 57.
[323] See David Patterson, "Two Cages, One College," in *The Journal of Black Mountain Studies* 4 (Spring 2013), accessed 20/09/2015 http://www.blackmountainstudiesjournal.org/wp/?page_id=1866
[324] See Cage, "Defense of Satie," in *John Cage*, ed. Kostelanetz, and "Forerunners of Modern Music," in *Silence*.
[325] Cage, "Defense of Satie," in *John Cage*, 78-79.
[326] His original intention being that *Williams Mix* would be compiled by the students of his composition class cutting and splicing the magnetic tape materials. None enrolled.
[327] While the piece is credited to Cage alone, Cage would later note he felt Tudor deserved equal credit (Patterson, "Two Cages, One College").
[328] Kostelanetz, "Conversation with John Cage," in *John Cage*, 27.
[329] Antonin Artaud, *The Theatre and Its Double*, trans. Mary Caroline Richards (New York: Grove Press, 1958). Cage discovered Artaud through a recommendation from David Tudor, who in turn had learned of

confluence with the path his works had been taking regarding sounds for the previous decade – that the relations between things "spring up naturally rather than being imposed by any abstraction on an 'artist's' part",[330] without external determining structures such as harmony. The extension of this beyond the realm of music had already been practiced in a dance context, through Cunningham's interest in "assembling heterogeneous facts that can remain without interrelationships",[331] but through Artaud's notion of theatre Cage saw the opportunity to broaden it further still, to a situation making use of everything, "gestures, sounds, words, screams, light, darkness"[332] – where not only dance and music but all the arts could operate equally. The performance would take place in the dining hall at Black Mountain College, and Cage attempted to follow Artaud's instructions for the organization of the theatre location closely. Where Artaud noted that

> the public will be seated in the middle of the room, on the ground floor, on mobile chairs which will allow them to follow the spectacle which will take place all around them. In effect, the absence of a stage in the usual sense of the word will provide for the deployment of the action in the four corners of the room.[333]

Cage in turn would split the audience into four triangles directed towards the empty centre of the room, with actions occurring from the corners, from above, and in the gaps. Following Artaud, "the spectator is in the center and the spectacle surrounds him".[334]

In terms of temporal structure it would adhere to the format we will later discuss as detailed in 'Lecture on Nothing' – in terms of a 'meta-structure', a designation of compartments of time within the forty-five minute whole of the piece with, unlike the dualism of the previous musical schema, no determinate relation between structure and

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him through Boulez (Cage, *The Boulez-Cage Correspondence*, 96), but had independently been inspired by Julian Beck and Judith Malina's use of Artaud in their Living Theatre Productions company (Silverman, *Begin Again*, 97).

[330] Cage, *The Boulez-Cage Correspondence*, 96.

[331] Cage, *For the Birds*, 164.

[332] Artaud, *The Theatre and Its Double*, 12.

[333] Ibid., 96.

[334] Ibid., 81. "[T]he action wasn't supposed to occur in the centre, but everywhere around the audience" (Cage, *For the Birds*, 165).

content.[335] Of the elements of the piece, then, there is no comprehensive account, but among those known to have been present included readings performed from ladders, Rauschenberg paintings hanging from the rafters, projections, Cunningham dancing around and through the audience, Tudor playing piano and/or radio, records played from an old phonograph, and a performance of a musical work using Lou Harrison's collection of Asian instruments. Cage here treated each element as he had begun to treat sounds in his music – as individual elements coexisting in one space.

Black Mountain Piece appears at first as an oddity, a displacement from Cage's compositional trajectory which had been heavily, if not entirely, posited in terms of its immanence to a critical musical tradition, into an artistic situation in which 'music' has no apparent formal, determining status. Cage had been closely associated with prominent figures in modern art since his move to New York in 1942[336] and had long seen a relation between his work and that ongoing in modern art, but, unlike the case of an ever-increasing use of South Asian and then East Asian philosophy, it had left little explicit mark in neither his compositions nor his theoretical texts and lectures to this point. However, traced biographically, we can see that Cage's connections between disciplinary boundaries had taken place through a series of institutional and social moves – through the Cornish School and its insistence, even at the height of medium-specific modernism, on the interdependence of the arts, and where Cage begun his association with Cunningham, onto Mills College and Chicago's School of Design and an engagement with Laszlo Moholy-Nagy,[337] onto the associations he made in his early period in New York – with Max Ernst, Peggy Guggenheim, loosely Marcel Duchamp (they would not meet regularly until later), MOMA.[338] This series of connections remained largely subterranean until reaching this dramatic point of clarity with Cage's second spell at Black Mountain.

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[335] See also Michael Kirby, *Happenings: An Illustrated Anthology* (New York: E. P. Dutton & Co., 1965), 31.
[336] Silverman, *Begin Again*, 53.
[337] Ibid., 36. In a 1941 application to find funding for a Center for Experimental Music in Chicago, Cage suggested that his work was "a counterpart in music of the work in visual arts conducted at the School of Design" (Ibid., 44).
[338] Ibid., 48, 50.

Cage's rearticulation of the activities at Black Mountain while again outside of its context of extended multi-disciplinarity will help us begin to bring to the surface the function of the subterranean impact of modern art on Cage's practice. This takes place through the composition and performance of *4'33"*, taking place almost immediately after Cage's Black Mountain residency. The simplicity of its original score is well known – Cage used chance means to determine three parts of fixed length (echoing sonata form) totalling four minutes and thirty-three seconds, with the notation (in standard form) indicating no notes to be played by the performer[339] – hence, the 'silent' piece. Its first performance was held in late August 1952 at the Maverick Concert Hall, near Woodstock, New York. The theatre is open-air, situated in woodland with seats outside as well as in. *4'33"* was preceded in the programme by Cage's own *Water Music* – another heavily theatrical piece with written instructions and 'instrumentation' including a duck whistle, a bowl of water, a radio, and a deck of cards – a series of short pieces by Morton Feldman, Earle Brown, and Christian Wolff, and Boulez's *Premier Sonata*, and followed by Cowell's *The Banshee*.[340]

For the performance itself, David Tudor took his seat at the piano, closed the keyboard lid, looked at a stopwatch and indicated the change in movements by opening and again closing the lid, attempting to make as little sound as possible in so doing, and, after four minutes and thirty-three seconds had passed, marked the end of the piece by standing to receive applause. As such the piece is 'silence', but as a call to listen to one's surroundings – emphasized by the forest setting, an environment filled with sound. Here Cage's anechoic chamber visit and the theoretical consequences he took from it are placed into a musical setting – the composer does not have a determining role in the 'content' of the piece, and the compositional structure does not have a determining relation to the sound content. As such the focus shifts from composer to *listener*, as an individual site of audition within a sonic environment – an opening to a world of sound

[339] John Cage, *I-VI* (Cambridge, Mass.: Harvard University Press, 1990), 20-21.
[340] Kostelanetz, *John Cage*, figure 21. For more on this account see, for example, Gann, *No Such Thing As Silence*, 1-8.

perhaps invisible to them under the terms of either the unfocused nature of everyday listening or the determined and intentional structure of traditional musical listening.

While the programme placed *4'33"* alongside the work by Cage's musical contemporaries as well as in a historical context – *The Banshee* being composed in 1925, and, as a piece played on the open strings of the piano, an instance of one of the sources of Cage's earlier prepared piano works – *4'33"* can appear to arrive before its time, anticipating many of the compositional shifts Cage will enact over the coming decade. In particular it takes many of Cage's recent theoretical and spiritual interests and lays out various markers for the rest of the music and art under discussion here – a concern for a blurring of inside and outside (in several respects – the layout of the concert hall, the status of what is internal and external to the piece, and to music in general), an artistic interest in the everyday, an emphasis on a plurality of perspectives and so on. It also, like the *Black Mountain Piece*, marks a departure from the figure of Cage-as-composer which would not be reprised to nearly the same extent until the following decade. Cage's work across the rest of the 1950s, despite the use of chance and later indeterminacy, would nevertheless be distinctly within the realm of musical composition, as disciplined and carefully constructed pieces. There are, however, more subtle shifts that occur across this period, in which the boldest gestures of *Black Mountain Piece* and *4'33"* can be seen as being reinscribed into Cage's ongoing compositional practice.

Key to understanding the shift that occurs in this moment of Cage's musical practice, and how it operates across the decade and into the artistic practices of those following Cage through the 1960s, is his engagement with the painter Robert Rauschenberg. When later interviewed Cage would credit Rauschenberg's *White Paintings* with pushing him into composing *4'33"*, saying that he had to follow Rauschenberg's lead "otherwise I'm lagging, otherwise music is lagging",[341] and would often cite the importance of Rauschenberg's work for his own, often with a great deference, noting that "[t]he white

[341] Kostelanetz, *Conversing with Cage*, 71.

paintings came first; my silent piece came later".[342] However, as the premise of *Silent Prayer* indicated, Cage had already fostered the idea of a silent piece before being aware of Rauschenberg's *White Paintings*,[343] and although one which is ideologically and conceptually quite different from *4'33"*, it is even at this point silence considered not merely in terms of an absence of sound, but rather as having a character of its own – in the case of *Silent Prayer*, a distinctly social character. Cage perhaps diminishes the reciprocity of his theoretical relation to Rauschenberg, and in so doing diminishes the extent to which a distinct shift in Cage's understanding of silence is already taking place in this period, one which augurs the move from silence as standing equally with sound in compositional structure to silence as unintentional sound. This passage can be followed through the late 1940s and reaches a point of clarity with 1950's 'Lecture on Nothing'.

Lecture on Nothing, Lecture on Something

Composed following the rhythmic structural rules of Cage's musical works of the period, the text of 'Lecture on Nothing' foregrounds Cage's burgeoning interest in East Asian philosophy[344] and indicates a change in his understanding of structure, musical and otherwise. Here the shift in the concept of silence – a turning point that many commentators, and Cage himself, mark with his later anechoic chamber visit – begins to be marked through a reevaluation of the distinction between silence and sound, oriented through the Zen tendency to dissolve dualisms. Against a thorough distinction between sounds (or, in the case of this spoken and written piece, words) and silences, the two

[342] Cage, *Silence*, 98.
[343] Despite the great number of conflicting accounts regarding the timing of Cage and Rauschenberg's relationship, *Silent Prayer* pre-dating it seems certain (see Kahn, *Noise, Water, Meat*, 168). Cage and Cunningham both claim to have met Rauschenberg at Black Mountain in 1948 (Kostelanetz, *Conversing with Cage*, 186, although Cage's quote, which many commentaries cite, is ambiguous as to who it is referring to; Merce Cunningham, *The Dancer and the Dance: In Conversation with Jacqueline Lesschaeve* (New York: Marion Boyars, 1985), 55), though this chronology is disputed, with the suggestion that their first meeting came in New York shortly after Cage first encountered Rauschenberg's work in spring of 1951 (Gann, *No Such Thing as Silence*, 111).
[344] In distinction from the South Asian philosophy that ran through his texts and pieces of the late 1940s, which we will touch on in our next chapter.

begin to enter into a new relation of relation and interpenetration. This occurs through a new role for structure in Cage's compositional practice.

In his early work Cage used his concept of rhythmic structure as an intentionally applied device to render the structural divisions of the piece appropriate to the materials being used, aligning closely to a medium-specific perspective by organizing sound through only its most fundamental characteristic, that of duration. While silences are present from Cage's earliest works, the equal value of sounds and silences seems to come to prominence, and likewise the division between them to obscure, alongside Cage's interest in his readings of Coomaraswamy and Meister Eckhart. In 'Forerunners of Modern Music', published in 1949, Cage extends the characteristics of the musical work found in 'Defense of Satie' and refigures structure such that it has no particular formal implications, rather constituting an emptiness in which events can occur – for instance, in an example Cage uses, an event such as fire or the performance of a piece of music can "occur accidentally or freely without explicit recognition of an all-embracing order, but nevertheless, necessarily within that order."[345] With structure unbound from any particular relation to sound materials, Cage can make the concluding claim that "[a]ny sounds […] are natural and conceivable within a rhythmic structure which equally embraces silence".[346]

'Lecture on Nothing' develops these ideas on structure both musically and, through an increasing element of Zen philosophy, conceptually.[347] Cage gives numerous analogies for the function of structure – as "an empty glass into which at any moment anything may be poured",[348] for example – but through the piece itself being structured according to these principles, an aspect which the text repeatedly brings to attention, there is likewise the intention to experience rather than simply hear about structure. With this model of structure Cage can redefine his notion of form not through the decision of the composer, selecting what is and what is not to be considered important, but as

[345] Ibid., 65.
[346] Ibid.
[347] Ibid., ix.
[348] Ibid., 110.

determined by a continuity in which "each moment is absolute, alive and significant",[349] and structure as only that within which these moments can attain some form of recognition – "Structure without life is dead. But life without structure is unseen. Pure life expresses itself within and through structure".[350] Insofar as the composer relinquishes control over the structuring of sound materials, structure becomes something which gives sense to events in the world which are essentially indifferent to this structuring mechanism, as a natural event will be understood to take place within a division of seconds, minutes, days, weeks, without its characteristics as an event being determined by this structural understanding. "[A]n idea may occur in this talk I have no idea whether one will or not. If one does, let it. Regard it as something seen momentarily, as though from a window while traveling".[351] As such 'Lecture on Nothing' acts as a passage towards Cage's famous demand to 'let sounds be themselves', itself tied into the theatrical aspect which will come to be implemented through this structural model. In turn, we see already a different understanding of silence, not as an absence of sound but as somehow bound up with it – "there are silences and the words make help make the silences".[352]

These ideas attain greater clarity in 'Lecture on Something', written in 1951 or 1952. Ostensibly a piece on Morton Feldman, who along with Cage, Earle Brown, and Christian Wolff would be part of what was termed the 'New York School' of composers,[353] in this text Cage will elaborate on the integration of art and everyday life hinted at in 'Lecture on Nothing', saying of composition that it is "of the utmost importance not to make a thing", that is, an artistic object, a work, and that the composer should rather let "something be just something, finitely something".[354] This resistance to the status of the musical work as object points towards the increasing focus on process, though it is not yet quite described in this sense – the status of what music *is* if it is *not* an object is not yet entirely clear. As in 'Lecture on Nothing', there is a call not to have

[349] Ibid., 113.
[350] Ibid.
[351] Ibid., 110.
[352] Ibid., 109.
[353] Silverman, *Begin Again*, 136.
[354] Cage, *Silence*, 129.

structure be a determining imposition on artistic materials, but, as we saw with Schaeffer's early formulations of the sound object in our previous chapter, to rather try to allow the materials to speak for themselves. The composer who wishes to 'make' objects rather than accepting finite somethings is separating art from life – a crucial theme here in nascent form which will be threaded through the rest of Cage's life. The composer who accepts what happens can posit art as "a sort of experimental station in which one tries out living".[355] This form of acceptance is again associated with silence – with the claim that "[t]he nothing that goes on is what Feldman speaks of when he speaks of being submerged in silence",[356] nothing here as that which is without "beginning middle or meaning or ending", those terms coming from a "sense of self which separates itself from what it considers to be the rest of life".[357] Already here silence, 'nothing', has taken on many of the characteristics which will be posited of it as a consequence of the subsequent anechoic chamber visit – as something omnipresent but to which we as listeners are often deaf, as something which resists being subsumed under organizational structures, as a point of transit between inside and outside.

Cage will again resist taking credit for these ideas, associating them strongly with the visual arts:

> just as formerly when starting to be ab-stract artists referred to musical practices to show that what they were doing was valid, so nowadays, musicians, to explain what they are doing, say, 'See, the painters and sculptors have been doing it for quite some time'.[358]

However, with these developments in Cage's thought in mind, we can see here that the conceptual relationship between Cage and Rauschenberg was evidently more reciprocal than Cage tended to indicate. Cage's 1961 article 'On Robert Rauschenberg, Artist, and His Work' offered Cage's theoretical perspective on Rauschenberg's work,[359] and in

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[355] Ibid., 139.
[356] Ibid., 135.
[357] Ibid., 134.
[358] Ibid., 144. Perhaps more equivocally Cage would later state that "Any experimental musician in the twentieth century has had to rely on painters" (Kostelanetz, *Conversing With Cage*, 200).
[359] The inseparability of Cage from the theoretical understanding of Rauschenberg is key insofar as Rauschenberg marks a beginning of minimalism – or what Edward Strickland describes as "a model […] to later Minimalism" (Edward Strickland, *Minimalism--origins* (Bloomington ; Indianapolis: Indiana

particular his monochromes, which Cage will give significant credit for his own compositional developments – the *White Paintings*, famously described as "airports for the lights, shadows, and particles",[360] are posed as opening the question of art's integration of its outside, of the everyday. However, we have seen these ideas in nascent form before in 'Lecture on Nothing', and it seems likely that Cage first encountered Rauschenberg's monochromes between that lecture and 'Lecture on Something'. The deeper historical roots of Cage's interpretation of Rauschenberg's *White Paintings*, and the consequent significance of this interpretation, must be seen as deriving from Cage's ongoing theoretical and practical process as well as from Rauschenberg's own understanding.[361]

In his discussion of the *White Paintings*, Cage appears to be drawing from the impression Moholy-Nagy left on him beginning in 1940.[362] A particular influence cited by Cage was Moholy-Nagy's *The New Vision*,[363] in which Moholy-Nagy offers a discussion of Kazimir Malevich's own white painting, *White on White*. Here Moholy-Nagy pays little attention to the white square on the surface of the canvas, preferring instead to describe the painting as a "projection screen", "which constituted an ideal plane for kinetic light and shadow effects which, originating in the surroundings, would fall upon it".[364] As Branden W. Joseph notes, by drawing on this interpretation Cage goes through Moholy-Nagy to place Rauschenberg in opposition to the Greenbergian end-point of modernist painting as founded upon the self-reflexive flatness of the canvas. In his assessment of the monochrome canvases of Rauschenberg as well as Yves Klein, Ad Reinhardt and others, Greenberg remarks that in his first encounter with the paintings they looked "familiar and slick", a taming of the near-monochrome paintings

University Press, 1993), 38).
[360] Cage, *Silence*, 102.
[361] Here we draw on Branden W. Joseph's account and argument in *Random Order: Robert Rauschenberg and the Neo-Avant-Garde* (Cambridge, Mass. ; London: The MIT Press, 2003).
[362] And to some extent earlier – Cage visited the Bauhaus while living in Europe in his late teenage years (Christopher Shultis, "Cage in Europe," in *The Cambridge Companion to John Cage*, ed. David Nicholls (Cambridge: Cambridge University Press, 2000), 22).
[363] John Cage and Joan Retallack, *Musicage: Cage Muses on Words Art Music* (Hanover ; London: Wesleyan University Press, 1996), 87.
[364] László Moholy-Nagy, *The New Vision and Abstract of an Artist*, trans. Daphne M. Hoffmann (New York: George Wittenborn, 1947), 39. See Joseph, *Random Order*, 36.

of Rollin Crampton.[365] For Greenberg, Rauschenberg's monochromes did not so much take as their object the flatness of the canvas as offer a rote declaration of their existence as art by being seen as "limited in extension and different from a wall" – marking an origin for later critiques of minimal art from a medium-specific modernist perspective. In Cage's interpretation, on the contrary, and no doubt as a kind of rejoinder to the medium-specific discourse, this rote declaration brings with it a constellation of new artistic questions, where what the *White Paintings* indicate, on the contrary, is less a concern with the flatness of the surface in itself as a *reflectivity* of the surface, by which the painting makes manifest its place in the room. The art object is not to be taken a fixed object but as something involved in and inseparable its surroundings, with all of the contingencies implied – Cage interpreting Rauschenberg's work in reciprocal development with his own at the beginning of the 1950s. Over the decade Cage would contend with these ideas in various ways, in particular through the development of the chance operations which we will consider in our next chapter, but this shifting pattern in Cage's musical thought with regards to the relation to art and everyday life is manifest most directly towards the close of the decade, with his development of a formal notion of performative indeterminacy.

Indeterminacy and 'The Cage Class'

The impact of *Black Mountain Piece* is seen most strongly not as a direct consequence of that performance itself but rather through the work of the participants in Cage's classes on Experimental Composition at the New School for Social Research, particularly those of his summer 1958 class. Cage's class description termed it a "course in musical composition with technical, musicological, and philosophical aspects", based not on conventional musical studies of pitch but rather the other parameters of sound-space, "duration, timbre, amplitude and morphology", and which would consider contemporary music post-Webern and in the light of "present developments in magnetic

[365] Clement Greenberg, "Recentness of Sculpture," in *Minimal Art: A Critical Anthology*, ed. Gregory Battcock (Berkeley ; Los Angeles ; London: University of California Press, 1995), 180-81.

tape".[366] Among these participants were Allan Kaprow, Dick Higgins, George Brecht, Jackson Mac Low, and Al Hansen, artists who were responsible for developing a series of 'theatrical' artistic models from the late 1950s onwards, particularly through Kaprow's 'happenings' (the *Black Mountain Piece* would later be described as the first happening) and the activities of the Fluxus group. There are two tendencies to be avoided here, however – the first, to view Cage as a mere transitional point for the revival of a historical avant-garde,[367] and so diminish the specificity of his close engagement (despite their ultimate divergences) with this group of artists; the second, to have Cage stand as an overdetermining singular figure in a diverse network of practices.

Regarding the latter point, it cannot be said that Cage is the sole determining factor for the performative indeterminacy that threads through the work of his New School students. Cage would later flatly states that it was during his time teaching at the New School that he found himself "shifting from object to process",[368] or, perhaps better, towards a more refined understanding of what it could mean to move away from the object and the work, the notion of process capturing some of what is implied in this move. While nascent forms of compositional and performative indeterminacy are present in the key texts and pieces of the early 1950s, at this juncture its movement appears to accelerate and reach a more refined understanding, with it being in September of 1958, just a month after the completion of the summer 1958 Experimental Composition class, that Cage would present a formal outline of a compositional practice which would incorporate indeterminacy.[369] These lectures, however, remain more

[366] See Bruce Altshuler, "The Cage Class," in *FluxAttitudes* ed. Cornelia Lauf and Susan Hapgood (Gent: Imschoot, 1991).
[367] That which would reduce theatrical artistic practices to the kind of neo-avant-garde Peter Bürger dismisses, insofar as "the neo-avant-garde institutionalizes the avant-garde as art and thus negates genuinely avant-garde intentions" (Peter Bürger, *Theory of the Avant-Garde*, trans. Michael Shaw (Minneapolis, University of Minnesota Press, 1984), 58). See David W. Bernstein, "'In Order to Thicken the Plot': Toward a Critical Reception of Cage's Music," in *Writings through John Cage's Music, Poetry, and Art*, ed. David W. Bernstein and Christopher Hatch (Chicago ; London: The University of Chicago Press, 2001), 14-15. George Maciunas' *Diagram of Historical Development of Fluxus and Other 4-Dimensional, Aural, Optical, Olfactory, Epithelial and Tactile Art Forms* (Copenhagen: Kalejdoskop, 1981) finds a central pivot in the connection Cage makes between early the early-twentieth century avant-garde and post-war art.
[368] William Fetterman, *John Cage's Theatre Pieces: Notations and Performances* (Amsterdam: Harwood Academic Publishers, 1996), 233.
[369] See Rebecca Y. Kim, "The Formalization of Indeterminacy in 1958," in *John Cage: October Files 12*,

focused on musical concerns than the work of his students, and can be seen as constituting something of a *return* to music, a rearticulation of the broader ideas of 'Lecture on Nothing' and 'Lecture on Something', several years earlier, within terms immanent to Cage's compositional process.

Notable in these lectures is the primacy of a music theoretical elaboration of the new concept of structure which is developed in broader terms in 'Lecture on Nothing' and 'Lecture on Something'. Referring to the composition of *Sonatas and Interludes*, Cage notes that here structure "was a division of actual time by conventional means" and within this the method "was that of considered improvisation".[370] Here the materials are chosen by taste, "as one chooses shells while walking along a beach".[371] With rhythmic structure, unlike in the pitch structure of tonal music, there is no necessary determination of materials by their structuring element, and as such the intentional decision regarding structure is rendered unnecessary – hence the chance determination of structure come *Music of Changes*.[372] In rendering structure unintentional and 'indeterminate' (albeit not in the formal sense which will be outlined in the following lecture), the piece is opened to the admission of sounds which are not determined by musical intention – which at this point in Cage's thought now more clearly those of 'silence', as unintentional ambient sounds rather than time lapsed between sounds. Here Cage summarizes the model of composition which this notion of structure commands, albeit in a manner which poses something of a tension between an ontology of sound and an epistemology or phenomenology of listening, to which we will turn later – as "a composing of sounds within a universe predicated upon the sounds themselves rather

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ed. Julia Robinson (Cambridge, Mass ; London: The MIT Press, 2011) – Kim tracks the reciprocity of the relationship between Cage and his students by following Brecht's notes for the class.

[370] Cage, *Silence*, 19. Lecturing at Darmstadt, it is likely that Cage chose to take his own works for examples as a means of avoiding a more directly confrontational claim, namely that the models of composition under critique are those of the largest part of the Western classical tradition, including, and in perhaps its exemplary form (following the same line of critique we found in Schaeffer), that ongoing in Germany at the time. More on this in our next chapter.

[371] Ibid. While the resonance here with Schaeffer's early theorization of the sound object is clear, I have not been able to determine whether or not the reference is explicit. It should be noted, however, that Cage and Schaeffer had met in 1949 and again in 1954, and some degree of contact appears to have been maintained between the two (David Revill, *The Roaring Silence – John Cage: A Life* (New York: Arcade Publishing, 1992), 100, 143, 183).

[372] Ibid., 20.

than upon the mind which can envisage their coming into being".[373] Here Cage exhibits the resistance towards making a 'thing' of the composition we found earlier in 'Lecture on Something', and instead poses compositions as "not preconceived objects, and to approach them as objects is to utterly miss occasions for experience".[374] We see, then, an immanent compositional process taking place by which intentional structuring becomes unnecessary – and without an overdetermining role being ascribed to the nevertheless significant impact of Cage's anechoic chamber experience or the impact of Zen philosophy.

Applying the notion of chance-derived structure is not in itself enough to bring about this claim for the musical performance resisting classification as an object, however. In the second lecture of this series, 'Indeterminacy', Cage returns to *Music of Changes* and positions it as "essentially conventional to European music" insofar as it is presented as an object,[375] a musical work – the compositional use of chance "identifies the composer with no matter what eventuality", but the score itself is fully determinate and allows the performer no equivalent – the performer is controlled by the score. While chance is directed to remove intentional compositional authority at the level of the score, another procedure is required to remove the authority and finality of the score with regards to performance. This procedure will be indeterminacy.

Cage had been experimenting with graphical notation and other alternative forms of scoring and notation across the 1950s – the second score of *4'33"* where space indicates duration, dropping "all notion of meter",[376] visually reminiscent of Rauschenberg's *White Paintings*; *Music for Piano*'s (1952) composition based on imperfections on the notation paper; the use of graph paper and a point-drawing system in *Music for Carillon* (1952) and elsewhere other means of presenting a visual representation of the parameters of sound-space. In this respect graphical notation was used to allow for the

[373] Ibid., 27-28.
[374] Ibid., 31.
[375] Ibid., 36.
[376] Kostelanetz, *Conversing with Cage*, 166.

possibility of any sound, to "recognize that sounds did truly exist in a field".[377] However, there is a sudden refinement of this method coinciding with the 1958 Experimental Composition class and intended to loosen the hold of the score on the performer, an early stage of which is marked by the vast plurality of notational schemes used in *Concert for Piano and Orchestra* (1958) and by the time of the 'Indeterminacy' lecture Cage has come to strongly associate indeterminacy of performance with his new notational method making use of transparencies.[378]

Cage's transparency method appeared around the time of his Experimental Composition class and would be used in several pieces of this period, including the *Variations* pieces, *Cartridge Music*, and *Fontana Mix*.[379] The scoring is derived from sections of *Concert for Piano and Orchestra*, particularly the CC section of its *Solo for Piano*, which follows the pattern found through the 1950s of using alternative scoring methods to represent the variables of sound, in this instance through four curving lines, one each for frequency, amplitude, timbre, and duration. These lines intersect with slanted straight lines which represent time-spans, and through this combination the sounds to be produced can be determined by the performer.[380] With *Fontana Mix*, a piece for tape, this basic structure is maintained, but rather than as a fixed object the score is a number of transparent sheets with score items printed on them, including curved lines representing variables, a rectangular grid, a straight line, and points acting as an organizing principle when the sheets are overlaid by the performer. This served also as the basis for the *Variations* pieces, and the flexibility of this procedure with regards to the sounding possibilities is vast – while previous scores, fixed on paper, had necessarily inserted some delimitation of the sound field, the transparency method provided a remarkably flexible formal tool, and with these pieces each performance reframed the sound field anew – "the universe in which the action is to take place is not preconceived", a comprehensive departure from musical notation, Cage arguing that

[377] Ibid., 191.
[378] Cage, *Silence*, 28.
[379] See also Martin Iddon, *John Cage and David Tudor: Correspondence on Interpretation and Performance* (Cambridge: Cambridge University Press, 2013), chapter six, and Fetterman, *John Cage's Theatre Pieces*, especially chapter 1.
[380] Pritchett, *The Music of John Cage*, 130.

"[t]he notation of *Variations* departs from music and imitates the physical reality".[381]

It is notable that with the transparency method, and in general Cage's notion of indeterminate composition at this point, the score still appears to a significant extent to delimit the moment of performance as it had previously done. While the performer has an involvement in the construction of the score, Cage is clear that they are nevertheless commanded by a strong degree of determination at the level of final score, so as to allow the performer to

> let go of his feelings, his taste, his automatism, his sense of the universal, not attaching himself to this or that, leaving by his performance no traces, providing by his actions no interruption to the fluency of nature. The performer simply does what is to be done, not splitting his mind in two, not separating it from his body, which is kept ready for direct and instantaneous contact with his instrument.[382]

The requirement here is to avoid an arbitrariness of performance which is present when the degree of indeterminacy is too high, arbitrariness not as chance but the intrusion of intentional decision and the reintroduction of the individual ego into music. The extent to which Cage's indeterminate scores still contain a high degree of determination at the level of performance is indicative of the process he was still working through, as shown by his later reflection on a certain strictness that still adheres in graphical notation.[383] As such the status of the performer's freedom at the level of the performance itself, rather than the construction of the score, is still unclear, as is the extent to which the form of the work as object has shifted towards process. We will return to this precise question of the score and performance in our fifth chapter, but for now we must work through some of the tensions this notion of indeterminacy has produced.

Critical perspectives on Cage

While Cage's chance procedures had some impact on the students in his Experimental

[381] Cage, *Silence*, 28.
[382] Cage, *Silence*, 29.
[383] Kostelanetz, *Conversing with Cage*, 95.

Composition class and others following, it is this notion of indeterminacy that proved most central, in part through a persisting connection between indeterminacy and scoring, and the bringing into question of the status of the score. First, however, we will see also that the students who 'followed' Cage and helped define key strands of artistic practice through the 1960s often break with and transform Cage in significant and critical ways. Outwardly the happenings of Kaprow could appear to share the most similarities with *Black Mountain Piece* – often chaotic, noisy, overwhelmingly multisensory – but Kaprow, alongside Dick Higgins and Al Hansen, would be among the students of Cage who would resist Cage's refusal of individual intention through the use of chance, and rather maintain a form of authorial risk within theatrical pieces of indeterminate performance.[384] For this reason Cage would ultimately distance his form of 'theatre' from that of Kaprow and Higgins in particular, which Cage saw as producing again a kind of artistic object which could not tolerate any external intervention interfering with the realization of the artistic ideal, even if that ideal is not itself entirely determinate.[385] Cage associates this with the Renaissance work – as "the expression of an idea or a feeling that an individual has", disavowing the possibility that served as what Cage saw as the basis of the emergence of the happening and of indeterminacy, namely that anything can happen rather than merely that what the artist preconceived.[386] Cage sees an artistic authoritarianism present in this approach, saying of the directed approach of Kaprow's *Eighteen Happenings in Six Parts* that art's political content "doesn't include policemen".[387]

This critique, however, will be inverted in later critiques of Cage, precisely insofar as the abnegation of decision through chance is posed as reinforcing a form of authority. In her 1981 piece 'Looking Myself in the Mouth', choreographer, dancer, and filmmaker Yvonne Rainer looks back at and critiques an overdetermining influence of Cagean

[384] See Branden W. Joseph, "Chance, Indeterminacy, Multiplicity," in *The Anarchy of Silence: John Cage and Experimental Art*, ed. Julia Robinson (Barcelona: Museu d'Art Contemporani de Barcelona, 2009), 211.
[385] Cage, *For the Birds*, 167.
[386] Kostenanetz, *Conversing with Cage*, 118-19.
[387] Ibid.

principles, or rather his "abdication" of any principle of "importance or significance",[388] in her conceptual self-understanding over two decades of work. For Rainer, Cage's refusal of any kind of allowance for signification leads towards a nonsignifying practice "existing in a realm of pure idea, anterior to language – without mind, without desire, without differentiation, without finitude".[389] By subverting meaning on principle and denying, as Rainer sees it, the constitution of any new form of meaning, the Cagean art practice is left producing only "an impenetrable web of undifferentiated events",[390] and a passivity which deflects the question of power uniformly, in so doing denying the possibility of 'retelling' the narratives with which it is trying to break.[391] From this Rainer concludes that Cage's practice constitutes an "abandonment, an appeal to a Higher Authority".[392] We see this not only in the broad political sense to which Rainer is generally referring, but in more specific instances – in Cage denying himself a constitutive role in the theoretical discourse surrounding Rauschenberg and hence the impetus for his own musical direction, or in the degree of perceptive certainty that is instilled in Cage's anechoic chamber experience by his deferral to the sound engineer regarding the two sounds he could hear. In the latter case, to some extent perceptual ambiguity is not allowed to remain ambiguous or to rewrite itself in a new order of sense determined by his own interpretation or otherwise, but is rather only reabsorbed into the predetermined scientific understanding. This raises key questions looking ahead – what is the phenomenological and epistemological status of Cage's perceptions in the anechoic chamber? How does this relate to a critical and active practice of experimentation?

Douglas Kahn echoes this critique and aligns it with his theory of a lineage of twentieth century musical practices which subsume an ever-greater field of sound into the unifying code that is 'music', a lineage which, as we saw in our second chapter, Kahn poses as culminating with Cage. The expansion of the field of accepted sounds reaches

[388] Yvonne Rainer, "Looking Myself in the Mouth," in *John Cage: October Files 12*, ed. Julia Robinson (Cambridge, Mass ; London: The MIT Press, 2011), 39.
[389] Ibid., 40.
[390] Ibid., 41.
[391] Ibid., 45.
[392] Ibid., 47.

its final stage with Cage's sound-space, taken as a totalizing field – an aspect of Cage's work which remains heavily steeped in a certain modernism, implicated in questions of medium-specificity and formalism, with Benjamin Piekut describing the "modernist impulse" of separating sound into its component parts,[393] as well as the modernist heritage of the notion of 'field' itself. For Kahn, Cage, like Schaeffer, overlooked "the degree to which he was lodged within Western art music" and in turn "how willing he was to carry further its processes of exclusion and reduction with respect to sound in general".[394] With the line between sound or noise and music erased, we are led, Kahn suggests, towards an emancipatory endgame – if everything is open, we are left with "no more means to materially regenerate music"[395] – every possible musical gesture is implied already in its expanded sound field.

Furthermore, and crucial to the artistic procedures made with and through Cage, Kahn posits Cage's anechoic chamber experience as bringing about a key conceptual shift alongside this notion of sound – as conjoining the principle of *all sound*, as the opening of music to the entirety of the sound field, to *always sound*. It is not only that all sound is permissible in music, but that this world of sound is inescapable, it suffuses every moment. With regards to music, the opening to the everyday, of inside to outside, is posed less as an opening than it is a reclamation of outside to inside – if every moment is saturated with sound, intentional and unintentional, and if in Cage we have an artistic model of incorporating this outside into the inside, there is no longer any point of discernment. Here it concerns a totalizing musical gesture, but from another perspective, that of the listening subject, this likewise portends to the passivity which Rainer locates in Cage's thought. As Kahn elaborates, we find Cage distinguished from that American art of the 1940s that drew on Surrealism, Freud and Jung as a means of tapping the unconscious, insofar as Cage was "less interested in getting the ego out of the way to enable the unconscious to come out into the world than in removing the ego so more of

[393] Benjamin Piekut, *Experimentalism Otherwise: The New York Avant-Garde and Its Limits* (Berkeley ; Los Angeles ; London: University of California Press, 2011), 56. See also Benjamin Piekut, "Sound's Modest Witness: Notes on Cage and Modernism," in *Contemporary Music Review* 34:1 (February 2012): 3-18.
[394] Kahn, *Noise, Water, Meat*, 165.
[395] Ibid., 164.

the world could get *in* unobstructed."[396]

For Kahn, like Rainer, Cage's openness and its refusal to serve a critical function sees it only reinforce the structural terms of the status quo. Cage "explicitly sought to subvert tactics based in human centeredness, yet all he did was shift the center from one of utterance to one of audition"[397] – Cage reverses into a reinforcement of a form of subjectivity posited as being under critique. Cage's shift "entailed a production of music through the sonicity of audition [rather than utterance] while retaining all other features of Western art music".[398] The notion of an ideal listener, silenced, extracted from the social realm, and oriented towards the adequate understanding of its musical object, is, as James H. Johnson among others have argued, firmly entangled with the emergence of the bourgeois subject and is key to the development of Western classical music's conceptualization as a self-determining art form.[399] As Kahn sees it, *4'33"* is an extension of this decorum of silencing, asked not only of the listener but also of the performer.[400] Cage's silencing is universalized, as a gesture once restricted to the concert hall becomes, through the conjunction of *all-sound* and *always-sound*, a generalized social command.

Suggested in this is what Kahn sees as Cage's major political failing – in this project of absolute emancipation through listening, we are required to silence. Noise as a field of tension – as a fundamental element of social or ecological relations – is muted, and in its place comes a totalizing impetus for a kind of harmony and organization under new, but ultimately retrogressive, forms of the subject. Letting sounds be themselves, as Paul Hegarty argues, still finds itself concerned with forms of framing and locating, opening an ethics of listening where passivity reverses into a totalitarian form of activity – the

[396] Ibid., 172. Here Kahn and Rainer's critiques intersect on the point of psychoanalysis, which we will address in our next chapter.
[397] Ibid., 197.
[398] Ibid., 198.
[399] See James H. Johnson, *Listening in Paris: A Cultural History* (Berkeley ; Los Angeles ; London: University of California Press, 1995), also e.g. Chanan, *Musica Practica* (see our first chapter), and Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham ; London: Duke University Press, 2003).
[400] Ibid., 165.

‘Higher Authority’, to use Rainer’s term, to which Cage appeals is for Kahn ultimately those social, cultural, and political structures which insist while Cage demands an impossible ideal listener.

While Cage’s work into and across the 1960s purports to take social issues as its focus, and we have followed the introduction of these concerns into Cage’s thought, Kahn does not see this shift as bearing an equivalent conceptual move in his understanding of sound,[401] a claim Benjamin Piekut will reiterate by claiming that Cage’s understanding of sound remains always a modernist understanding, where there persists an absolute distinction between the objective world of sound and social contingencies.[402] Insofar as Cage’s wider concerns are not separated from his musical concerns, and are mapped onto what is posed as an unchanging understanding of sound, we will find notions such as the social, the cultural, or the ‘everyday’ being essentialized and flattened.

Rainer’s and Kahn’s critiques of Cage are powerful, but act on one image of Cage’s thought, most notably in Kahn’s case oriented around the experience of the anechoic chamber. In so doing they perhaps obscure some key contextual and theoretical questions in both the reception of Cage and in Cage’s own practical trajectory. How are we to understand the tensions between simultaneous gestures of openness and gestures of closure regarding the field of music and the listening subject? How do such broad and seemingly universal claims relate to a practice under transformation and mutation, to an experimental practice without fixed ground or telos? To develop these questions we will consider how elements of these critiques of Cage are present already, but articulated on a more immanent basis, in how the group of artists following Cage define themselves in the early 1960s, reaching a particular theoretical focus, and reconnecting our discussion to the concerns of our previous chapter, through phenomenology.

[401] Ibid., 162.
[402] Piekut, “Sound’s Modest Witness: Notes on Cage and Modernism”.

Passages from Cage and the North American reception of phenomenology

While Fluxus, unlike Kaprow and ultimately Rainer, was generally more attuned to Cage's aversion to control, there are nevertheless important practical and theoretical distinctions to be found.[403] One of the key performance techniques to emerge from Cage's Experimental Composition class, and which was central to Fluxus, is that of the event score, also known as the text score and instruction piece, among other terms. Often credited to Brecht,[404] there are in fact nascent forms of the event score being produced throughout the 1950s – Yoko Ono's *Secret Piece*, dated summer 1953, which instructs the performer to play a single note with the accompaniment of "The woods from 5 a.m. to 8.a.m. in summer" being one such instance.[405]

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[403] Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2006), 60.
[404] See Gascia Ouzounian, "The Uncertainty of Experience: On George Brecht's Event Scores," in *Journal of Visual Culture* 10:2 (2011): 198-211.
[405] Yoko Ono, *Grapefruit: A Book of Instructions and Drawings by Yoko Ono* (New York: Simon & Schuster, 1970). Indeed, Ono's work is only one case of a wide number of pre-Fluxus multi-disciplinary artistic practices ongoing by various groups and individuals in Japan through the 1950s which indicate that the 'Cagean' aspect of 1960s art is in fact a more complex phenomenon. As Tone Yasunao argues, the 'Cage Shock' – the notion that Cage's music and ideas had a seismic impact on Japanese artistic practice following Cage and Tudor's visit to Japan in 1962 (see Mikiko Sakamoto, "Takemitsu and the Influence of 'Cage Shock': Transforming the Japanese Ideology into Music," in *Student Research, Creative Activity, and Performance School of Music* Paper 23 (2010), accessed 21/09/2015 http://digitalcommons.unl.edu/musicstudent/23) – is overstated, or at least accompanied an element distinct to ongoing practices within Japan, hence Alexandra Munroe's coinage of the term 'Cage-Ichiyanagi Shock'(Alexandra Munroe, *Japanese Art After 1945: Scream Against the Sky* (New York: Harry N. Abrams Inc., 1994), 218. See also Silverman, *Begin Again*, 182-84 and Mark Swed, "A dean of Japanese music talks boundaries, John Cage and life with Yoko Ono," in *LA Times* (15/05/2015), accessed 21/09/2015 http://www.latimes.com/entertainment/arts/la-ca-cm-toshi-ichiyanagi-profile-20150517-column.html). Miki Kaneda and Tone Yasunao, "The 'John Cage Shock' Is a Fiction! Interview with Tone Yasunao," in *Post: Notes on Modern & Contemporary Art Around the Globe* (March 8, 2013), accessed 21/09/2015 http://post.at.moma.org/content_items/178-the-john-cage-shock-is-a-fiction-interview-with-tone-yasunao-1.

Toshi Ichiyanagi was another of Cage's New School students, albeit not in summer 1958, and had previously in Japan been associated with the Jikken Kobo (Experimental Workshop) collective. Jikken Kobo, described by Jasia Reichardt as being alongside the Black Mountain College and London's Independent Group in setting in motion the changes in attitude that characterize the most important shifts in art from the 1960s onwards (Jasia Reichardt, *Experimental Workshop* (London: Annely Juda Fine Art, 2009)), formed in 1951 for the purpose of collaborating on multimedia projects, with founding members including Toru Takemitsu and Akiyama Kuniharu, who in 1952 produced Japan's first piece of tape music, having heard of but never heard the work ongoing in Europe (Battier, "What the GRM brought to music: from musique concrète to acousmatic music," 193), and produced 'theatrical' pieces, spanning music, sculpture, photography, and theatre, drawing from the pre-war avant-garde but in relative isolation from contemporary practices in Europe and North America (showcased at the Tate Modern 'Jikken Kobo' exhibition between July 2013 and April 2014). This group and its studio at the Japanese Broadcasting Corporation would eventually fall more under the influence of *elektronische Musik* and lose much of its

As Michael Nyman describes the distinction between Fluxus and Cage, "[w]hile Cage invokes the total, unpredictable configuration, permanent flux, and seems (theoretically) not interested in the quality of individual things, Brecht isolates the single, observed occurrence and projects it into a performance activity".[406] This interest in the total configuration indicates that which is still 'modernist' in Cage's work, that which Kahn and Piekut will separate from his social concerns, that of the all-encompassing sound field, and for instance his persisting grounding of his notion of sound in variables. While the Experimental Composition class grounded itself in the terminology of Cage's sound-space, of sound as a field, its results go quickly beyond this, and while sound is still operative in many event scores it is perhaps in how these pieces depart from Cage's sonic field that we find the strongest point of differentiation.

With event scores we find smaller sound worlds, with no nod towards totality, a consequence of which is a plurality of understandings of sound. In, for instance, Ono's *Tape Piece* scores, the performer is asked to "Take the sound of the stone aging" (*Tape Piece I*), to "Take the sound of the room breathing" at different points of the day (*Tape Piece II*), and to "Take a tape of the sound of snow falling […] Do not listen to the tape. Cut it and use it as strings to tie gifts with" (*Tape Piece III*).[407] All of these intimate a kind of 'silence' aligned with a Cagean wish to see the everyday penetrate art, a textual form of scoring utilized precisely to incorporate the everyday into the performance as Cage had insisted music must since the beginning of the 1950s, but these silences articulate themselves differently – many silences, none of which pertain to the Cagean notion of the parametric sound-space, but rather locate themselves in different durations and personal and social spaces. Likewise La Monte Young poses his practice against what Brandon LaBelle calls Cage's "extravagant confusion" with his 'Theatre of the

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original multimedia basis, but it would be followed by Group Ongaku, a performance-oriented ensemble founded by Tone, Ichiyanagi, future Fluxus associate Takehisa Kosugi and others (see Thom Holmes, *Electronic and Experimental Music: Pioneers in Technology and Composition, second edition* (New York ; London: Routledge, 2002), chapter four, 'Early Electronic Music in Japan').

[406] Michael Nyman, *Experimental Music: Cage and Beyond, second edition* (Cambridge: Cambridge University Press, 1999), 74.

[407] Ono, *Grapefruit*.

Singular Event'.[408] Through this he will come to divest his pieces of the necessity of sonic content entirely, but nevertheless imply a context of sound through his own practice and the labeling as *Composition*. *Composition 1960 #7* features notation (a perfect fifth) and the instruction "to be held for a long time", while *Composition 1960 #10* instructs simply "Draw a straight line and follow it" – in many respects the same command but divested of its specific musical content and opened to new contexts, sonic or otherwise.[409]

One significant element here is the indication that the paths that diverge from Cage in some respects converge on a theoretical moment that appears to efface sonic materiality for discourse.[410] Of particular importance for understanding the theoretical basis of this shift is the work of Robert Morris. As Annette Michelson argued, Cage's challenge to modernism was key to Morris' project, as it was for others – that Cage cleared a space for "an infinitely wider field of operations" against modernist prescriptiveness and the confines of medium-specificity, as an opening to the "vast found object" that is the world at large.[411]

In 1960 Morris entered into correspondence with Cage, in which Morris echoed much of Cage's principles and terminology – the elimination of artistic authority, a shift from expression to reception, and an interest in Cage's 'no-continuity' as developed in 'Lecture on Something'.[412] By the following year, however, Morris had moved to distinguish his work from Cage's, particularly in terms of how society and culture were to be related to artistic practice. Where Cage would seem to seek to eliminate all

[408] LaBelle, *Background Noise*, 68. See also Wim Mertens, *American Minimal Music: La Monte Young, Terry Riley, Steve Reich, Philip Glass*, trans. J Hautekiet (London: Kahn & Averill, 1983), 25.
[409] See La Monte Young, ed. *An Anthology of Chance Operations* (New York: La Monte Young & Jackson Mac Low, 1963). Young's subsequent reinvestment in a highly essentialized notion of sound will be discussed in our fifth chapter.
[410] This is the basis of Seth Kim-Cohen's argument in *In the Blink of an Ear*, and, while we do not accept the extent to which he divests sound-based art of any non-contextual or, indeed, non-textual understanding, his work has been invaluable for the construction of our argument here.
[411] Annette Michelson, "Robert Morris: An Aesthetics of Transgression," in *Robert Morris: October Files 15* (Cambridge, Mass.: The MIT Press, 2013), 18.
[412] See Branden W. Joseph, "Robert Morris and John Cage: Reconstructing a Dialogue," in *October* 81 (Summer, 1997): 63.

structures that police the border between art and life, and against an apparently Cagean ideal of a listener whose structures of listening equate to the structures of sound, Morris would make central again the question of individual consciousness, positioned as a subjective transgression of power structures, articulated through a dynamic between an ideal understanding (Husserlian adumbration) and a temporally and spatially situated contingency of perception.[413] Crucial here is the early North American reception of the phenomenology of Maurice Merleau-Ponty – his *Phenomenology of Perception* was first translated into English in 1958, with the essay on painting 'Eye and Mind' following in 1964,[414] and Michelson herself played a key role in introducing Merleau-Ponty's thought to North American artistic discourse, having attended his Collège de France lectures in the 1950s.[415] This guided Morris in the development of his self-theorization, with his 1966 texts 'Notes on Sculpture' and 'Notes on Sculpture, Part 2'[416] guiding the discourse that came to surround minimal art specifically and the widening field of art practices in the 1960s more generally.[417]

It is on this basis that Morris marks a passage between the first grouping of post-Cagean art practices and minimal art, significant here because it is in the context of minimal art that the critical debates which come to characterize 1960s art come into focus, with an key early text following Morris being Michael Fried's 'Art and Objecthood' (1967). Fried's piece stages a confrontation between modernist art and minimal art, particularly that of Morris, Donald Judd and Tony Smith, the latter of which he describes as 'literalist' art, wherein art "amounts to nothing other than a plea for a new genre of theatre, and theatre is now the negation of art".[418] Fried's approach to this is through the

[413] See Michelson, "Robert Morris: An Aesthetics of Transgression," and Rosalind E. Krauss, *Passages in Modern Sculpture* (Cambridge, Mass.: The MIT Press, 1981).
[414] Maurice Merleau-Ponty, "Eye and Mind," in *The Merleau-Ponty Reader*, trans. Galen Johnson and Michael Smith, ed. Ted Toadvine and Leonard Lawler (Evanston, Illinois: Northwestern University Press, 2007).
[415] See James Meyer, *Minimalism: Art and Polemics in the Sixties* (New Haven ; London: Yale University Press, 2001), 297n39.
[416] Robert Morris, *Continuous Project Altered Daily: The Writings of Robert Morris* (Cambridge, Mass.: The MIT Press, 1993).
[417] See Meyer, *Minimalism*, 161, and LaBelle, *Background Noise*, 77.
[418] Michael Fried, "Art and Objecthood," in *Minimal Art: A Critical Anthology*, ed. Gregory Battcock (Berkeley ; Los Angeles ; London: University of California Press, 1995), 125.

notion of the object and objecthood, or more precisely minimal art's reduction of the work of art to mere object – as Greenberg would say of Rauschenberg, minimal art is read as art but only at maximum proximity to non-art, or simple objecthood. While the modernist artwork is autonomous with regards to its surroundings, the 'literalist' artwork is taken as striving towards the point of indiscernibility.

For Fried a key aspect of art as theatre is its insertion of the viewer into the situation – that it is concerned with the "actual circumstances in which the beholder encounters the literalist work".[419] As such the paradigmatic notion of literalism as theatricality is a 'preoccupation' with time – specifically, Fried posits, time as experienced.[420] For Fried, following Greenberg, the modernist work is not experienced durationally. The 'literalist' preoccupation with time

> marks a profound difference between literalist work and modernist painting and sculpture. It is as though one's experience of the latter has no duration – not because one in fact experiences a picture by Noland or Olitski or a sculpture by David Smith or Caro in no time at all, but because at every moment the work itself is wholly manifest […] It is this continuous and entire presentness, amounting, as it were, to the perpetual creation of itself, that one experiences as a kind of instantaneousness: as though if only one were infinitely more acute, a single infinitely brief instant would be long enough to see everything, to experience the work in all its depth and fullness, to be forever convinced by it.[421]

In literalist art, rather than this immediate understanding of the art object we have "above all the endlessness, or objectlessness, of the approach or on-rush or perspective"[422] – the experience of time as it passes, citing Tony Smith's account of driving on the New Jersey Turnpike (which could equally be said of Cage's reference to driving through Kansas in 'Lecture on Nothing'). It is this that replaces the status of the art object, and as such Fried's concern is less with the 'objecthood' of minimal art pieces as such than it is with this insertion of temporality.

Fried's descriptions of art-as-theatre's divergence from modernist art are largely

[419] Ibid.
[420] Ibid., 145.
[421] Ibid., 145-46.
[422] Ibid., 134.

accurate, but exclude the specific critical positions taken to justify the move – that is, in Cage's terms, how and why move from object to process takes place. In Morris' case this will take place through the specific character of his 'phenomenology' and its relation to minimal art as a 'public mode' of sculpture,[423] and in this respect we can see, first via Michelson, how Morris' 'phenomenology' is most closely associated with that of Merleau-Ponty.[424] As Michelson presents the relation, Morris and Merleau-Ponty are alike understanding knowing as "the body's functioning in a given environment".[425] Rosalind Krauss will elaborate on this in her discussion of Richard Serra, arguing that a necessity of reading minimal art through Merleau-Pontyan phenomenology is the recognition that perceptual data always pertains to "the meanings that things present to a given point of view",[426] that is, the recognition that phenomenological space is inextricably implicated with experiential time and the concomitant host of cultural, social, and historical relations.

As Krauss discusses Morris' 1965 *(Untitled) L-beams*, a piece in which two or three l-shaped fiberglass beams are placed in the gallery space,

> No matter how clearly we understand that the three Ls are identical, it is impossible […] to really perceive them as the same. The *experienced* shape of the individual sections depends, obviously, upon the orientation of the Ls to the space they share with our bodies.[427]

Here lies the critical basis of Morris' rejection of Greenbergian modernism – that Morris rejects the very possibility of experience an art object in its full instantaneous presentness, as Merleau-Ponty rejects the Husserlian notion of the object and the objectivity of geometric space.[428] On the contrary, Morris posits a situated

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[423] Morris, *Continuous Project Altered Daily*, 13.
[424] Also important here is Michelson's use of Peirce, and Maurice Berger's elaboration of this reading as a means of 'rescuing' Morris from his later formalist interpretations. See Maurice Berger, *Labyrinths: Robert Morris, Minimalism, and the 1960s* (New York: Harper & Row, 1989).
[425] Michelson, "Robert Morris: An Aesthetics of Transgression", 25.
[426] Rosalind Krauss, "Richard Serra, a Translation," in *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, Mass.: The MIT Press, 1985), 263.
[427] Rosalind Krauss, "Sense and Sensibility: Reflection on Post '60s Sculpture," in *Artforum* 12:3 (November 1973): 49.
[428] See Krauss, *The Originality of the Avant-Garde and Other Modernist Myths*, 270.

phenomenology to argue that the intimacy of the viewer with the art work derives from a figure/ground relation constituting "those aspects of apprehension that are not coexistent with the visual field but rather the result of the experience of the visual field",[429] an "expanded situation"[430] whereby the space of the work now includes viewer and context. In experiencing the artwork the viewer should be "more aware than before that he himself is establishing relationships as he apprehends the object from varying positions and under varying conditions".[431]

Space reconsidered

While Morris posits his phenomenological move as a divergence from Cage, there are important respects in which this theoretical shift is not so easily distinguishable from Cage's thought, and which will allow us to discern some tensions which persist in such phenomenological approaches – both in Cage, particularly a Cage read through the primacy of the anechoic chamber experience, and of post-Cagean art more generally. This line of enquiry begins by delving more deeply into the understanding of space that lies behind Morris' phenomenological shift, since, as we have seen, there is equally in Cage, binding together *4'33"* and *Black Mountain Piece*, a rethinking of the notion of space – indeed, Cage would later say that what distinguishes 'neo-Dada' from earlier Dada is the involvement of space.[432] This draws us likewise back towards the transcendental critique outlined in our first chapter and refined via Husserl and Schaeffer in our second chapter, that enacted towards Kant and formalist aesthetics by Deleuze and Cage respectively. The question of space, as understood by both Cage and Deleuze, develops through an engagement with Henri Bergson, and gives a new inflection to those moves made by Schaeffer and Husserl as well as those of the artists following Cage.

[429] Morris, *Continuous Project Altered Daily*, 6.
[430] Ibid., 17.
[431] Ibid., 15.
[432] Kostelanetz, *Conversing with Cage*, 116.

In *Creative Evolution*, Bergson suggests that for Kant "space is given as a ready-made form of our perceptive faculty",[433] suggesting a kind of pre-established harmony between our mind and the things of the world, a notion which Kant himself sought to avoid. For Bergson this problem can be traced back to an excluded possibility in Kant's consideration of the nature of space – for Kant, Bergson suggests, in the relationship between subject and world "either the mind is determined by things, or things are determined by the mind, or between the mind and things we must suppose a mysterious agreement".[434] What has been excluded here, Bergson suggests, is the possibility that "intellect and matter have progressively adapted themselves one to the other in order to attain at last a common form"[435] – Kant's possibilities cannot admit the notion of "degrees in spatiality"[436] and as such cannot admit a genesis of space which is intertwined with but ultimately independent of our knowledge of it. Under Kant's understanding, however, we find a feature that Deleuze would later locate as a traditional cornerstone of transcendental philosophy, namely that "the conditions of the real object of knowledge must be *the same as* the conditions of knowledge"[437] – that is to say, a necessary isomorphism between the structure of knowledge and the structure of the object must hold, leading to, Deleuze will suggest, a situation where being cannot be thought without being understood as "*either* an undifferentiated ground […] an abyss without differences […] *or* a supremely individuated Being and an intensely personalized Form".[438]

This echoes the transcendental critique we have followed already, this particular aspect especially through Maimon, but the distinctness of Bergson's response will be crucial moving on – a response posed as a reinterrogation of the concept of space underlying this theory. Bergson suggests that space operates in Kant as a necessary *a priori* representation, an inert ground prior to the objects inhabiting it which serves as the

[433] Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: The Modern Library, 1944), 224.
[434] Ibid., 225.
[435] Ibid.
[436] Ibid., 224-25.
[437] Deleuze, *The Logic of Sense*, 105.
[438] Ibid., 106.

medium for any interactions between these elements.[439] These objects are discrete in nature, and as the space in which they inhere is homogeneous and inert the relations between objects is thus characterized entirely in terms of its exteriority to the objects themselves. While Kant, as Bergson notes, sought to give science a relative character and reduce the metaphysics on which it lies to a minimum, Bergson suggests that in relying on this model of space, both in terms of space itself and isomorphically as a faculty of establishing relations, Kant "attributed an extra-intellectual origin to the terms between which relations are established".[440] As this extra-intellectual origin is "either coextensive with intellect or less extensive than intellect",[441] no tracing of the genesis of this extra-intellectual form is possible.

This critique of Kant's conceptualization of space stands as one of the starting points for characterizing Bergson's philosophy of difference. Deleuze's engagement with Bergson spans the entirety of his writings, and it is in two early pieces on Bergson that the conception of difference that becomes central to Deleuze's later work begins to emerge. In 'Bergson's Conception of Difference' Deleuze argues that with Bergson we find that the task of philosophy must be to conceive of differences in *nature* rather than simple spatio-temporal difference; that is, conceiving of the nature of difference as difference in itself rather than difference as one thing's perceivable distinction from another thing. The latter is a difference founded upon "contradiction, alterity and negation"[442] as opposed to the wholly *internal* difference of the former. While Bergson's route out of this mode of thinking is an emphasis on duration as a distinct temporal mode of thought in opposition to spatial thinking, Deleuze and later Deleuze & Guattari appear to reformulate this reading in terms of the underlying geometries of different forms of spatiality.

Kantian space is characterized as homogeneous and atomistic – that is, corresponding to

[439] This discussion of space draws from Henry Somers-Hall, *Hegel, Deleuze, and the Critique of Representation: Dialectics of Negation and Difference* (New York: State University of New York Press, 2012), 74-76.
[440] Bergson, *Creative Evolution*, 389.
[441] Ibid., 390.
[442] Deleuze, *Desert Islands*, 38.

Euclidean geometry. Bergson, on the contrary, was able to work with models of geometry which were not available to Kant, particularly that which followed Bernhard Riemann. Central to Bergson's project is what can be characterized as the reevaluation of how entities relate in Euclidean terms versus this relation in Riemannian terms.[443] While the Euclidean perspective opens the road for developing the analytic tools that came to be fundamental to scientific discovery, insofar as it offers objects open to immediate and distinct study and opens a mode of thought defined by discontinuity and spatiality, Deleuze associates this distinction with Bergson's project to think the two "halves" of the absolute adequately, in terms of a thought of a post-Euclidean Newtonian science and a kind of post-Riemannian metaphysics.[444] With the extension of Bergson through Riemannian geometry Deleuze has the tools to think a form of interpenetrative multiplicity defined by continuity and temporality, and a spatiality that does not act as a universal measure which predetermines the characteristics of that which occupies it – in this respect crucial for the development of the problematic Idea and likewise, looking ahead, the smooth space of *A Thousand Plateaus*.[445]

The influence of Bergson on Cage's understanding of space is felt in Cage's 1961 lecture 'Where Are We Going? And What Are We Doing?', where Cage suggests that the space being explored by experimental music is "limitless and without qualitative differentiation but with a multiplicity of differences".[446] As Branden W. Joseph notes, Cage's use of the term 'multiplicity' appears to draw explicitly from Bergson, oriented as with Bergson towards resisting false unities and totalities, with Cage noting that his use of charts for *Music of Changes* was so as to "understand thoroughly all of the qualities that act to produce multiplicity".[447] Cage's initial reception of Bergson appears to have roughly coincided with the 'founding moment' that was Cage's anechoic chamber visit,[448] and, furthermore, the parallels between Cage's recounting of that visit

[443] Somers-Hall, *Hegel, Deleuze, and the Critique of Representation*, 80-81.
[444] Gilles Deleuze, *Bergsonism*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Zone Books, 1991), 116.
[445] In our fifth chapter we will use this relation to draw out not only the connection between Deleuze & Guattari and Cage, but also between our critical conjunction of Deleuze-Cage and Deleuze & Guattari.
[446] Cage, *Silence*, 204-05.
[447] Cage, *The Boulez-Cage Correspondence*, 110.
[448] Joseph, "Chance, Indeterminacy, Multiplicity," 220.

and a thought experiment outlined by Bergson in *Creative Evolution*'s 'The Idea of "Nothing"', with which Cage was familiar, are striking, and allow us to begin to elaborate a connection between the 'nothing' and silence of Cage's theoretical development from the early 1950s on and his shifting understanding of space. In this thought experiment, Bergson envisions closing off his senses so as to imagine nothing:

> I am going to close my eyes, stop my ears, extinguish one by one the sensations that come to me from the outer world […] all my perceptions vanish, the material universe sinks into silence and the night […] I subsist, however, and cannot help myself subsisting. I am still there, with the organic sensations with come to me from the surface and from the interior of my body, with the recollections which my past perceptions have left behind them – nay, with the impression, most positive and full, of the void I have just made about me.[449]

Bergson's account of this thought experiment stands to reject the notion that 'nothingness' has an ontological status, that a confusion occurs when we attempt to discover the object of 'nothing' and find another object in its place. As such it would appear that upon visiting the anechoic chamber Cage saw the opportunity to transport this generalized critique of negation into the specific realm of sound – indeed, Cage's claim that "there is no such thing as silence" is prefigured by Bergson's claim that "there is no absolute void in nature",[450] and just as Cage's claim underlies a deeper point about the exercise of sound and the listening subject, so Bergson's claim has more subtle ontological and epistemological implications. The confusion that occurs when we attempt to locate the object of 'nothing' is acted out in Bergson's discussion of order and disorder, and it is with this that we find Cage's most prominent reference to Bergson – in 1957's 'Experimental Music' Cage refers precisely to the spatial organization of new music, suggesting that it is better heard, contrary to the standard orchestral model, when the sound sources (performers or loudspeakers) are separated in space, as new music is concerned not with harmonious blending but rather "with the coexistence of dissimilars, and the central points where fusion occurs are many: the ears of the listeners wherever they are. This disharmony, to paraphrase Bergson's statement about order, is simply a harmony to which many are unaccustomed" – and hence the move "[t]owards

[449] Bergson, *Creative Evolution*, 302.
[450] Ibid., 281.

theatre".[451] *Black Mountain Piece* and *4'33"* both articulate this notion, perhaps emphasizing different aspect – the former placing an emphasis on the plurality of sounding voices, the latter on a uniquely perspectival relation to a given sound space.

This notion of disorder is also discussed in *Creative Evolution*, when Bergson considers what it would mean to say that a room we have entered is disordered. We have two types of order, Bergson suggests – one which concerns the way in which a methodical person would will the objects to be ordered, and one which is derived from the efficient causes which have caused each object to be where it is. While the second type of order is 'perfect' and its orderliness cannot be doubted, the first is that order which is of interest to us in our everyday lives, and when the first order cannot "express the presence of the second as a function of the first, instead of expressing it, so to speak, as a function of itself",[452] the second order is judged to be a form of disorder. Underlying this quotidian example we see a return to the fundamental questions of space considered earlier – we have on one hand a type of order which corresponds to the organizing subject, with an ultimately homogeneous conception of space determined by Euclidean geometry, and on the other hand a space not reducible to this formulation, which does not adhere to an isomorphism between subject and experience. With both *4'33"* and *Black Mountain Piece* we find perceiving subjects whose perception is not an adequate total representation of the situation at hand, not as an arbitrary limitation but as a consequence of the coexistence of individuals in space and time without any general organizing schema under which to understand them. In this we can discern what for Bergson and Cage alike stands as the characteristics of two different types of space and the types of multiplicity to which they correspond – one space proper to discontinuous, numerical multiplicities, and the other to continuous, virtual multiplicities, those multiplicities in which we find a life not reducible to representation.

[451] Cage, *Silence*, 12.
[452] Bergson, *Creative Evolution*, 254.

Cage and two Merleau-Pontys

This rethinking of space allows us project forward into Merleau-Ponty and to his North American reception, for which we will turn to 'Eye and Mind', marking an extension of the thought of *Phenomenology of Perception* and pointing towards the reformulation of phenomenology that will take place with the unfinished *The Visible and the Invisible* project. The theme of 'Eye and Mind' is one that echoes writings of Bergson – that scientific thinking, if not science itself, has illegitimately detached its concerns from questions of metaphysics in favour of a mode of thinking which considers itself master and manipulator of the world, where the opaqueness of the world before us is lost in favour of an absolute autonomy of science. As with Bergson this question comes to be addressed in terms of conceptualizations of space, and a core argument of 'Eye and Mind' is that we find in modern painting, starting with Cézanne, a rethinking of space through a turn away from the techniques of geometrical perspective, and a reformulation of space contrary to the Cartesian notion wherein "[s]pace remains absolutely in itself, everywhere equal to itself, homogeneous; its dimensions, for example, are by definition interchangeable".[453] Following Merleau-Ponty's reading, with Cézanne we find a depiction of space not as defined by the kind of static model we have previously described as Euclidean, but in terms of "the sketch of the genesis of things".[454] This concerns specifically a re-reading of the concept of depth – where for Descartes, whose artistic writings focus on brass etchings, depth was seen through the perspectival addition of a third dimension, in painters such as Cézanne and Klee depth concerns colour, through which a space is formed in which objects interpenetrate, rather than having the distinctness of objects in Euclidean space.[455] Depth, in this model of spatial

[453] Merleau-Ponty, "Eye and Mind," 363.
[454] Ibid., 372.
[455] Interpretations of Cézanne are at the centre of the phenomenology of art, often accompanied by an overdetermining opticality as the basis for understanding painting – from Husserl's disconnection of the work of pure aesthetic art from any existential – historical, intellectual, affective... – position, to Merleau-Ponty's suspension of expressive values, to a dialectic of visible and invisible which restores an essential relation between man and world, extracting it from an art critical understanding of painterly questions of form and image (Éric Alliez and Jean-Clet Martin, *L'oeil-cerveau: nouvelles histoire de la peinture modern* (Paris: Vrin, 2007), 449-50). Through this the profound significance of Duchamp's nominalist cut goes unstated (Éric Alliez, "Undoing the Image," in *Aesthetics and Contemporary Art*, ed. Armen Avanessian and Luke Skrebowski (Berlin: Sternberg Press, 2011), 74) – see our discussion in chapters four and especially five.

thinking, is not an element of a model of representation, of a "merely 'physical-optical' relation with the world",[456] but rather it is a "primordial ground", an intensive field through which the other dimensions, those which are visible, can generate.[457]

In 'Eye and Mind' Merleau-Ponty appears to make a sharp distinction between disciplines – from the writer and the philosopher there is a demand for "opinions and advice", they find themselves unable to hold the world at bay in its opaqueness; music stands as the other extreme, where its turbulence is too great, too far from the designatable realm of the writer and the philosopher to offer us anything but a sketch of Being. It is only the painter, suggests Merleau-Ponty, who can draw from the opaque wildness of Being and make it visible.[458] In this we begin to hear hints towards Merleau-Ponty's final, unfinished project, *The Visible and the Invisible*, not translated until 1968 but giving a greater theoretical depth to the concerns already laid out in 'Eye and Mind'. The question of the specificity of painting turns back towards the original question of science and attempts to reframe phenomenology and ontology through a subject acting in a domain wholly distinct from that of the scientist, in the exemplary form of the painter. In this formulation we have a subject not like that of a transcendental subject whose isomorphism with what it experiences offers the promise of pure understanding, but a subject caught up in the world, a moving body participating in a world which is no longer 'outside' as it was. The human body acts as a peculiar crossover, simultaneously seeing and visible, not like the purity of thought which "never thinks anything except by assimilating it, constituting it, transforming it into thought", but rather "a self by confusion, narcissism […] a self, therefore, that is caught up in things, having a front and a back, a past and a future".[459] The painter is the one who, caught up in this network of seeing and seen, touching and touched, reaches to the depth of these distinctions and makes visible their genesis on the canvas, makes visible "what profane vision believes

[456] Merleau-Ponty, "Eye and Mind," 370.
[457] This position is echoed later by Deleuze in *Difference and Repetition*, where we have a model of depth which is not extensity, but rather that which "account[s] for the individuations which occur within [extensity]". Deleuze, *Difference and Repetition*, 229.
[458] Merleau-Ponty, "Eye and Mind," 352-53. The kind of phenomenological priority of painting and, more significantly, the remarkable figure of the artist, will be discussed later.
[459] Ibid., 354.

to be invisible"[460] such that rather than seeing only the painter and painting we gain an insight into the "inspiration and expiration" of Being itself, without Being losing its opaqueness. Depth stands or "my participation in a Being without restriction" – neither restriction by a particular perspective or a distinct separation of one thing from another.[461]

We see here a basis for much of the spatial, temporal, and perspectival phenomenology that orients the critical understanding of minimal art, here not so neatly detached from a Cagean project, and this leaves us in a position to begin a closer philosophical analysis of what is at stake in and between Merleau-Ponty and Deleuze's projects, and in turn to begin to clarify Cage's theoretical position. While Merleau-Ponty downplays the significance of music in 'Eye and Mind', this position allows us to begin to inquire more closely into the specific ontological status of music and sonority. In *The Visible and the Invisible* Merleau-Ponty makes use of the term 'sonorous being' a small number of times in a largely undeveloped manner, but it appears to echo his reference to music in 'Eye and Mind' insofar as it refers to an especially primordial sort of Being, one in which the immediate coincidence of Being with itself, a theme he develops through the figure of the flesh, is particularly evident. This conceptualization resembles a belief about the distinction between sound and vision which is common in some theoretical areas still, namely that while the phenomenological relation to the visual field is always one of distance, with regards to sound we, the perceiver, are always already immersed in it – the suggestion being that the sonorous experience is an immediate one contrary to the mediated experience found in vision.

We begin to see in this formulation a distinction between music and painting which will carry through previously discussed critical interpretations of Cage, and from which Cage's practice itself cannot be immediately extricated, where painting operates on a perspectival, partial, mobile series of relations, whereas music and sound are characterized through immediacy, conceptual stability and so on, raising again many of

[460] Ibid., 357.
[461] Ibid., 363.

the questions we came to through Schaeffer and Husserl. Through Merleau-Ponty we can develop the status of two forks in Cagean art practice, one which maintains the centrality of music, sound, and silence, and one which distributes these terms across a wider artistic and social field.

Merleau-Ponty and the flesh

In his final, incomplete project *The Visible and the Invisible*, Merleau-Ponty's goal is the ontologization of phenomenology, or the construction of a phenomenological ontology. This takes the form of a critique of phenomenology, with Husserlian phenomenology a particular target, that is also an extension of its method, taking as primary not consciousness and that which presents itself to consciousness, but rather the "vortex" which on one hand is schematized by the act of consciousness, and on the other produces the contingent spatializations and temporalizations that make consciousness possible.[462] To be more precise – in the first working note for *The Visible and the Invisible*, four key aspects of the nascent project are raised – first, "the necessity of a return to ontology" specifically an ontology of "wild" or "brute" Being; second, "the subject-object question"; third, "the question of inter-subjectivity"; and fourth, "the question of Nature".[463] The first and second of these are immediately intertwined and indicate our relation to a musical Cage, silence, and the history of the listening subject. The return to ontology here comes in the guise of a form of thinking which will seek to replace the transcendental subject and its division of subject and object[464] by showing how already implied in these divisions is a unified notion of Being, an undivided Being found *behind* the dualisms fundamental to modern philosophical thought.[465] With Cage this overcoming of dualisms is often attributed to Zen thought, but we see here how it is equally implicated in a post-Bergsonian understanding of subject, object, and space.

[462] Maurice Merleau-Ponty, *The Visible and the Invisible*, trans. Alphonso Lingis and ed. Claude Lefort (Evanston: Northwestern University Press, 1968), 244.
[463] Ibid., 165.
[464] Ibid., 167.
[465] Ibid., 121.

In this notion is entailed a questioning of Merleau-Ponty's own phenomenological project to date, which likewise serves as a critique of phenomenology more generally. Merleau-Ponty noted that the problems posed his own *Phenomenology of Perception* were rendered "insoluble" by its starting point of a distinction between consciousness and object,[466] and that in turn the new ontological phenomenology must first strive to explain how these distinctions emerge from the world of uncultivated and preobjective Being, yet also remain, in another sense, within it – and, as such, dispel the notion of an absolute distinction between the relations of the transcendental and the empirical, or of the ontological and the ontic.[467] What the project of *The Visible and the Invisible* amounts to, then, is to show the visible, as we understand it, can only be explained in terms of an invisible which renders the visible itself visible,[468] an invisible beyond our perceiving selves which serves as a transcendental substructure of visibility itself – "our construction […] makes us rediscover this world of silence".[469]

While Cage is clear in not permitting any notion of the transcendental, we find a close affinity between this and previously discussed notions of silence and nothing – if 'sonorous being'[470] is the invisible when it is in its closest point of contact with the visible, the question is if it can stand for a 'silence' which serves to undo the boundary between listener and world. If silence becomes a transcendental ground, what is its status in Cage's practice and that of those who follow him? If this is aligned wholly with a modernist, music-oriented Cage who utilizes the notion of a sound-space as a sole organizing principle of music, a problematic silence / invisible to be made audible / visible, then how are those readings of Merleau-Ponty which are part of an artistic gesture rejecting modernist grounds to orient themselves in relation to this Merleau-Ponty?

Central to Merleau-Ponty's project, and allowing us to more precisely connect its

[466] Ibid., 200.
[467] Ibid., 266.
[468] Ibid., 151.
[469] Ibid., 170.
[470] Ibid., 144, 155.

problematic to the problematic under investigation here, is the question of difference – here posed as how two sides of a distinction relate and of the concepts of difference and identity that hold between these paired terms. In this we see how the problematic is produced from the kind of phenomenological enquiry we found in Husserl and Schaeffer – Merleau-Ponty's project seeks to reach an understanding of the relation between immanent subject and transcendent object. Insofar as *The Visible and the Invisible* stands as a response to the Husserlian project of phenomenology, then, it takes the form of another kind of transcendental critique, much in the way that Husserl's project can be read as a form of transcendental critique aimed at Kant – both methods, as with Cage's and Schaeffer's respective methods with regards to Western music theory, start with the assertion that a conditioned object or concept is presupposed as a model for its own conditions. At the root of Merleau-Ponty's critique of Husserl is precisely the tension between concept theory and percept theory readings discussed in our previous chapter. For Merleau-Ponty, Husserl's phenomenological reduction assumes that an originary division between self and world can be posited unproblematically. Below this distinction, however, there lies a more fundamental problem of the world, namely that "*everything resides within the world*",[471] it is all there – that is to say, there is an experience of the world that lies before any thought about the world, an originary coincidence between world and self that is effaced in the phenomenological reduction. As such, Merleau-Ponty's transcendental critique of Husserl parallels Husserl's of Kant not only in diagnosing an unanalyzed presupposition, but in showing how this presupposition results in a gap between terms which cannot be reconciled starting from that presupposition.

This critique of the Husserlian phenomenological reduction is found in an early section of *The Visible and the Invisible* drafted before Merleau-Ponty's death, entitled 'Interrogation and Intuition'. Positing the history of philosophy as electing certain beings, including that of consciousness, to separate itself from its fundamental theme, "the umbilical bond that binds it always to Being",[472] Merleau-Ponty argues that even

[471] Merleau-Ponty, *Phenomenology of Perception*, 198.
[472] Merleau-Ponty, *The Visible and the Invisible*, 107.

the most solid of mental certainties, every instantiation of what separates the mind from the world, are bound up in "the fabric of one sole Being".[473] Husserl's noema, on the contrary, not only transforms the 'external' world into something it is not, but by rendering the relation instantiated by the noema as that between sense and object it also distorts the subject-object relation, rendering the subject – and here Merleau-Ponty leans towards interpreting the noema in terms of the aforementioned concept theory – as thought alone rather than as being enmeshed in an experience prior to thought, irrevocably interiorizing its relationship to the object.[474] Indeed Merleau-Ponty's extended project can be viewed as an attempt to find what lies between nature and noema,[475] and in his earlier work the response to the question, in its nascent form, is expressed in the terms of an immediacy in the relation between object and sensation.[476] By the time of *The Visible and the Invisible*, however he comes to consider sensation itself to be among the philosophical terms separating philosophy from Being. The move in *The Visible and the Invisible*, on the contrary, is to seek that which lies behind any characterization of subjective experience, and that form of Being in which the subject is only one being among others – that is, the invisible behind the visible.

If we are moving from a philosophy concerned with the relations between a transcendental subject and its object towards an ontology prior to this dualistic relation, what, then, remains such that this philosophy can still be named a phenomenology? As Henri Maldiney poses this problem, while the matter of an openness to the world becomes primary to Merleau-Ponty in his final writings, this openness is still situated in the task of constituting a new phenomenology of perception.[477] Indeed, the question of phenomenology, argues Maldiney, would be *short-circuited* were it not to take into account the question of the invisible,[478] and it is on the premise that perception – the

[473] Ibid., 110.
[474] Ibid., 43.
[475] Maurice Merleau-Ponty, *Signs*, trans. Richard G. McCleary (Evanston, Illinois: Northwestern University Press, 1964), 166.
[476] Merleau-Ponty, *Phenomenology of Perception*, 405.
[477] Henri Maldiney, "Flesh and Verb in the Philosophy of Merleau-Ponty," in *Chiasms: Merleau-Ponty's Notion of Flesh*, trans. Claire E. Katz, ed. Fred Evans and Leonard Lawlor (New York: State University of New York Press, 2000), 59.
[478] Ibid., 56.

visible – is itself drawn from and situated in the invisible that Merleau-Ponty seeks to unfold the manner in which this relationship articulates itself, to consider how perceiving is encroached upon by that which is perceived. Merleau-Ponty's ontological move remains a phenomenology, then, on the basis that it is remains primarily concerned with the conditions of perception, even insofar as these conditions must come to decentre the perceiving subject as such. This is why it is 'last phenomenology' – it pertains to a discussion of perception that is as far removed from the primacy of perception as possible.

It is on this basis that Merleau-Ponty introduces the figure of the flesh. The flesh stands for an immediate coincidence of Being with itself, prior to any distinction between subject and object or other conceptual divides. It is the "thickness" of the flesh that allows the communication between the seer and the thing, insofar as at a deeper level both sides of the divide are possessed by the flesh.[479] Being itself, then, is always expressed in terms of reversibility, reciprocity, circularity and so on, insofar as any given act of perceiving is doubled by an act of being perceived,[480] and vice versa, of self in contact with self, the body insofar as it is the 'sensitive sensible'. This reversibility, however, is always incomplete – within it is entailed a separation, a divergence within being itself, or, a difference which stands as the condition for identity.[481] In this sense there appears to be a tension within the concept of the flesh – while standing as a difference which serves as a condition for identity, it also maintains a form of identity insofar as it coincides with itself and makes the distinction between self and world possible.

Here there emerges a divide in the Merleau-Ponty scholarship paralleling that between concept theory and percept theory in the Husserl scholarship, and which would find our understanding of Cage, like that of Schaeffer, split into two halves which are difficult to reconcile, indicated well in the anechoic chamber account. On one hand we have a

[479] Merleau-Ponty, *The Visible and the Invisible*, 134-35.
[480] Ibid., 155.
[481] Ibid., 216.

situated, perspectival phenomenology which appears to have little critical capacity. On the other, a universalized ontology imposing itself upon any other approach. The point where these spill into each other is where Kahn will locate the tensions and impasses of Cage's thought. If we are to accept the path of Merleau-Ponty's thought, those artistic paths following from Cage cannot be distinguished from this question either – the flesh is a necessary ontological counterpart to a perspectival engagement with the world.

M. C. Dillon argues that for Merleau-Ponty the flesh's reversibility avoids a return to identity as it consists in a doubling of difference rather than a doubling of the same – "shaking hands with the other is not the same as shaking hands with myself".[482] This entails, however, that the flesh is to be understood in terms of transcendence,[483] or as a fundamental exteriority to itself,[484] and as such Merleau-Ponty must abandon the phenomenological transcendental project of accounting for transcendence on the basis of an immanent subjectivity. As Jeffrey Bell notes, however, there appears to be a self-undermining element within Dillon's reading of Merleau-Ponty – what this transcendence stands in relation to cannot be a pure ontology of transcendent difference, but rather it presupposes a "germ of mineness"[485] which difference can stand against, an irreducible and immanent subjectivity which remains at the centre of Merleau-Ponty's enquiry.[486] Without this germ of mineness, Merleau-Ponty's ontology would turn towards an unchecked nominalism, difference redoubling difference endlessly, beyond any capacity for sense.

The other strand of interpretations of the flesh and in turn of Merleau-Ponty's transcendental project is represented by Claude Lefort, who argues that the flesh, while immanent, again reduces difference to identity – emphasizing the sense of the flesh in which it is no more than a mirror relation, in which our relation to the world is itself a mirror of our relation to our own bodies,[487] Lefort argues that Merleau-Ponty as such

[482] M. C. Dillon, "Merleau-Ponty and the Reversibility Thesis," in *Man and World* 16 (1983): 377.
[483] Ibid., 378.
[484] M. C. Dillon, *Merleau-Ponty's Ontology* (Bloomington: Indiana University Press, 1988), 36.
[485] Dillon, "Merleau-Ponty and the Reversibility Thesis," 381.
[486] See Bell, *The Problem of Difference*, 174.
[487] Merleau-Ponty, *The Visible and the Invisible*, 255-56.

reduces transcendence to immanence and, like Husserl, cannot account for the world without reducing it to the self, finding another 'tamed' world where wild Being was sought.[488] The "fundamental narcissism"[489] which resounds through the subject of both 'Eye and Mind' and *The Visible and the Invisible* means that Being is rendered as reducible to the kind of isomorphism we saw Bergson critique in Kant, whereby a harmonious end to the seer-seen distinction is ultimately located and supported by Being.

At this point we have reached the same impasse with Merleau-Ponty as we had with Husserl – of an immanence in which world is reduced to self, or of a transcendence in which self is reduced to world. Their shared attempts at putting forward a transcendental critique in order to address the divide between immanent subject and transcendent object first close the divide and institute a new sense of contact between its terms, but only to end with a reconstitution of the problem of transcendence within different terms. To reach beyond this impasse it will be useful to return to Ricoeur's reading of Husserl. Ricoeur argues that Husserlian transcendental philosophy must always be in the goal of following the object – intentional acts are acts only insofar as they are directed at a specific object – and that as such Husserl is ultimately interested in the unity and stability of consciousness rather than its inventiveness.[490] It is in this stability and unity of the transcendental ego that Merleau-Ponty locates the presupposed conditioned which he can submit to a transcendental critique, but Merleau-Ponty's late philosophy in turn appears to have a point of seemingly asserted but unqualified unity – that of Being itself. Speaking of the relation between seer and its object as he moves towards the development of the concept of the flesh, Merleau-Ponty makes the assertion that it is "*as though* [the seer] were in a relation of pre-established harmony with [the object]".[491] What is implied in this "as though"? While Merleau-Ponty is putting the question of pre-established harmony aside, he nevertheless accepts that an equivalent of it must be

[488] Claude Lefort, "Flesh and Otherness," in *Ontology and Alterity in Merleau-Ponty*, ed. Galen A. Johnson and Michael B. Smith (Evanston, Illinois: Northwestern University Press, 1990), 12.
[489] Merleau-Ponty, "Eye and Mind," 400.
[490] Ricoeur, *Husserl: An Introduction to his Phenomenology*, 41.
[491] Merleau-Ponty, *The Visible and the Invisible*, 133, emphasis mine.

found for his transcendental project to move on.

It is in overlooking this uninterrogated principle of Merleau-Ponty's late project that Dillon sees fit to assert a fundamental difference of the flesh and as such to claim that Merleau-Ponty can no longer be pursuing a transcendental project – the result of this principle, however, is that the flesh is said to be *of* Being,[492] a Being defined by identity, and as such all difference is effaced under "the unity [...] the cohesion of one sole Being from one end to the other".[493] Husserl and Merleau-Ponty alike find their transcendental projects, as enquiries into the fundamental difference between subject and object, cut short by the reassertion of a form of identity.

How do these tensions within phenomenological enquiry and understanding map onto the musical and artistic practices under discussion? With Cage it is not immediately clear, but the distinction between Schaeffer and minimal art guides us forward. While with Schaeffer the failure to elude the terms of structuring identities led to his pronouncement of the failure of his project, with minimal art we see a quite different response, namely the reinscription of anti-formalist practices into a formalist framework. Morris uses the term 'phenomenological formalism' to retroactively describe the sense in which in his work the audience's perceptual approach plays a role in determining the work's structure,[494] and this idea of structuring is given a refined formal ground in Rosalind Krauss' notion of the 'expanded field' of sculpture. From minimal art Krauss tracks a path leading to an understanding of 'postmodern' art as a practice "no longer organized around the definition of a given medium on the grounds of material, or, for that matter, the perception of the material", but rather "through the universe of terms that are felt to be in opposition within a cultural situation".[495] However, rather than resulting in the groundless flow of terms that this implies – something to which Morris was also resistant, suggesting that art becomes part of the

[492] Ibid., 139.
[493] Ibid., 111.
[494] Benjamin H. D. Buchloh, "A Conversation with Robert Morris in 1985," in *Robert Morris: October Files 15* (Cambridge, Mass.: The MIT Press, 2013), 59.
[495] Rosalind Krauss, "Sculpture in the Expanded Field," in *The Anti-Aesthetic: Essays on Postmodern Culture*, ed. Hal Foster (Port Townsend, Washington: Bay Press, 1983), 41.

"cultural infrastructure of forming itself that […] culminates in the technology of industrial production",[496] part of the central cultural task of "control of energy and processing of information"[497] – Krauss inscribes this into a new formal schema of 'sculpture in the expanded field', providing a means of careful analysis for the modernist field that is 'sculpture' after the apparent undoing of that field via phenomenological enquiry.

While Merleau-Ponty's phenomenology provided the basis for an understanding of sculpture in which viewer plurality and uncertainty could be accommodated, the critical tools of formalism reassert structural certainty at another level – as Éric Alliez describes this relation in terms which will become clearer over the coming two chapters, there is a recovery of the anti-aesthetic into a modernism, "formal qualities grasping hold of a new and superior phenomenology".[498] This understanding provides a powerful analytic tool, but at the expense of being able to account for the historical and practical complexity of the emergence of such a schema in the first place – this formalization is always a retroactive gesture, capturing nothing of the artistic practice in process.[499]

Beyond phenomenology

Through phenomenology we appear to find the same impasses and points of tension, between nominalism and formalism, between understandings of the subject and object, repeated from a wide number of perspectives. To understand these divergent phenomenological interpretations of and interactions with art and music, and their limitations, we can turn again to Deleuze, and his own reading of phenomenology, particularly here through his reading of Foucault, extending our discussion of the critique of representation from our first chapter.

[496] Robert Morris, *Continuous Project Altered Daily*, 27.
[497] Ibid., 34.
[498] Alliez, "Undoing the Image," 76.
[499] See Peter Osborne, "*October* and the Problem of Formalism," in *Quaderns portàtils* 28 (2013): 11-12.

In maintaining a subjective sense of to perceive and to be perceived, Merleau-Ponty's notion of the idea in relation to its origin is in a sense epiphenomenal – it, following Deleuze & Guattari's argument, *traverses* immanence, transcendently sitting between poles that are not part of the flow of material immanence itself, rather than remaining describable in the originary terms of wild Being. This entails a phenomenological disposition wherein the lived body-as-subject remains central to the phenomenological project at the expense of ontology *per se*, that ontology can only be discussed insofar as it is the "*a priori* materials"[500] both determining and transcending the perceiving/perceived dyad of the lived.

Connected with Deleuze's reading of phenomenology, Foucault's problematization of the question of identity allows us to look more closely at the origin of this problem. In *The Archaeology of Knowledge*, Foucault notes that his aim with regards to the history of thought had been to "cleanse it of all transcendental narcissism",[501] freeing it from the question of a "lost origin" that reveals the "transcendental moment" – that figure which explains the difference between subject and object. Suggesting that Kant, Husserl, and Merleau-Ponty try to find this origin in rational mechanics, mathematical idealities, and the meanings of the perceived world respectively, for Foucault the project of thought can no longer be concerned with such an originary points. As such we can read Foucault's project as another form of transcendental critique, but one which is fundamentally at odds with the phenomenological project, insofar as these returns to identity are constituted by a return to the foundational subject-object divide.

The problem of transcendence that grounds the phenomenological transcendental critique – of seeking the identifiable conditions behind the transcendent difference between subject and object – is, in a Foucauldian transcendental critique, redirected towards an enquiry into the conditions of *identity.* In Deleuze's rearticulation of Foucault's debt to and response to phenomenology, Merleau-Ponty's task of stepping

[500] Deleuze and Guattari, *What is Philosophy?*, 168.
[501] Michel Foucault, *The Archaeology of Knowledge*, trans. A. M. Sheridan (London: Routledge, 2002), 224.

beyond intentionality is articulated through the "fold of Being",[502] expressed through the flesh, but then amounts to a refounding of intentionality and its operations. It is with this re-identification of Being that allows us to characterize Merleau-Ponty's project in terms of a refounding of intentionality, in the sense of generating a space which allows contact between an essentially unified inside and outside.

It is important to clarify some points implicit within our discussion of the phenomenological transcendental critique and the Foucauldian-Deleuzian step beyond it, and in turn how this refigures our understanding of the phenomenological/ontological tension present in Cage's thought. First, why does Merleau-Ponty, in seeking a fundamental ontology, remain committed to the question of transcendence, and in turn ultimately require of his project the assertion of a unity of Being? This question brings us back to the root of Merleau-Ponty's late project as described by Maldiney – that, despite its articulation in ontological terms, Merleau-Ponty remains within his long-term project of seeking to develop a phenomenology of perception. As what is ultimately 'real' for Merleau-Ponty is that which can be perceived, the phenomenological poles of the subject and its object remain, even if in a radically reworked manner. As Maldiney notes, our subjective position is always one of *arrival*, the subject reconstituted in terms of its relation to Being[503] – there is always a retroactive reinscription of formal properties onto a process.[504] Merleau-Ponty's project, even at its furthest ontological reach, always requires a return to the question of subject and object, and his step towards an ontology is always hindered by this starting point which is also an end point. This necessity presents itself in a contrary form also – it is in requiring a subject-object divide that a requirement for an identifiable condition emerges, and consequently the anchor of the subject-object divide demands a leap towards identity. As such, the illegitimately unified Being we find in Merleau-Ponty emerges for the same reasons as does the illegitimately unified transcendental ego of Husserl – without this identity the stability of the subject-object divide could not be maintained.

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[502] Gilles Deleuze, *Foucault*, trans. Séan Hand (London ; New York: Continuum, 2006), 110.
[503] Maldiney, "Flesh and Verb in the Philosophy of Merleau-Ponty," 58.
[504] This question in relation to the notion of interpretation will be key to our next two chapters.

It is in this sense that Lefort can claim that Merleau-Ponty already tames wild Being, and Deleuze can claim that phenomenology is "too pacifying"[505] – all dynamism, process, *experimentation*, is reduced under the operations of subject-object relations. In these terms, for Deleuze and Foucault alike the transcendental critiques enacted by both Husserl and Merleau-Ponty are moves in the right direction, but ultimately both too little and too far. Both thinkers seek to answer the problem of unrecognized difference which stifled the philosophy preceding them, but both come to again efface difference under the terms of identity, closing one gap to open another. Their philosophical operations are both not deep enough, not reaching the heart of transcendental difference, and too deep, overstepping difference-in-itself to formulate another kind of identity on top of it – as Éric Alliez argues, from its starting point of the consciousness-object distinction, phenomenological ontology is necessarily a naïve form of ontology, amounting to a revival of thinking the "divine absolute",[506] one in which the subject-object relation demands an attempt to "immediately seize the thing in itself" and which in turn "falls back on subjectivity".[507]

In Husserl, in Schaeffer, in Merleau-Ponty, and in Cage, insofar as their projects are understood as transcendental projects, we have elements of dissonance running through them, a tendency towards a regrounding in essential identity, elements of difference identified only to be again tamed. However, Cage is distinct from these other figures in that, despite Kahn's claim of his 'silencing' procedure within the field of music, he does not attempt to quieten these elements – instead both are present equally. Kahn posits this as the parallel unfolding of two incongruous projects, but across our next two chapters we will move to account for the inseparable interrelation of these two aspects of Cage's thought and work through again foregrounding precisely his *experimental practice* of composition.

[505] Deleuze, *Foucault*, 113.
[506] Éric Alliez, *De l'impossibilité de la phénoménologie: Sur la philosophie français contemporaine* (Paris: Vrin, 1995), 62.
[507] Ibid., 54.

On the other side of the artistic formalism to which we have seen ostensibly experimental phenomenological approaches return is an artistic nominalism by which no formal determining factor can be posited outside of the individual work of art itself. As Thierry de Duve elaborates from Duchamp's term 'pictorial nominalism', the effect of nominalism was that making art had become defined by an "impossibility of the making", insofar as the artwork is unable to meaningfully assert itself in relation to any unifying notion of 'painting' and as such must individually and arbitrarily stake its claim to the concept of 'painting'.[508] For Duve this marks a shift in the understanding of art from the 'specific' to the 'generic', by which generic art "only adds up to the singular cases so that you have so named in judging them".[509] Peter Osborne claims that Deleuze & Guattari's critique of structuralism "broadly corresponds to what Adorno diagnosed as the *increasing nominalism* of artistic production"[510] – albeit as "an embrace of the entropic crisis of art-critical categorization", and that this in turn relocates art criticism in an ontology of sensation as "a new version of more traditional categories"[511] – in this Deleuze & Guattari would be again reiterating the conceptual tensions and oscillations found in Husserl and Merleau-Ponty's attempts to reformulate the question of difference. Despite a certain version of Deleuze & Guattari's work proving accommodating to post-conceptual artistic pluralism (as in Osborne's claim that "a shallow version of Deleuze-Guattarian aesthetics has become hegemonic in some British art schools"), we find, in contrast, an equivalent to a resistance towards "unchecked aesthetic nominalism" through a strong critique of conceptual art in the closing pages of *What is Philosophy?*, their final collaborative work.

After noting that despite its pretext conceptual art, like abstract art, creates sensations and not concepts, Deleuze & Guattari then question after all its capacity to do so – it is

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[508] Thierry de Duve, *Kant After Duchamp* (Cambridge, Mass. ; London: The MIT Press, 1996), 161; also Thierry de Duve, *Pictorial Nominalism: On Marcel Duchamp's Passage from Painting to the Readymade*, trans. Dana Polan with the author (Minneapolis ; Oxford: University of Minnesota Press, 1991).
[509] Duve, *Kant After Duchamp*, 51. This reinscription under the singular term of the generic is perhaps itself of a similar order to the other modernist inscriptions discussed.
[510] See for example Peter Osborne, *Anywhere or Not at All: Philosophy of Contemporary Art* (London ; New York: Verso, 2013), 84-85.
[511] Osborne, "*October* and the Problem of Formalism," 12. Or, somewhat more precisely, as an "unwitting medium for the restoration of traditional aesthetics" (Peter Osborne, "Art Beyond Aesthetics: Philosophical Criticism, Art History and Contemporary Art," in *Art History* 27:4 (September 2004): 652).

"not at all clear that [conceptual art] leads either to the sensation or to the concept". Conceptual art is understood as a generalization of materials whereby sensation is "reproducible to infinity", but in so being is reduced to its "dictionary definition" – conceptual art as an art which takes place on linguistic terms. This in turn places the weight of deciding whether or not the art work is an art work on the "opinion" of the viewer, and as such puts conceptual art at the risk (if not necessity) of merely reproducing the *doxa* of the everyday, unchanged through the artistic procedure.[512] Art becomes an exchange of information devoid of sensation. As Stephen Zepke posits this critique, Deleuze & Guattari reject conceptual strategies because "their Duchampian negations of sensation de-ontologise aesthetics by turning aesthetic practice into the production and exploration of a linguistically defined concept whose materialisation is either secondary or redundant".[513]

Running through this critique of conceptual art is, again, Deleuze's late engagement with phenomenology, particularly the phenomenology of art. Deleuze & Guattari argue that "[p]henomenology needs art as logic needs science […] The lived turns the concept into nothing more than an empirical opinion as psychosocial type".[514] The phenomenological subject can deal with nothing but opinion.[515] Phenomenology itself recognises this, and so it turns to art to expand its understanding – to deal with sensation properly speaking, rather than to reduce it to the known. Phenomenology's solution to this, for Deleuze & Guattari, comes precisely in the concept of the flesh – that which is "freed from the lived body, the perceived world, and the intentionality of one toward the other that is still too tied to experience"[516] – hence Merleau-Ponty's used of the flesh as the figure of an ontology. Here, Deleuze & Guattari suggest that the flesh is "too tender"[517] – lacking in a framework, it tends all too closely to a chaos[518] which is

[512] Deleuze and Guattari, *What is Philosophy?*, 198.
[513] Stephen Zepke, "The Concept of Art When Art is Not a Concept: Deleuze and Guattari Against Conceptual Art," in *Angelaki: Journal of the Theoretical Humanities* 2:1 (April 2006), 159.
[514] Deleuze and Guattari, *What is Philosophy?*, 149.
[515] Ibid., 150.
[516] Ibid., 178.
[517] Ibid., 179.
[518] Ibid., 273n18.

resisted only by the insertion of a religious moment.[519] Without this framework, the phenomenology of art in general reaches the points of impasse and irresoluble tension we have located in Husserl and Schaeffer in one sense and in Merleau-Ponty and the artistic and critical development of a certain Cage in another. It is on one hand caught in chaos, a blind and deaf artistic nominalism, and on the other as ultimately fixed, inert, the exchange of information immanent to an essential and arbitrating transcendental subject.

All of these questions will be addressed in greater detail in our fifth chapter, but to guide us into our next chapter we will note that this critical gesture from Deleuze & Guattari is not unique to *What is Philosophy?*, and can be found in another form directed towards Cage himself in *A Thousand Plateaus*, as Deleuze & Guattari make reference to the prepared piano in their discussion of a musical context for their concept of the 'black hole'. While initially celebrating the possibilities of sonic variation offered by synthesized electronic music (their primary source for this being Varèse, more on which later), Deleuze & Guattari warn of the dangers involved in the extremes of this radical production of heterogeneity, in an excess of richness, suggesting that rather than "rendering sonorous" we may end up with a scribble in which all force is effaced. Of this excess, of "opening music to all events, all irruptions", Deleuze & Guattari suggest that "one ends up reproducing a scrambling that prevents any event from happening. All one has left is a resonance chamber well on the way to forming a black hole".[520]

The reason for this critique applying to the prepared piano is not so much the open-ended nature of the field of sound it is operating within, but rather what Deleuze & Guattari perceive as a certain lack of discipline and focus towards the musical engagement with this field. It is the elements which we have described as nascent aspects of indeterminacy which Deleuze & Guattari are ultimately claiming put the consistency of the musical process at risk – the element of unfettered randomness in the

[519] Ibid., 178.
[520] Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis ; London: University of Minnesota Press, 1987), 344.

kinds of sounds that the prepared piano will produce. As such the critique seems more apt to the direction that Cage's work will take once his method of composition incorporates chance and performative indeterminacy than it is to the relatively 'sober' construct of the prepared piano. It is these methods that produce an artistic practice open to "all events", leading towards the generalization of materials and elevated status of the viewer (or listener) which Deleuze & Guattari will criticize in conceptual art.

This raises a series of key questions. How do Cage and those who took part in his Experimental Composition class move so quickly from a musical study of an expanded field of sound to an open artistic situation in which a pluralized notion of sound plays only one part? More importantly, how can this be termed to be part of one and the same artistic practice, rather than as an opening to all events which in fact dissolved that process and left only an inert exchange of information? And how do we countenance Cage working at once within this generic artistic field and also within an increasingly totalizing and essentializing field of music, without determining these to be either an oscillation in his work or two distinct practices which have at some point lost the reciprocity which once defined them? Cage's carefulness and hesitation regarding different uses of the score, even if the terms of this carefulness are not yet clear, reflect him holding reservations similar to those Deleuze & Guattari have to conceptual art, even in the period before the spread of the works that would be associated with that term. However, he will nevertheless attempt to incorporate the artistic insights of his students into his own works, and to recapitulate and regenerate his musical practice after it is rendered 'generic'. To work through these questions we will take a step back and consider more the theoretical, practical, and historical specificity of the musical moves that took Cage to this position of openness. Central to this enquiry will be the most fundamental aspect of Cage's mature compositional practice, *chance*, understood not only as a procedural method but through its distinct ontological status. This will begin to guide us through the impasses we have located here.

Series, Structure, Chance

Chance is a crucial entry point into the questions posed at the close of our previous chapter as it is at the root of Cage's engagement with Marcel Duchamp, and through Duchamp implicated in Deleuze & Guattari's critique of conceptual art, but is also a key part of a series of enquiries in the field of music across the 1950s. Furthermore, we also find a notion of chance central to Deleuze's critical relation to the history of philosophy, and indeed to his own thought. Mapping the relation between these two uses of chance will help us develop our critical intervention between the practices of Deleuze and Cage. We will begin by considering the relation between Cage and Duchamp – looking at how Duchamp developed an understanding of chance as a rejection of any axiomatizing principle for art, and continuing our investigation into how Cage carried this through his own compositional practice, in particular through his use of chance procedures as a means of answering the questions that the trajectory of twentieth century music posed with regards to traditional musical problems such as structure and expression.

With this we will turn to address a broader and more contextual understanding of chance in music, particularly through Pierre Boulez's rejection of Cagean chance and his own serialist interpretation of chance through Stéphane Mallarmé. Here the serialist practice becomes associated with both Umberto Eco's notion of the open work and Lévi-Straussian structuralism, posed as opposing understandings of the structural qualities of the serialist work. That Boulez, for instance, continues to compose ultimately closed works indicates the tensions and points of blockage we find in the theoretical articulation of the 'openness' of the series, and its relations to chance and structure. This bind, we will argue, results in a tension in the understanding of serialism whereby against the 'openness' of the series and its incorporation of chance elements we find a taming of chance in the name of a renewed formalism, whereby chance removes the relation implied in intentional, individual, personalized expression but only by also erasing the musical problem to which expression refers. In beginning to respond to this problem we gesture towards a renewed discussion of impersonal expression and forms of relation in our final chapter.

We will begin to address these questions through Deleuze's conjoining of series and structure in his articulation of structuralism, outlined in the short essay 'How Do We Recognize Structuralism?' and realized in both *Difference and Repetition* and, our primary focus here, *The Logic of Sense*. Here we will go through the Lacanian understanding of the series in terms of the symbolic, as a combinatorial chain which gives a foreclosed and retroactive interpretive order to the events that make it up. We will indicate how, in another moment of Deleuze's transcendental critique, *The Logic of Sense* drives this logic of serialization and structuration to its limits, and begins to undo it through the notion of the 'ideal game', integral to the musical problem regarding chance and openness, as an affirmation of the whole of chance rather than the limited degree of chance for which the bind of series and structure allows. Moving through Badiou's critique of Deleuze and here in particular his understanding of chance, we will develop more closely how this affirmation of the whole of chance relates to the structural logic under discussion.

This, we will suggest, sheds light on Cage's procedural use of chance and the kind of combinatorial logic produced by the use of the *I Ching*, as a thorough resistance towards interpretive closures in favour of experimentation, process and mutability. We find a similar function for the Duchamp-Mallarmé conjunction in Cage as we do with the Nietzsche-Mallarmé conjunction in Deleuze, in that chance can be both affirmed in its fullness and bound to its material expression, whereby both strive to resist the inevitability of the *apparent* abolition of chance by the throw of the dice, the determinism that can be retrojected onto chance – at once an affirmation of the whole of chance and "a process of learning or experimentation".[521] In Deleuze's case, we will argue, how this operates, or, better, how it is practiced, is not immediately evident, as the apparatus of *The Logic of Sense* still appears to bind us to a logic of structure, where the articulation of practice and process, through the 'structuralist hero' and figures such as Artaud, remains obscure. With this we introduce Guattari and the concept of the machine, which serves an auto-critical function within the terms of *The Logic of Sense*,

[521] Deleuze, *Difference and Repetition*, 199.

whereby the persistence of structure is a persistence of interpretation against a more thoroughly experimental and practical machinic perspective, and enacts the shift towards the more thorough repudiation of structure in Deleuze & Guattari's collaborative works, to be addressed in our final chapter, where we will develop our Cagean notion of experimentation in its fullest.

Cage and Duchamp

The theoretical specificity of Cage's relation to Duchamp can be unclear. While Cage would say that for him "more than any other artist of this century [Duchamp] is the one who changed my life", he would also claim to not understand his work,[522] and while Cage had known Duchamp since around 1942 (through Peggy Guggenheim and Max Ernst[523]), they would not become close until the mid-1960s. Even then Cage remained reluctant to ask Duchamp questions about his work – or, up to a point, to discuss it himself, hence Cage's plexigram piece, and first full-scale visual work, *Not Wanting to Say Anything About Marcel*. We find a clue in a curious phrase – "The effect of Duchamp's work was to so change my way of seeing that I became in my way a duchamp unto myself".[524] Here there is intimated a relation to tradition neither as rejection nor as imitation but perhaps, as we have discussed, as problematization, as a reclamation of the past towards the future – as Sylvère Lotringer puts it, Cage "always experienced the past in the future tense – as a *futur anterieur* – and reclaimed this experience as his own".[525]

Key to this is precisely Cage's failure to understand Duchamp, that for Cage Duchamp was among the few artists of the early-twentieth century, along with Joyce and Satie, to have "resisted the march of understanding" – it is, for instance, Duchamp alone among the pre-war artistic avant-garde whose work avoided subsumption into the general

[522] Cage, *X*, 53.
[523] Silverman, *Begin Again*, 53.
[524] Cage, *X*, 53.
[525] Sylvère Lotringer, "Becoming Duchamp," in *Tout-fait: The Marcel Duchamp Studies Online Journal* 1:2 (May 2000), accessed 23/09/2015 http://www.toutfait.com/issues/issue_2/Articles/lotringer.html.

category of 'art', who "remained unacceptable as art"[526] – a gesture which Cage is trying to renew in his own blurring of the lines between art and life, and the opening of art *to* life. Cage points towards the basis of this relation, recounting a meeting with Duchamp in the late 1950s – "I laughed and said: The year I was born you were doing what I'm doing now, chance operations. Duchamp smiled and said: I must have been fifty years ahead of my time"[527] – a relation seen, most explicitly, in Duchamp's own chance music compositions – 1913's *Erratum Musical*, for instance, composed by drawing notes from a hat at random.[528] .

While Cage claims that the neo-avant-garde's distinction from the pre-war avant-garde was the former's introduction of a concern with space, there is nevertheless a gesture towards the uniquely neo-avant-garde spatio-temporalization of art already to be found in Duchamp. Herbert Molderings brings into focus how Duchamp had, like Bergson and other contemporaries, taken a key interest in the broader consequences of non-Euclidean geometry, and in particular as a key aspect of his understanding of the relation between art and chance.[529] Duchamp would describe his piece *3 Standard Stoppages* as "a humorous application of Riemann's post-Euclidean geometry",[530] a notion he associated with the chance production of forms, casting 'pataphysical doubt' on the postulate that a straight line is the shortest distance between two points. Duchamp's knowledge of Riemann appears to have come from his reading of Henri Poincaré, but Duchamp's own distinct brand and usage of non-Euclidean geometry is less, as Linda Henderson posits

[526] Kostelanetz, *Conversing with Cage*, 182. There is some contrast here with Thierry de Duve's understanding of Duchamp inaugurating a 'generic' understanding of art.
[527] Ibid.
[528] See Lotringer, "Becoming Duchamp", and Michael Betancourt, "Chance Operations/Limiting Frameworks: Sensitive Dependence on Initial Conditions," in *Tout-fait: The Marcel Duchamp Studies Online Journal* 2:4 (January 2002), accessed 23/09/2015 http://toutfait.com/chance-operations-limiting-frameworks-sensitive-dependence-on-initial-conditions/.
[529] Lotringer discusses Duchamp's speculative 1934 note for a "Musical Sculpture. Sounds lasting and leaving from different places and forming a sounding sculpture that lasts," ("Becoming Duchamp"), providing an interesting point of connection not only between Duchamp and the art of the early 1960s but also beyond, to the development and formalization of sound art. However it is not clear why he ascribes to this note, which Cage received from Duchamp in the late 1960s, significance in Cage's renunciation of his self-identification as 'percussion composer', a moment in Cage's practice he had long left behind.
[530] Quoted in Herbert Molderings, *Duchamp and the Aesthetics of Chance: Art as Experiment*, trans. John Brogden (New York: Columbia University Press, 2010), 83.

it, "the purest expression of Non-Euclidean geometry in twentieth century art",[531] than it is opposed to any and all axiomatic concepts, ultimately opposed to Poincaré and any notion of scientism in favour of something more like Édouard Le Roy's nominalism – Poincaré's conventionalism overdriven to a point of antiscientism and skepticism.[532]

While Poincaré's association between Le Roy and the philosophical doctrine of nominalism is aimed critically, it appears to be from this debate that Duchamp derives his term 'pictorial nominalism'. As such it aims to subtract from art, as Le Roy did from science, any claim to truth, attempting to instead realize the "game-like nature of life" – "We should not strive for absolutes, don't make truth of the rules, recognize that we play the game according to rules as we see them now".[533] With this notion of the 'game', a 'playful physics' concerned with an 'irrational' approach,[534] enters the question of chance, as Duchamp saw in chance a means of enacting this irrational play:

> The idea of 'chance', which many people were thinking about at the time, struck me too […] Pure chance interested me as a way of going against logical reality: to put something on a canvas, on a bit of paper, to associate the idea of a perpendicular thread a meter long falling from the height of one meter onto a horizontal plane, making its own deformation. This amused me.[535]

Chance here refuses generalization, convention, and metaphor in favour of a kind of radical individualism – as Octavio Paz describes it, "Duchamp's intention is to get rid forever of the 'possibility of recognizing or identifying any two things as being like each other': the only laws that interest him are the laws of exception, which apply only for one case and for one occasion only",[536] an extension of Le Roy's rejection of scientific knowledge into a rejection of artistic or aesthetic knowledge, and beyond.

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[531] Linda Henderson, *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (Princeton: Princeton University Press, 1983), 131.
[532] Molderings, *Duchamp and the Aesthetics of Chance*, 100.
[533] Quoted in ibid., 111.
[534] Ibid., 113.
[535] Pierre Cabanne, *Dialogues with Marcel Duchamp*, trans. Ron Padgett (New York: Viking Press, 1971), 46-47.
[536] Octavio Paz, *Marcel Duchamp: Appearance Stripped Bare*, trans. Rachel Phillips and Donald Gardner (New York: Arcade, 1990), 15-16. See also Molderings, *Duchamp and the Aesthetics of Chance*, 124-25.

On this basis Cabanne associates Duchamp's "renunciation of all aesthetics"[537] with a methodical doubt central to his French heritage (a kind of Cartesianism passing through Poincaré, Le Roy, Valéry...), but there are further distinctions to be made. For instance, of Alfred Jarry's claim for pataphysics as a "science of the particular"[538] – for Duchamp, Jarry's work, and Dada in general, stood too much as a negation, substituting unreason for reason. Duchamp's claim, on the other hand, was to "show man the limited space of his reason",[539] rather than simply replacing it with another axiomatic. As Molderings describes it, Duchamp's art is "the kind of art that asks questions, not the kind of art that ridicules because it already knows the answers"[540] – there is not a replacement of one law by another, but an attempt to put 'strain' on any set of laws whatsoever, to indicate their instability. For Duchamp then the application or allowance of chance is at bottom a questioning of all certainty. Exceeding the later 'Cézanne's Doubt' of Merleau-Ponty – where doubt nevertheless interpenetrates with knowledge – Duchamp finds via non-Euclidean geometry a more thorough ungrounding. Chance in Duchamp is already implicated with a refusal to distinguish between 'life' and 'art' insofar as its place in the denial of axiomatic groundings brings into question how such divisions can occur, how nominal objects equally traverse the boundaries of what is understood as 'art' and 'life' (and 'science', and...) and bring the basic validity of such boundaries into question. Duchamp's chance is tied up to a notion of the possible not restricted to the probable or the pre-existing, but rather concerns change, the "passage from one to the other".[541]

Cage turns directly to Duchamp in his allusive 1964 text '26 Statements Re Duchamp'. In one of the most evocative of the statements (of which there are not 26, but rather twenty), Cage states "The rest of them were artists, Duchamp collects dust".[542] Here Cage suggests a sense in which Duchamp had been forgotten in that which has become 'art history', unlike his peers integrated into it, but in turn associates Duchamp's work

[537] Cabanne, *Dialogues with Marcel Duchamp*, 42.
[538] Alfred Jarry, *Exploits and Opinions of Doctor Faustroll, Pataphysician: A NeoScientific Novel*, trans. Simon Watson Taylor (Boston: Exact Chance, 1996), 21.
[539] Quoted in Molderings, *Duchamp and the Aesthetics of Chance*, 128.
[540] Ibid., 129.
[541] Quoted in Molderings, *Duchamp and the Aesthetics of Chance*, 131.
[542] Cage, *A Year from Monday*, 70.

with the removal of boundaries between art and life for which Rauschenberg's *White Paintings* were credited – Cage is most likely alluding here to Man Ray's *Dust Breeding*, a detail photograph of dust settled on Duchamp's *Large Glass*, ascribing to *Large Glass* the openness to its environment Cage would later emphasize in Rauschenberg's *White Paintings*.[543] Equally of *Large Glass* itself Cage would appreciate its accommodation of changes of light, its decentering of focus, and its openness to material change and contingency – in short the blurring of the distinction between art and life he finds in it.[544]

There is, however, also here perhaps a modest critique of Duchamp. Contrary to the Duchamp who himself would diminish the status of art and the artist, Cage posits the notion that "everything seen – every object, that is, plus the process of looking at it – is a Duchamp". "He simply found that object, gave it his name. What then did he do? He found that object, gave it his name. Identification. What then shall we do? Shall we call it by his name or by its name? It's not a question of names".[545] Here Cage appears to allude to two aspects of his theoretical relationship to Duchamp – the first, a question of *not repeating* Duchamp, not merely again finding the object which Duchamp has already named, while in some respect still having faith in his practice, again the path by which Cage "became in my way a duchamp unto myself"; the second, an amplification of that in Duchamp which resists authorial control, to the extent of conjoining art and life without the axiomatizing ground that is the artist's signature.

Cage's own relation to this notion is complex, as, after all, a composer with pieces credited (and copyrighted) to his name,[546] but it guides us into understanding Cage's use of chance, and in particular his specific use of a much more thoroughgoing and systematic use of chance than we find in Duchamp (or, perhaps, in any Western artist

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[543] See Joseph, *Random Order*, 33-41.
[544] Kostelanetz, *Conversing with Cage*, 186. *Etant Donnés*, on the contrary, is the reverse of this – hence Cage, while resisting criticism, claims not to understand.
[545] Cage, *A Year from Monday*, 71.
[546] See not only the amusing aside of Peters Edition suing the composers of another 'silent' piece on account of its similarity to *4'33"* (see Gann, *No Such Thing as Silence*, 205), but also the much more concrete role of the relationship that holds between composers and performers – see our next chapter.

before him). First, however, a step back to retrace a more immanent route – the musical context within which this concern with chance arises.

Chance and composition

One aspect of the specific musical problem Cage turns to chance to contend with is that of expressivity, central to common music theoretical understandings of the functioning of a musical work, and to the understanding of musical works beyond those strong formalist interpretations which ground the work in an understanding of conventional bonds and structural relations internal to the work itself.[547] Cage initially appeared to find in the prepared piano a means for expressivity beyond that of any compositional form he had used before, a character described in terms of 'Grace and Clarity' in the 1944 article of that name.[548] Here 'grace' pertains to the expressive content of a piece and 'clarity' to its rhythmic structure, at once setting the terms for the quadripartite division of 'Defense of Satie' and anticipating the refined simplicity of his early 1950s lectures. The *Sonatas and Interludes* appear to be understood largely under these terms, albeit supplemented by Coomaraswamy's teachings, which were first mentioned in the 1946 article 'The East in the West'.[549] Cage would describe these pieces as "fully expressive works",[550] with expression here having particular relation to the 'nine permanent emotions', or rasas, of the Indian tradition,[551] those being the heroic, the erotic, the wondrous, sorrow, the odious, the furious, the terrible, the mirthful, and, that to which Cage suggested all others tended, the tranquil.[552]

The success of these pieces, however, nevertheless coincided with an increasingly

[547] See the Schenkerian high formalism which renders all expression and rhetoric as "surface irrelevances" (McClary, afterword to Attali, *Noise*, 151). Jean-Jacques Nattiez posits formalism precisely as a reaction against models founded on musical expressivity (Nattiez, *Music and Discourse*, 108-09).
[548] In Cage, *Silence*, 89-93.
[549] "There is, I believe, a similarity also between Western medieval music and the Oriental. In other fields than music, Dr. Ananda K Coomaraswamy has discussed such a relation." Cage, *John Cage: Writer*, 24.
[550] Cage, *For the Birds*, 104.
[551] Kostelanetz, *Conversing with Cage*, 67.
[552] Cage, *For the Birds*, 103.

fundamental doubt for Cage, a feeling that his works as developed through an intuitive method within broad rhythmic structures were no longer being understood as he wished them to be. Of 1944's *The Perilous Night*, for example, Cage remarked

> I had poured a great deal of emotion into the piece, and obviously I wasn't communicating this at all. Or else, I thought, if I were communicating, then all artists must be speaking a different language, and thus speaking only for themselves. The whole musical situation struck me more and more as a Tower of Babel.[553]

Cage had over the previous decade experimentally redeveloped a language of musical expressivity through an ever-intensifying questioning of traditional models of expression, but at this point he appears to come ungrounded – without recourse to the conventional features of classical music, what can serve as an axiom for expressivity? Cage's move, as indicated previously in relation his engagement with Zen, is to distance himself from the question of expression entirely – not to reject it, but to subtract it from the compositional procedure, to resist the compositional temptation to impose meaning and elicit specific emotions – a resistance to composition as *communication*.[554]

As such Cage's questioning of expressivity coincides with the emergence of his new thinking of form, outside of the earlier distinction between grace and clarity. Cage ascribes a directly compositional character to his shift from the expressive notion of the rasa, noting that it was in using charts and diagrams to form sound aggregates for 1950's *Sixteen Dances* that he came to the conclusion that the sounds themselves were sufficient, and no expressive effort was required.[555] There appears to be an argumentative leap here, but it is made clearer if the specific context of Cage's use of the rasa is clarified. In 'Defense of Satie', for example, delivered at his 1948 Black Mountain visit, Cage elaborates and extends on the themes similar to those of 'Grace and Clarity', emphasizing structure and ascribing to content no longer expressivity but a kind of groundlessness with which the modern composer must contend – if the composer is not merely to be subject to the standards of given aesthetics, how is his or

[553] Ibid., 148.
[554] Ibid.
[555] Cage, *Silence*, 25.

her work to be understood?

This question is in many respects typically modernist, as is the request for "an art that is paradoxical in that it reflects both unanimity of thought and originality of thought",[556] which we will later hear echoed by Boulez, but its relation to Cage's engagement with Indian aesthetics brings again into focus a developing factor in Cage's thought. A concern with the essential, the archetypal, is key to Coomaraswamy's thought – as Kyle Gann notes, he would be criticized for his outright rejection of modernity and what was perceived as a call to a return to preindustrial forms of living, and affirms a view of art as a heavily contextualized cultural practice, and in some respect useful within this context, often insofar as it represents fundamental cultural questions.[557] For Coomaraswamy, the aesthetic significance of the rasas was found in their permanence, in opposition to 'transient' moods which if primary render the work 'sentimental'.[558]

This is clearly at odds with the orientation of Cage's concern with the new and his de-essentializing of composition, both projected and contemporary. What was useful for Cage, however, is that insofar as the rasas maintain permanence, there is not strictly speaking a causal relationship between their presence in a piece of music and their being felt in a listener, and no efficient communication of an emotion (or anything else) to be expressed. As David Patterson describes Cage's "creative misreading" of Coomaraswamy, Cage maintains the basic structure and elements but ascribes to it a different motivation[559] – in this instance a structure of a depersonalized form of expression in which the composer does not make demands of the music of the listener, and in which the listener is not beholden to the music, nor vice-versa.[560] The use of the rasa as an expressive medium already anticipates the shift away from a compositional

[556] Kostelanetz*, John Cage*, 78.
[557] Gann, *No Such Thing as Silence*, 90.
[558] Ibid., 95.
[559] David Patterson, "The Picture That is Not in the Colors: Cage, Coomaraswamy, and the Impact of India," in *John Cage: Music, Philosophy, and Intention, 1933-1950*, ed. David W. Patterson (New York: Routledge, 2002). See also David Patterson, "Cage and Asia: History and Sources," in *The Cambridge Companion to John Cage*, ed. David Nicholls (Cambridge: Cambridge University Press, 2000).
[560] Relatedly, one of Cage's most persisting tropes, that of art imitating nature in its manner of operation, is drawn from Coomaraswamy, likewise via an unfaithful reading – more on this in our next chapter.

focus on communication, anticipating the sound-space as the objective field of music in distinction from the search for musical mediums of subjective expression.

It is from this vantage point that the diagramming of sound units, first used in the charts of *Sixteen Dances,* allows Cage to see sound, unbound from the structures implied in standard notation, as something not requiring of a compositional, expressive hand guiding it, as something which quite adequately contains its own capacities of expression – that it "does not view itself as thought, as ought, as needing another sound for its elucidation".[561] As such it is in this context that Cage sees the opportunity to distance himself from the compositional process by using chance procedures, insofar as the hand of the composer introduces something Cage deemed increasingly unnecessary to a practice focused on letting sounds be themselves. The theoretical tendencies chance exemplifies, then, are at once an extension of premises present already in Cage's work, and serve to resolve the impasses Cage found through working with these premises.

Despite this seemingly continuous unfolding, chance nevertheless appears in a single moment – when Cage received a copy of the Chinese Oracular book the *I Ching* from Christian Wolff while Cage was in the process of writing *Concerto for Prepared Piano and Chamber Orchestra*,[562] and immediately put it to use in the composition of the third movement of that piece (as we have discussed in chapter one). While the use of the *I Ching* specifically was not necessarily integral to Cage's implementation of chance, it is worth nevertheless considering its status in the development of Cage's chance procedures, insofar as the choice of the *I Ching* rather than any number of other chance procedures both informs and indicates the intentions of Cage's use of chance. The text of the *I Ching* itself is structured as sixty-four line arrangements (hexagrams) with accompanying texts, and can be consulted on personal questions by selecting a hexagram through a series of fifty-fifty operations (such as the toss of a coin). That Cage attempted to follow this procedure closely, albeit with some idiosyncratic points of

[561] Cage, *Silence*, 14.
[562] Silverman, *Begin Again*, 101.

usage,[563] does not so much represent an acceptance of the holistic philosophy underlying it – Cage would later note that "it's impossible to naively believe in Zen in the middle of the twentieth century"[564] – but rather indicates the importance he ascribed to abdicating himself from compositional responsibility for his choices. It is not so much that the *I Ching* has a privileged role in revealing nature in its manner of operation as that human intention will always mask this process, and as such it is used as a mechanism of chance rather than strictly as an oracular text:

> I use chance operations instead of operating according to my likes and dislikes. I use my work to change myself and I accept what the chance operations say. The *I Ching* says that if you don't accept the chance operations you have no right to use them. Which is very clear, so that's what I do.[565]

However, there are nevertheless significant theoretical confluences. As Richard Wilhelm writes in his introduction to his translation of the book, the hexagram that is selected through chance procedures is not posited as reflecting the future or a given state of affairs, but rather concern "changing transitional states", and so act to centre attention on "not representations of things as such but of their tendencies in movement".[566] For Cage chance, and particularly the kind of chance operations the *I Ching* allowed for, is used to escape fixed understandings and towards finding a moment of the world in process – more on which later.

Furthermore, Marc Jensen draws a visual and structural connection between not only Cage's sound charts and the hexagram chart found in the *I Ching*, but likewise between the latter and Schoenberg's tone-row matrices.[567] Jensen's claim that Cage had derived his charts from those of the *I Ching* appears suspect, as Cage's retelling as well as with other corroborative sources suggest he had been making use of sound charts before he had received the *I Ching*, but it is nevertheless of note that Cage's particular adaptation

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[563] See Bernstein, "'In Order to Thicken the Plot': Toward a Critical Reception of Cage's Music."
[564] Cage, *For the Birds*, 228.
[565] Kostelanetz, *Conversing with Cage*, 226. See also 17.
[566] Richard Wilhelm, "Introduction," in *The I Ching or Book of Changes*, trans. Richard Wilhelm and Cary F. Baynes (Princeton: Princeton University Press, 1950), 1.
[567] Marc G. Jensen, "John Cage, Chance Operations, and the Chaos Game: Cage and the *I Ching*," in *The Musical Times* 150:1907 (Summer, 2009): 99.

of the *I Ching* rendered it amenable to a serial form of composition – and aligned with what we have previously described as the persisting modernist element in Cage's practice, the concept of sound-space. This points us towards an aspect of Cage's use of chance that is not reducible to the impact of Duchamp or of Eastern philosophy, and which orients us again towards the specifically musical questions with which Cage was dealing, and indeed towards the serialist adaptation of its own version of chance following (and in direct opposition to) Cage – theoretical and musical trajectories which cannot be separated from the other great artistic progenitor of chance at the turn of and into the twentieth century, Stéphane Mallarmé.

Chance and serialism

Cage draws together Mallarmé and Duchamp, in a most opaque manner, in his '26 Statements Re Duchamp' – "Duchamp Mallarmé?".[568] Duchamp noted the 1914 publication in book form of Mallarmé's 1897 poem *Un coup de dés jamais n'abolira le hasard*, 'A throw of the dice will never abolish chance', with its famous closing line "Every Thought is a Throw of the Dice",[569] to be significant for his own serious engagement with the notion of chance.[570] While much of the specific articulation of this relation remains obscure, what is clear is that Duchamp followed Mallarmé in his belief that in the artistic articulation of chance we could find an element which eluded rational categorization. In Mallarmé we can see this in the typographical distinctness of *Un coup de dés*, with the use of multiple typefaces, blank space, and other techniques disrupting the notion of textual space as a linear, sequential structure.

Mallarmé described the spaces in his texts as musical, noting that "[i]t is the white spaces that give me the most trouble! They have the value of silences in music. It is they that create the dream, the ineffable".[571] Here *Un coup de dés* anticipates Mallarmé's

[568] Cage, *A Year from Monday*, 70.
[569] Stéphane Mallarmé, *Un coup de dés jamais n'abolira le hazard: Poéme* (Paris: Gallimard, 1914).
[570] Calvin Tomkins, *Duchamp: A Biography* (New York: Henry Holt and Co., 1996), 160, 209.
[571] Quoted in Albert Sonnenfeld, "Mallarmé and His Musicians Webern and Boulez," in *Mallarmé in the Twentieth Century*, ed. Robert Greer Cohn (London: Associated University Presses, 1998), 109.

ideal *Livre*, where the page would resemble the musical score, "a scattered design of commas or periods and their secondary combinations, imitating, nakedly, melody",[572] and reading is a gesture beginning with seeing this score for the first time, in all of its mystery.[573] As such, for Mallarmé poetry is connected to music not so much by technical relations between rhythm, meter and so on, but rather, as with the visual artists discussed in our second chapter, as moving towards a 'purity' of music, unbound by narratives, emotions, and so on, what Mallarmé deemed a particularly French confrontation with the German notion of absolute music – as Kate van Orden describes the relation, "the semiology of absolute music involved a type of *hasard* that made its signs impossible to decode in rational terms".[574]

This indicates another aspect of the developing nominalism of the artwork, leading towards Duchamp – the artwork shorn of reference to any external regulatory principles, where referential meaning as a matter of conventionalized chance is "vanquished word by word" (convention is produced through chance, but the recognition or implementation of chance undoes it)[575] and the work becomes governed only by its own internal laws. In Mallarmé's case there is, however, still a confrontation with the work of referentiality, implying a foregrounding of the reader as contingent interpreter through what Duchamp would term the gap between "the unexpressed but intended and the unintentionally expressed"[576] – albeit where, for Mallarmé, poetry is a gesture towards releasing language from its bond to the world, a breaking of the link between word and world towards the void.[577] There is a notable shift in the 'ground' of this

[572] Ibid., 108.
[573] Ibid., 107.
[574] Kate van Orden, "On the Side of Poetry and Chaos: Mallarméan *Hasard* and Twentieth-Century Music," in *Meetings with Mallarmé in Contemporary French Culture*, ed. Michael Temple (Exeter: Exeter University Press, 1998), 162. Debussy again is key here, as in Boulez's claim that with *L'Après-midi d'un faune* "all of Wagner's heavy heritage […] liquidated" (Pierre Boulez, *Notes of an Apprenticeship*, trans. Herbert Weinstock (New York: Knopf, 1968), 260), and Boulez poses the question of a "Debussy-Cézanne-Mallarmé reality at the root of all modernity" (356-57).
[575] Stéphane Mallarmé, *Mallarme: Selected Prose Poems, Essays, and Letters*, trans. Bradford Cook (Baltimore: Johns Hopkins University Press, 1956), 33.
[576] Tomkins, *Duchamp: A Biography*, 396
[577] See Gerald L. Bruns, *Modern Poetry and the Idea of Language: A Critical and Historical Study* (New Haven, Conn.: Yale University Press, 1974), chapter four, 'Mallarmé: The Transcendence of Language and the Aesthetics of the Book'.

process, however, notably coming through a move away from the Mallarméan understanding of the throw of the dice as the symbolic articulation of a transcendent Ideal. In its place, for Duchamp and many others in the twentieth century, is chance as "a marvelous expression of your subconscious".[578] While Paz claims that Mallarmé and Duchamp alike see chance as a "manifestation of the absolute",[579] Duchamp's interest in the individual sub/unconscious and the incongruous meetings between heterogeneous groundings (hence his association of chance with humour) appear to distinguish it from the solemn significance of Mallarmé.[580]

From this perspective we see an aspect where Cage tends somewhat closer to Mallarmé than he does Duchamp – the question is less of the 'intentional gap' Duchamp speaks of than its death and disappearance in the formulation of a poetics of chance. In Cage, as noted from the critical perspective of Kahn and Rainer in our previous chapter, there is little apparent concern with the unconscious, and through sound-space a gesture towards the fully internal articulation of the work, sound as problematic Idea connecting to the Mallarméan transcendent Ideal. However Cage cannot be seen to subscribe so easily to either of these poles of Duchamp or Mallarmé, since, as we have seen, the passage of Cage's practice exceeds the boundaries of the formal schema implied by the sound-space, with Cage formulating instead a notion of chance which dissolves both self and any possibility of a transcendent Ideal in favour of nothing but flux – taking together that which is most groundless in Duchamp and that which is most depersonalized in Mallarmé. The manner in which Cage is consequently working between and through the two, however, for now remains obscure. To begin to develop how Cage articulates this passage we will now consider how these notions of chance also passed into serialism.

With Boulez we find the deepest and most prolonged musical engagement with Mallarmé, in particular through his two decades of work on *Pli selon pli*, drawing from

[578] Tomkins, *Duchamp: A Biography*, 132
[579] Quoted in Molderings, *Duchamp and the Aesthetics of Chance*, 129.
[580] For all of his lightness of touch there is little 'humour' to be found in Cage's compositions, though it occasionally, as we will see later, plays a part in his texts and interviews.

Mallarmé's poetry.[581] It is in 1957 that Boulez publishes his essay 'Alea' and begins work on *Pli selon pli*, both following the publication of Schérer's *'Le Livre' de Mallarmé*. In their correspondence, Cage indicated to Boulez that he had followed Boulez and taken an interest in Mallarmé alongside his interest in Artaud,[582] and associated Mallarmé with his own interest in chance – an interest which Cage credits as ending Boulez's interest in corresponding with him. In Scherer's *Livre* publication Cage saw an affirmation that Mallarmé "accorded primacy to chance"[583] in a manner inimical to Boulez's compositional practice – Boulez, on the contrary, saw this text as confirming that his own aleatoric ideals were "identical with those that Mallarmé had pursued and formulated but never had the time to explore to the full",[584] finding in Mallarmé an 'obsession' with formal purity[585] and seeing in the organization of his texts "a fusion of both meaning and sound, in an extreme concentration of language".

'Alea' then is Boulez's formulation of the allowance and application of chance into his own compositional procedures, distinctly in opposition to the use of chance by an albeit unnamed Cage and his New York peers, referring instead to this "chance through inadvertence"[586] as a preoccupation of "several composers of our generation".[587] This notion of chance is the target of Boulez's characteristically stinging attacks, saying of chance that its most elementary application "would lie in the adoption of a philosophy tinged with Orientalism that masks a basic weakness in compositional technique; it would be a protection against the asphyxia of invention, the resort to a more subtle poison that destroys every last embryo of craftsmanship".[588]

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[581] On the Mallarmé-Boulez relation, see Dominique Jameux, *Pierre Boulez*, trans. Susan Bradshaw (Cambridge: Cambridge University Press, 1991); Ivanka Stoïanova, *Geste-text-musique* (Paris: Union générale d'éditions, 1978), chapter five 'Boulez et Mallarmé'.
[582] Cage, *The Boulez-Cage Correspondence*, 96.
[583] Cage, *For the Birds*, 180-81.
[584] Pierre Boulez, *Orientations: Collected Writings*, ed. Jean-Jacques Nattiez, trans. Martin Cooper (Cambridge, MA: Harvard University Press, 1986), 147.
[585] Ibid., 175. No one has been more taken by this formalism than Quentin Meillassoux, whose *The Number and the Siren* posits and unfolds a numerical code hidden in the text of *Un coup de dés* (Quentin Meillassoux, *The Number and the Siren: A Decipherment of Mallarmé's* Coup de dés, trans. Robin Mackay (London: Urbanomic, 2012).
[586] Pierre Boulez, "Alea," trans. David Noakes and Paul Jacobs, in *Perspectives of New Music* 3:1 (Autumn – Winter, 1964): 44.
[587] Ibid., 42.
[588] Ibid.

Equally lacking, however, is what Boulez calls "chance by automatism" – namely the total serialism of his Darmstadt peers, which had for Boulez, echoing Schaeffer's earlier critique, locked itself into "a statistical display", wherein extremes of parametric control led to composition as "schematization", a "fetishism for numbers, leading to pure and simple failure".[589] In addition to this there is also a shift to 'arbitrariness', particularly in an imprecision of notation, passing an unacceptable degree of choice over to the interpreter (this would refer to both the use of graphic notation by aforementioned American composers but also perhaps more pointedly to shifts occurring in Stockhausen's work). For Boulez all of these implementations of chance amount to an abnegation of choice on the part of the composer – passing it over to uncontrolled probability, to numerical determinism, or to the performer.

Boulez, however, nevertheless appears to appreciate the impetus behind these approaches, regarding his contemporary musical universe as one in which it has become progressively explicit that it is logical to look for notions of form which remain open, and as such to accommodate the irrational into a rigorous compositional method, to "absorb" chance, "tame these potentialities and force them to render an account" rather than to allowing them in unadorned by compositional decision. Boulez's techniques are various – developing an interplay of serialism's "chance by automatism" with a more subjective compositional approach, which itself introduces chance elements of a different order; or setting parameters within which an interpreter can choose, for example, the tempo of a passage.[590] In so doing "we reopen the creative circuit to the interpreter" – as Cage said of the fixed work in his own Darmstadt lectures, the aleatory work is for Boulez limited if it is only to maintain the role of the performer as "an interpreter-robot of terrifying precision".[591]

Boulez closes this text by quoting from Mallarmé's *Igitur* – "In short, in an act

[589] Ibid., 43.
[590] Ibid., 48.
[591] Ibid., 53.

involving chance, it is always chance that accomplishes its own Idea by asserting or denying itself. Negation and affirmation come to nought in the face of its existence. It contains the Absurd – implies it, but in a latent state, and prevents it from existing: and this makes it possible for the Infinite to be".[592] Here, however, there is an indication of why Boulez would ultimately abandon most of the bolder speculations put forward in 'Alea', finding in an excess of interpretive freedom only problems – "where you have thirty or forty people and you give them all some choice, you may be sure that there will be very many mistakes. Really, it's not worth the game".[593] Boulez appears quite unwilling to allow chance to "[accomplish] its own Idea by asserting or denying itself", maintaining a compositional practice centered on the work, quite distinct from that of Mallarmé. Where Boulez's ideal of the aleatory work is still distinctly a work – maintaining a "logic of development" and "an over-all sense of direction", and saying of the aleatory piece that "[w]e have respected the 'finished' aspect of the Occidental work, its closed cycle, but we have introduced the 'chance' of the Oriental work, its open development"[594] – as we have seen with Mallarmé this kind of completeness is inimical to the acceptance of chance, and "all chance must be banished from the modern work, and cannot be feigned there".[595]

This leads to a curious quality in those works of Boulez which attempt to incorporate his aleatory elements. His *Third Sonata*, for instance, bears at first glance a formal likeness to *Un coup de dés* – as variable sequences around a 'constellation'[596] – but, as Heinz-Klaus Metzger notes, it appears the opposite of Boulez's definition of an 'aleatory' work, as it is not so much a work whose course is defined as a whole but whose

[592] Ibid.
[593] Quoted in Orden, "On the Side of Poetry and Chaos: Mallarméan *Hasard* and Twentieth-Century Music," 170.
[594] Boulez, "Alea," 51.
[595] Stéphane Mallarmé, trans. *Les poèmes d'Edgar Poe* (Bruxelles: Deman, 1888), 165. Regarding Mallarmé's erasure of the author, and Boulez the composer who does not relinquish control, to performer or otherwise, see also the question of the distinctly biographical aspect of some of Boulez's compositions – Robert Fallon, "Self-Portraits of Boulez: Reflexivity in the *Incises* and *Anthèmes* Works," delivered at *Exploring the Labyrinth: An international study day on the music of Pierre Boulez*, Southbank Centre, London, 1 October 2011. This is among the questions that also brings into question how to approach Boulez's formalism.
[596] Van Orden, "On the Side of Poetry and Chaos: Mallarméan *Hasard* and Twentieth-Century Music," 168.

individual details depend on chance, as it is a whole as a result of chance, the individual details determined.[597] In this it is much like Stockhausen's *Klavierstücke XI*, subject to Cage's criticism in his lectures on indeterminacy, that it is less a piece accommodating the indeterminate impact of chance than it is a number of perfectly determinate and whole pieces. As Daniel Charles will describe the *Third Sonata*, "there is, at bottom, no change from one performance to the next; the form is only shattered and reconstituted, as in a kaleidoscope".[598]

The particular form of control that governed Boulez's 'controlled chance' is a guide to his understanding of chance – that for Boulez "the musical text should contain inherently this 'chance' of the interpreter", that the kind of performative chance occurrence for which Boulez allows is wholly internal to the score. This is where his separation from Cage, in the early 1950s moving increasingly far from the 'unanimity' of expression he still referred to in the late 1940s towards a plurality of modes and relations, is more precisely articulated. The key to 'Alea' is less Boulez's embrace of chance than it is a reaffirmation of the series, after the failures of total serialism, as the basis for a modern rethinking of musical form, the series being especially adaptable not only to the inclusion of chance in composition, but to an evolution of form "that will rebelliously refuse to permit its own repetition",[599] towards

> the possibility of adapting to composition the notion of the series itself, by which I mean the possibility of endowing the structure with the more general notion of permutation – a permutation with limits that are strictly defined by the restriction of the powers imposed upon it by its self-determination.[600]

that is to say, the series is that form which accounts for the necessity of chance – including chance as subjective compositional choice – without undoing the work's capacity for internal consistency.

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[597] Heinz-Klaus Metzger, "Abortive Concepts in the Theory and Criticism of Music," in *Die Riehe* 5 (1961): 26.
[598] Daniel Charles, "*Entr'acte*: 'Formal' or 'Informal' Music?," in *The Musical Quarterly*, 51:1 (Jan., 1965): 161-62.
[599] Boulez, "Alea," 45.
[600] Ibid., 52.

Key here also is Boulez's commitment to a form of musical evolution – Daniel Charles describes Boulez's "concern over loyalty to the Western heritage developed to the highest degree",[601] to which he would oppose Cage, whose early-1960s reputation in France saw him portrayed as "blindly deny[ing], or seem[ing] to deny, all historicity, all relationships to contemporary musical 'evolution'".[602] Following Boulez's premise that "the history of music is that of its structures",[603] 'Alea' is an assertion that the structure of modern music is the open determination that the series allows. The persisting appeal of the logic of the series is that it offers the possibility of resisting pre-existing forms while maintaining a rigorous musical formalism – Boulez – "To retain their validity, speculations must be integrated into a *systematic whole*",[604] "the fundamental question: the founding of musical systems upon exclusively musical criteria".[605] As Charles argues, the openness of the work is in service of making it *less* aleatory, to render it more of "an object in itself",[606] without, for example, the network of external semantic implications that the use of recognizable words and terms implies in *Un coup de dés*, the questions of expression common to musical analysis, or the network of artistic, philosophical, and social connections Cage was increasingly drawing on.

Coming in the late 1950s and into the 1960s, these musical refinements of the notion of structure become increasingly implicated in theoretical structuralism.[607] Boulez makes

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[601] Charles, "*Entr'acte*: 'Formal' or 'Informal' Music?," 146.
[602] Ibid., 145.
[603] Ibid., 150.
[604] Pierre Boulez, *Boulez on Music Today*, trans. Susan Bradshaw and Richard Rodney Bennett (Cambridge, Mass.: Harvard University Press, 1971), 29.
[605] Ibid., 30.
[606] Charles, "*Entr'acte*: 'Formal' or 'Informal' Music, 148.
[607] It is important to note, and would be interesting to pursue, that various strands of music theory have been recognized as having elements anticipating the spread of structuralism, Schenkerian and other post-Hanslick forms of analysis in particular, but of special note for Boulez was the work of Boris de Schloezer, whose 1947 book *Introduction à J.-S. Bach: Essai d'esthétique musicale* rejected the notion that sound was the basic element of music – a principle Boulez, despite various considerations with the 'concreteness' of sound, will repeat down the decades, e.g. the assertion in a 1992 Collège de France lecture that the sound object "cannot, even in the best possible case, do more than furnish a hint of a language" (Quoted in Jonathan Goldman, "Structuralists contra Serialists? Claude Lévi-Strauss and Pierre Boulez on Avant-Garde Music," in *Intersections: Canadian Journal of Music* 30:1 (2010): 87) – and instead theorized the musical work as a hierarchy of nested systems, each system serving as form for the systems it embraces, and as content for those it is embraced by (ibid., 89). The work, says Schloezer, is "an object whose unity is both form and meaning; or else an object whose form is identical to its content". This is perhaps part of the reason why structuralism had less of an immediate explicit impact on music

this connection directly, citing the structuralist theory of Lévi-Strauss in claiming that in music "there is no opposition between form and content", drawing on Lévi-Strauss' notion of structure and the structural disposition of local structures.[608] As macrostructural form is derived from microstructural combinations, a consequence is that musical form cannot be justified with reference to older, pre-existing frameworks, as these themselves refer to a musical discourse external to that of the modern work. This is the basis of Boulez's critique of Schoenberg in his famous polemical essay 'Schoenberg is Dead'. Here Boulez states that among the (many) incompatible and inadequate aspects of Schoenberg's dodecaphony is the use of series within an otherwise traditional compositional schema – "[t]he preclassic or classic forms ruling most of the architectures have no historic link to the dodecaphonic discovery" [609] – and following Webern in particular argues that the possibilities opened up by the series require in turn a reformulation at every level, not merely the 'tone row' of Schoenberg's series. The twelve-tone series ascribes 'absolute value' to pitch, while Boulez's post-Webernian reaffirmation of the series attempts to ascribe functional value to every element of the composition.

Boulez's exemplary instance of this is perhaps *Structures Ia*, which, as Reginald Smith Brindle describes,

> has been composed with devices which ensure that a twelve-note series not only determines all the note-successions of the music but also the duration of every note. Furthermore, the series itself determines not only the order in which the forty-eight serial variants are used but also the order of duration-series derived from them. The dynamics and modes of attacks have also been devised from the same sources. In all other parameters the composer had freedom of choice, to varying degrees, though he adopted (perhaps deliberately) abstract plans which limited his scope for free action.[610]

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theory and analysis than it did in many other fields through the 1960s.

[608] Boulez, *Boulez on Music Today*, 32.

[609] Boulez, "Schoenberg is Dead," in *Notes of an Apprenticeship*, 272. For Boulez there persisted in Schoenberg what David Gable has called an "intensely personal hyper-expressivity" to which the obscure impersonal expressivity is opposed (David Gable, "Words for the Surface: Boulez, Stockhausen, and 'Allover' Painting," in *Variations on the Canon: Essays on Music from Bach to Boulez in Honor of Charles Rosen on His Eightieth Birthday*, ed. Robert Curry, David Gable, and Robert Lewis Marshall (Rochester, New York: University of Rochester Press, 2008), 263), although this is complicated by, for example, the closing pages of *Boulez on Music Today*, where Boulez, after a lengthy discussion of pure technique and form, reintroduces the individual composer. Edward Campbell, in *Boulez, Music and Philosophy*, considers these seemingly contradictory moments in Boulez's thought and practice at length.

[610] Smith Brindle, *The New Music*, 33.

While with this piece we tend towards the total serialism which Boulez would criticize in 'Alea', it remains that the critique of Schoenberg is an endorsement of formal purity – of a resistance towards compositional and organizational frameworks external to the given piece. Boulez's insistence on approaching the piece on an immanent structural basis alone persists throughout his theoretical writings.

Structure and series

The association between serialism and structuralism is not so neat, however, and we must work through the tensions found in the articulation of their relation in order to more precisely address the questions of chance and openness that brought us here. Against the tendency, in Boulez and others, to associate serialism with structuralism, Lévi-Strauss would in the 'Overture' to *The Raw and the Cooked* criticize both serialism and *musique concrète,* and claim that their respective uses of the term 'structure' bore only superficial relation to that of structuralism properly speaking, albeit with the two musical approaches being mistaken in different respects. While for Lévi-Strauss serialism and *musique concrète* have similar goals, their approach is from different ends:

> Whatever the gulf between musique concrète and serial music in respect of intelligence, the question arises whether both are not deceived by the utopian ideal of the day: one concentrates on matter; the other on form; but both are trying to construct a system of signs on a single level of articulation.[611]

That is to say, of the two necessary levels of articulation of a language, serialism concerns itself solely with form, *musique concrète* with content. As such, in Lévi-Strauss' reading of them – and 'reading' here is the appropriate term, as, while referring to the writings of Boulez and Schaeffer, little reference is made to their musical works nor to any of their colleagues – neither approach fulfils the requirement of forming a new musical language. In the case of *musique concrète* Lévi-Strauss suggests that it has

[611] Claude Lévi-Strauss, *The Raw and the Cooked: Introduction to a Science of Mythology*, trans. John and Doreen Weightman (Harmondsworth: Penguin Books, 1986), 24.

found it impossible to determine relations between sounds, "intoxicated with the illusion that it is saying something; in fact, it is floundering in non-significance".[612] With serialism, we have a more "subtle grammar and syntax" at work, but nevertheless having dissembled the field of tonality it has left itself, in the series, only the most minimal and most deprived degree of organization.

In contrast to this is Umberto Eco's notion of the 'open work', taking serialist and post-serialist works, along with Mallarmé's *Livre*, as exemplary cases in conceptualizing a notion of the modern work of art as a work which "prevents a single sense from imposing itself at the very outset of a receptive process",[613] resisting the notion of a centre or point of convergence which serves as a final point of interpretation.[614] In light of Lévi-Strauss' critique of serialism Eco would return to these questions again in 'Series and Structure'. Here Eco agrees with Lévi-Strauss that a superficial connection has been drawn between serialism and structuralism, and defines three aspects of their distinction. First, there is structuralism's requirement of a "pre-established code shared by both the addresser and the addressee" in opposition to serialism's questioning of the code with every message. Second is structuralism's basis on two axes of the double articulation of language versus serialism's polyvalence which challenges the 'Cartesian' bidimensional ground of articulation. Third is structuralism's hypothesis that every code is based on a more fundamental code, in opposition to serialism's identification of historical codes in order to question them, a fundamental resistance towards any *Ur-code* in favour of the production of wholly new forms of communication.[615] The ultimate conclusion of this split is that "the aim of structural thought is *to discover*, whereas that of serial thought is *to produce*".[616]

The series, for Eco, produces a structure of sorts, but a structure which is at once open

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[612] Ibid., 23.
[613] Umberto Eco, *The Open Work*, trans. Anna Cancogni (Cambridge, Mass.: Harvard University Press, 1989), 8.
[614] Deleuze will refer to Eco while discussing what he calls 'problematic works' of art (*Difference and Repetition*, 69) – more on this in our next chapter.
[615] Eco, *The Open Work*, 219-21.
[616] Ibid., 220.

and polyvalent – by using the series to develop a notion of generative structure, even in the midst of a strong critique of (Lévi-Straussian) structuralism, Eco nevertheless urges some theoretical connection between the two, between the "open-structured (*structurelles*) realities" of serial thought and the "structural (*structurales*) laws" of structuralism,[617] to consider how structuralism[618] provides the method within semiotics of articulating these moments of structuration, even if at a local rather than global level. As Edward Campbell terms this relation:

> the series would no longer negate structure but would instead be the expression of a historical, self-questioning structure. For this to happen it would be necessary to find an articulatory level that would facilitate understanding of 'serial thought' in terms of 'structural thought'.[619]

While Lévi-Strauss' critique of *musique concrète* and moreso serialism is at times puzzlingly at odds with the indicated resonances between these compositional practices and theoretical structuralism,[620] we nevertheless see here aspects of a musical problematic which has carried through our discussion, as in Schaeffer's mournful late dismissal of his own work on these very terms. The serial method only makes questions of structural understanding even more central, the key question for serialism and of the 'open work' being how a structural methodology is to be defined without amounting to a foreclosure of the openness of the work. We have seen that the openness of Boulez's works can appear in service of a different model of closure, perhaps even more absolute than that of the classical model, where questions of referentiality and expressivity can still be applied,[621] and in a music theoretical context a difficulty in finding this

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[617] Ibid, 218-19. See also Peter Bondanella, *Umberto Eco and the Open Text: Semiotics, Fiction, Popular Culture* (Cambridge: Cambridge University Press, 1997), 75.
[618] Understood as "Saussure plus Lévi-Strauss plus Hjelmslev plus Propp" – Umberto Eco, *La structure absente: Introduction à la recherché sémiotique* (Paris: Mercure de France, 1972), 328.
[619] Campbell, *Boulez, Music and Philosophy*, 130-31.
[620] A disparity likely explained in part by the contingencies of Lévi-Strauss' experiences of and tastes in European music, and a distinctly foreclosed notion of what it would mean to form a new musical language – for Lévi-Strauss it is taken as given that it is "in the hierarchical structure of the scale that the first level of articulation of music is to be found" (Lévi-Strauss, *The Raw and the Cooked*, 22). See also Goldman, "Structuralists contra Serialists?," 81.
[621] On the relation between closure and formalism in Boulez see Guadalupe Lucero, "Musique-pratique : du formalisme au partage du temps," in *Filigrane. Musique, esthétique, sciences, société* Numéros de la revue, Deleuze et la musique (20/01/2012), accessed 23/09/2015. http://revues.mshparisnord.org/filigrane/index.php?id=429

'articulatory level' has persisted into current debates.

This takes us again to the question of nominalism, which has received particular attention in the serialist context through Theodor Adorno, for whom "[i]f musical nominalism, the annulment of all recurring formulae, is thought through to the end, differentiation tumbles".[622] While deviation from convention held weight in the terms of tonal music, with the end of tonality and the commencement of an ultimate musical nominalism differentiation has lost its power, and becomes merely juxtaposition and resemblance.[623] In the twelve-tone work the emancipation of dissonance comes at the expense of movement, creating what Adorno terms a 'static' music,[624] and consequently the novelty of the individual note becomes homogeneous, what Wim Mertens calls a "predominance of variation [that] excludes any real change.[625] As such, while for Adorno Schoenberg is successful in "winning back freedom for mankind"[626] in reflecting an irrecuperable division between material and structure which mirrors the alienation of the subject from society, the loss in nuance and variety leads to a near-instantaneous "reversal into unfreedom".[627]

A refined formalism such of that of Boulez is one response to this problem of musical nominalism, as we saw in our previous chapter regarding the formalism of the 'expanded field' and artistic nominalism. However, these musical formalist responses, in common with the perspectives of much musicology and analytic philosophy of music, have left music, compared to other arts and social phenomena, relatively little-discussed in cultural theory.[628] These questions were also addressed internal to the mid-century avant-garde. In 'The Historical Reality of Music Today', Luigi Nono's polemic aimed at, among others, his Darmstadt colleagues – Stockhausen in particular but Boulez

[622] Theodor W. Adorno, *Philosophy of New Music*, trans. Robert Hullot-Kentor (Minneapolis ; London: University of Minnesota Press, 2006), 61.
[623] Ibid., 63.
[624] Ibid., 50.
[625] Mertens, *American Minimal Music*, 97.
[626] Adorno, *Philosophy of New Music*, 50.
[627] Ibid., 53-54.
[628] See David Bennett, "Checking the Post: Music, Postmodernism, or Post-Postmodernism," in *New Formations* 66 (2009): 7-27.

included – Nono accuses them of a failure to

> integrate an artistico-cultural phenomenon in its historical context, neither in relation to its participation in present reality and its efficacy over it, nor in relation to its capacity to project into the future, but exclusively in itself and for itself, as its own end, and only in relation to the precise instant in which it manifests itself.[629]

Nono would also criticize Cage from a somewhat different perspective, largely aligned with Boulez's earlier critique, describing his work as "profoundly reactionary", and indeterminacy a "superficial idea of liberty and constraint". While endorsing the use of some elements of chance, Nono follows Boulez in arguing that "to replace artistic determinism by chance is possible and attractive only to the composer who is unable to make decisions". In both instances it is again a kind of nominalism that is the topic of critique – on one hand, an ahistorical and passive Cagean practice producing indistinct objects, on the other a post-serialist hyper-formalism which articulates itself on a fully interior level, with no connection to an outside.

In the latter instance, this kind of autonomy of the work of art is not, for Nono, that as it is understood by Adorno, as always immersed in a negative dialectical relationship with its place in commodity culture. For Adorno it is this relation that constitutes the success of the autonomous work of art, the authentic expression of music, as "portray[ing] within its own structure the social antinomies which are also responsible for its own isolation"[630] – the autonomous work of art, in order to be autonomous, must offer a kind of distanced reflection of its culture, a relationship expressed in the contradictory assertion that "art perceived strictly aesthetically is art aesthetically misperceived".[631] This is not a reservation about the autonomy of art that Boulez appears to share, hence Nono's critique – for Boulez art achieves autonomy insofar as it bears no relation to commodity culture, and as such in Boulez's thinking there is little of Adorno's pessimism regarding the very possibility of a work of art being truly successful, being

[629] Luigi Nono, "The Historical Reality of Music Today," in *The Score* 27 (Jul 1960): 41-45.
[630] Theodor W. Adorno, "On the Fetish-Character in Music and the Regression of Listening," in *Essays on Music*, trans. Susan H. Gillespie, ed. Richard Leppert (Berkeley: University of California Press, 2002), 393.
[631] Theodor W. Adorno, *Aesthetic Theory*, trans. Robert Hullot-Kentor (London ; New York: Continuum, 1997), 6.

judged as it is only by its own criteria.[632] From this perspective Boulez, interviewed by Foucault in 1983, sets up a strong distinction between stylistic pluralism and what he saw as the rightful hierarchies of fine art, asserting that a necessary consequence of this pluralism was the simple reduction of aesthetic value to commercial value:

> Ah! Pluralism! There's nothing like it for curing incomprehension […] Everything is good, nothing is bad; there aren't any values, but everyone is happy, This discourse, as liberating as it may wish to be, reinforces, on the contrary, the ghettos, comforts one's clear conscience for being in a ghetto, especially if from time to time one tours the ghettos of others. The economy is there to remind us, in case we get lost in this bland utopia: there are musics which bring in money and exist for commercial profit; there are musics that cost something, whose very concept has nothing to do with profit. No liberalism will erase this distinction.[633]

This comment takes place precisely in the midst of the academic decline, particularly in North America, of the dominance of serial and post-serial music, making way for the increasing institutional acceptance of a diffuse group of musics that could roughly be termed post-Cagean, with increasing prominence for Cage himself, his peers including Wolff and Feldman, and other approaches such minimalism, electronic and electro-acoustic music, and the multi-disciplinary forms following those discussed in our previous chapter. In Cage's terms, we are drawn again to the question of the relation between art and life – how the blurring of the line between the two is to be articulated if it is not the acceptance of a groundlessness which would merely be a passive acceptance of the given. The openness and connectivity implied by serial and chance operations stands in a necessary but endlessly thorny relationship with formal, structural analysis, and the question of whether Cagean chance is a method for divesting composition of serious engagement with this constellation of problems regarding series and structure remains open. To address this question we will consider more closely the status of the theoretical project of structuralism and how this bears on the relation between series and structure.

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[632] See Andy Hamilton, *Aesthetics and Music* (London: Continuum, 2007), 176.
[633] Michel Foucault and Pierre Boulez, "Contemporary Music and the Public," in *Perspectives of New Music* 24:1 (Fall-Winter, 1985): 6-12.

Recognizing structuralism

Eco, in his engagement with structuralism in *La Struttura Assente*, seems to efface the bind between series and structure already at work in many versions of structuralism. Published in 1971, the arguments of 'Series and Structure' perhaps suppress the passage of structuralist activity since the early 1960s and define contemporary structuralism in exclusive relation to a moment in Lévi-Strauss' work, and with this obscures the significance of theoretical structuralism as a problematic unity and its bind with the arts which he credits as operating with the serial logic of the open work.

As Étienne Balibar describes the theoretical practices grouped together as structuralism, the 'primacy' of structure common to these models of analysis comes only through a generalized rejection of the reduction of structure to any single epistemological model.[634] Against Eco's insistence on the Ur-code of structuralism, here it is rather a practice of "immanent externality […] in opposition to foundational, ontological, or apophantic styles of philosophy", and as Balibar terms the structure of structuralist discourses, it is never 'first-degree' structure, as "a totality or system of parts submitted to a law of discreteness, difference, or variation and invariance", but rather always a 'second-position' structure, that is, it uses these 'laws' in the second degree – such that terms like the subject are constituted rather than constituting.[635] Indeed, Balibar puts forward the possibility of what has been known as poststructuralism being understood as move from a 'structuralism of structures' to a 'structuralism without structures',[636] concerned with their indeterminacy or immanent negation rather than what Eco would term the 'absent' structure – that "structuralism in its strongest sense is already poststructuralism".[637]

Balibar marks Deleuze's essay 'How Do We Recognize Structuralism?' as diagnosing "a

[634] Étienne Balibar, "Structuralism: A Destitution of the Subject?," trans. James Swenson, in *differences: A Journal of Feminist Cultural Studies* 14:1 (2003): 3.
[635] Ibid., 14-15.
[636] Ibid., 11.
[637] Ibid. See also Patrice Maniglier, "The Structuralist Legacy," in *After Poststructuralism: Transitions and Transformations*, ed. Rosi Braidotti (Durham: Acumen Publishing, 2010) – Maniglier's perspective is that structuralism has been the "fundamental matrix" (55) of postwar philosophy.

first turning point in the structuralist trajectory, indeed, to contribute to that turn".[638] This text, written in 1967 but not published until 1973, brings into focus how *Difference and Repetition* and *The Logic of Sense* are both, more explicitly in the latter but equally significantly in the former,[639] marked by Deleuze's engagement with structuralism, and clarifies the relation between these two works, which within Deleuze's terms are themselves structuralist, structuralism here as inseparable from "a new transcendental philosophy".[640] Here Deleuze already makes explicit the questions Eco would later raise about the relation between the "open-structured realities" of serial thought and the "structural laws" of structuralism, positing series and structure as being intractably connected in the production of sense.

Deleuze posits seven criteria for structuralism, put briefly – 1. 'the symbolic', as a refusal of a dialectic between real and imaginary[641] – the key structuralist gesture of producing a model of analysis which denies both any immediacy of an uncoverable reality *or* the privileging of the individual human imagination. 2. 'Local or positional', concerning the relational nature of structure, structural space as pure *spatium* which shifts the notion of subject away from a concrete individual occupying spaces to subjects as places within structures.[642] In Balibar's terms, here the structuralist move is not only (though it is not entirely distinct from) a Kojèvian-Hegelian lost completeness of the subject, but more precisely a notion of the subject which is defined impersonally, by its position in the structural relation between aleatory signifying chains.[643] 3. 'The differential and the singular' and 4. 'the differenciator, differenciation', elaborating the emergence of structure as comprised of an axis of reciprocally determined differential elements and a corresponding axis of the distribution of singular points.[644] 5. 'Serial', that form of organization which allows for movement.[645] 6. 'The empty square', or

[638] Balibar, "Structuralism: A Destitution of the Subject?," 2.
[639] See, for instance, Deleuze's claim that 'structuralism' (in quotation marks, perhaps marking already a deviation from a common understanding) "seems to us the only means by which a genetic method can achieve its ambitions" (Deleuze, *Difference and Repetition*, 183).
[640] Deleuze, *Desert Islands*, 174.
[641] Ibid., 171.
[642] Ibid., 174.
[643] Balibar, "Structuralism: A Destitution of the Subject?," 13.
[644] Deleuze, *Desert Islands*, 176.
[645] Ibid., 182.

paradoxical object, the element of the structure which imparts a general character to it without ever being explicitly expressed,[646] and the obscure 'final criteria', 7. 'from the subject to practice', a futural aspect concerning a praxis which can concern itself with what Foucault terms "structural 'mutations'", or, via Althusser, "forms of transition".[647] Here we will elaborate on this structuralism by continuing our focus on the serial, on the fifth criterion, and move towards considering the final, of a movement towards practice.

In this text structuralism takes an initial linguistic framing, with a structural approach concerning that which is structured like a language, as capable of communicating.[648] Against a dialectic of the real and the imaginary Deleuze will here emphasize the symbolic, that which in *The Logic of Sense* Deleuze will term sense,[649] which arises from an encounter between two heterogeneous systems. In elaborating this point Deleuze binds together structure and series via Lacan, for who "the symbolic as element of the structure constitutes the principle of a genesis: structure is incarnated in realities and images according to determinable series".[650] Quickly distinguished from any kind of formalism – "for structure is not at all defined by an autonomy of the whole, by a preeminence of the whole over its parts, by a *Gestalt* which would operate in the real and in perception"[651] – on this understanding structure is composed of a minimum of two series, as one symbolic series linked to another, and to understand how the symbolic operates within a territory accounts for only half of its structure, with structure only filled out through the resonance that extends between different series in different territories:

> The determination of a structure occurs not only through a choice of basic symbolic elements and the differential relations into which they enter, nor merely through a distribution of the singular points which correspond to them. The determination also occurs through the constitution of a second series, at least, that maintains complex relations with the first. And if the structure defines a problematic field, a field of problems, it is in the sense that the nature of the problem reveals its proper objectivity in

[646] Ibid., 184.
[647] Ibid., 191.
[648] Ibid., 171.
[649] Ibid., 173-74.
[650] Ibid., 172.
[651] Ibid., 173. We will, however, problematize this statement across this chapter and particularly in the next.

this serial constitution, which sometimes makes structuralism seem close to music.[652]

In this respect the series animates what would otherwise be a static structure, through the displacement that occurs between two series. For this idea, and its elaboration with regards to the empty square, Deleuze cites Lacan's 'Seminar on "The Purloined Letter"', indicating how the structure of Poe's story 'The Purloined Letter' comprises the play of two series in relation, the "slippages"[653] between the two via the object = *x* that traverses them without being present in either. Prior to considering this relation, however, it is worth considering how it is conditioned by serialization, for which we will look at Lacan's account of serialization here in some detail. In this seminar Lacan presents a relatively simple model of the possible operation of a language, one which appears to have more in common with mathematical combinatorics, prior to the levels of complexity, redundancy, contingency and so on that natural languages produce.[654] Here Lacan's concern is with understanding first the autonomous functioning of such structures and second the means by which they can instigate conditions of possibility or impossibility. The latter aspect will involve how a set of rules or laws – linguistically speaking, a syntax – can be derived from the specificities of a language's constitution rather than derived from any given pre-existing reality from which it is ciphered.[655]

Lacan begins this discussion with chance – the toss of a coin. A series of, say, nine coin tosses can in one respect be described in terms of the absolute independence of each toss, as with the independence of the note in the tone-row of dodecaphonic compositions – each toss, assuming neutral conditions, equally has a fifty-fifty chance of producing heads, so that even if the first eight tosses produce eight heads results, the improbability of this given does not impact on the fifty-fifty chance of the ninth toss and the highly

[652] Ibid., 183. Indicated here is a key notion connecting *Difference and Repetition* and *The Logic of Sense* – that structure is equivalent to what we saw in *Difference and Repetition* as the problematic Idea. See also structure as "real without being actual, ideal without being abstract" (179) – i.e. as virtual. More on this in our next chapter.
[653] *Desert Islands*, 182.
[654] See Bruce Fink, *The Lacanian Subject: Between Language and Jouissance* (Princeton: Princeton University Press, 1994), 182n6.
[655] Jacques Lacan, *Écrits: The First Complete Edition in English*, trans. Bruce Fink (New York ; London: W. W. Norton & Company, 2006), 7.

improbable outcome of nine heads results. What is most significant in the process of structuring a series, then, is when tosses are linked, and the manner by which they are linked. Lacan gives an example of a means of grouping tosses – where heads is + and tails is -, a first group, noted by 1, determined by constancy (+ + + & - - -), a second, noted by 2, determined by dissymmetry, that is a toss being either preceded or followed by two of its opposite, and third, noted by 3, determined by alternation (+ - + & - + -).[656] This can then be applied to overlapping groups within the series – i.e. grouping together tosses 1, 2, and 3, tosses 2, 3, and 4, and so on. Each grouping can then be sequentially categorized. An example:

```
+ + + – + + – – + –
    1 2 3 2 2 2 2 3
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This example of a series of coin tosses, distributed entirely by chance, indicates how even at a simple level[657] serialization begins to apply interpretive conditions to the elements in a series, and how the structural method of ciphering event can apply laws to an event which were did not pre-exist this ciphering. Upon expanding this structure, we find that once a syntax is instantiated, there is a necessary repetition of interpretive patterns, whereby certain categories cannot immediately follow certain others. At higher levels of complexity, the conditioned repetition of the series becomes essentially autonomous, oblivious to the individual singularities which constitute it, with a high degree of categorial conditioning foreclosing unexpected deviations.

In an appendix to *Écrits* Lacan alludes to the consequences this has for chance with reference to Mallarmé, through what he calls "the only absolute statement" – that "no roll of the dice in the signifier will ever abolish chance", as "chance exists only within a linguistic determination, no matter how we consider it, whether in combination with automatism or encounter".[658] This notion is developed in Seminar XI, 'The Four

[656] Ibid., 35, 47n21.
[657] Lacan argues that the unconscious requires at least a "quadripartite structure", e.g. Ibid., 653.
[658] Ibid., 758. See also Malcolm Bowie, "Lacan and Mallarmé: Theory as Word-Play," in *Meetings with Mallarmé in Contemporary French Culture*, ed. Michael Temple (Exeter: Exeter University Press, 1998).

Fundamental Concepts of Psychoanalysis'. Here Lacan develops these notions of 'automatism' and 'encounter' through the Aristotelian concepts of *automaton* and *tuché*. *Automaton* amounts to the repetition of the symbolic order, the "insistence of the signs",[659] by which chance is paradoxically elaborated under pre-given conditions. *Tuché*, on the other hand, concerns "*the encounter with the real*",[660] beyond the *automaton*, with that which has somehow been unassimilable into the symbolic (e.g. the analysand coming to terms with trauma). However, even this encounter, which in Alain Badiou's reading is the place of Mallarméan chance properly speaking,[661] appears to be at once unbound from assimilation to the logic of the symbolic but nevertheless inextricably implicated in the repetition of the signifier, in its absence from the symbolic somehow marked by the signifier.[662] It is to this extent that for Lacan chance, even chance as an encounter with the prelinguistic real, is nevertheless marked with and defined by a linguistic determination, and in this sense that, per Lacan's famous phrase, "the letter always arrives at its destination".[663] Even that which was most contingent in a process is retroactively ascribed absolute necessity – reinscription in the symbolic order renders the contingency of arrival as the necessity of destination.

Deleuze and chance

In 'How Do We Recognize Structuralism?' Deleuze appears to align himself with this notion of chance – "accidents do not at all happen to a structure from the outside. On the contrary, it is a matter of an 'immanent' tendency, of ideal events that are part of the structure itself, and that symbolically affect its empty square or subject".[664] While Deleuze has often been positioned in strong opposition to Lacan across his writings, with for instance Dorothea Olkowski describing his "radical disruption" of Lacan's

[659] Jacques Lacan, *The Seminar of Jacques Lacan, Seminar XI: The Four Fundamental Concepts of Psychoanalysis*, trans. Alan Sheridan (New York ; London: W. W. Norton & Company, 1998), 53-54.
[660] Ibid., 52.
[661] Alain Badiou, *Theory of the Subject*, trans. Bruno Bosteels (London: Continuum, 2009), 60.
[662] See Tom Eyers, *Lacan and the Concept of the 'Real'* (Houndsmills: Palgrave Macmillan, 2012), 80.
[663] Lacan, *Écrits*, 30.
[664] Deleuze, *Desert Islands*, 191.

reading of 'The Purloined Letter' and his "subversion of Lacan and the symbolic",[665] in order to follow Deleuze's problematization of Lacanian structuralism and ultimately, with Guattari, of his own structuralism, it is important to consider where their projects meet. *The Logic of Sense* opens primarily concerning itself with the pure surface of sense, through Carroll's play with language, the paradoxes of sense and nonsense, and so on. The interest in nonsense – as coextensive with sense,[666] nonsense as not the absence of sense but as *non-sense*, the field of sense without the demands of the specificities of denotation, manifestation, and signification – indicates why it is that Husserlian phenomenology, as described in our second chapter, can appear as a possible "science of surface effects", insofar as the neutrality of the noema extracts sense from the truth or falsehood of any given statement,[667] but also why it ultimately fails in this regard, with the transcendental ego reaffirming an order of common sense, *Urdoxa*.[668] While Merleau-Pontyan phenomenology no doubt diminishes the problem of the transcendental ego by introducing something of a transcendental field to phenomenology through an ontology of the flesh, this indicates also, however, a deeper problem at the heart of *The Logic of Sense*, another level of nonsense beyond that of Carroll, in which the impasse of Merleau-Pontyan phenomenology we located in our third chapter finds a corresponding point in structuralism, namely that of the *arrival* – of the subject reconstituted in terms of its relation to Being or of the letter at its destination.

While initially the apparatus of *The Logic of Sense* differs little from that of 'How Do We Recognize Structuralism?', with an almost identical account of serialization in the sixth series of *The Logic of Sense* and the eighth series, 'of Structure', reiterating much of what is elaborated in the earlier text,[669] a notable contrast appears moving from the

[665] Dorothea Olkowski, *Gilles Deleuze and the Ruin of Representation* (Berkeley: University of California Press, 1999), 162-63.
[666] Deleuze, *The Logic of Sense*, 141.
[667] For example, Deleuze, *The Logic of Sense*, 32.
[668] Ibid., 97.
[669] One point in these early pages of *The Logic of Sense* where we find a distinction from 'How Do We Recognize Structuralism?' is in the discussion of serialization, where Deleuze adds to the characteristics of series a particular sense to the terms 'signifier' and 'signified' by which "We call 'signifier' any sign which presents in itself an aspect of sense; we call 'signified,' on the contrary, that which serves as the correlative to this aspect of sense, that is, that which is defined in a duality relative to this aspect. What is signified therefore is never sense itself. In a restrained sense, signified is the concept; in an extended

ninth series, 'of the Problematic' with its reference to the "unique event",[670] into the tenth series, 'of the Ideal Game'. In 'How Do We Recognize Structuralism?' Deleuze too refers to Mallarmé, naming the throw of the dice as the "very manifesto of structuralism"[671], and compares this more broadly to the game – the Carrollian word-game but also games more generally. Here chess is described as among the "noblest games" insofar as it consists in the organization of a combinatory system beyond the real extension of the chess board into a vast imaginary extension.[672] In *The Logic of Sense*, on the other hand, we find, still drawing on Carroll but now also Borges and Mallarmé, a distinction between what Deleuze terms 'known games' and the ideal game. Known games, either of skill or of chance, have four key principles – 1. There a set of rules pre-existing the playing of the game. 2. These rules determine hypotheses of loss and gain which divide and apportion chance. 3. These hypotheses organize the game into a plurality of "really and numerically distinct" throws, each bringing about a fixed distribution, and 4. the consequence of the throws is are determined as victory or defeat.[673] These games "retain chance only at certain points", other aspects determined mechanically or by 'skill' as the "art of causality". This notion of the game, says Deleuze, is always appealing to another model to define its own order, be it moral, economic, or otherwise.

The ideal game, on the contrary, is 'pure', irreducible to other principles, its own distinctly more obscure principles being 1. There will be no prior rules, and each play determines its own rules. 2. Throws are no longer distinctly made to divide and apportion chance, but rather each affirms the whole of chance. 3. While each play is a series, i.e. a distribution of singularities, they do not divide a closed space but rather are distributed in the open space of the unique cast, and 4. this game has no reality as such

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sense, signified is any thing which may be defined on the basis of the distinction that a certain aspect of sense establishes with this thing" (ibid., 37). Deleuze appears to add this characterization to lay the grounds for the later emphasis on the event.

[670] Ibid., 56.

[671] Deleuze, *Desert Islands*, 175.

[672] There is a particular contrast with *A Thousand Plateaus*, where chess is termed a "game of State", and, in a telling comment regarding the structural affirmation of it, as semiology (Deleuze and Guattari, *A Thousand Plateaus*, 352).

[673] Deleuze, *The Logic of Sense*, 58-59.

but is rather the reality of thought.[674] Deleuze terms this kind of game "Mallarmé's game", regarding his *Livre*, as defined by mobility, interchangeability, displacement – fragments elaborating the play of chance in its wholeness. Here Deleuze introduces that which brings about a kind of break in the heart of *The Logic of Sense*, an "event for all events", a "unique cast from which all throws are qualitatively distinguished"[675] circulating across but irreducible to any serial or structural articulation.

It is the paradoxical relation between necessity and contingency in Lacan's notion of chance which appeals to Badiou, who suggests that Lacan "never confounds the algorithm of the chain and the flat combination of the terms",[676] that is, the combinatorial logic of symbolic series in relation to the real events constituting it, or, the fundamental gap between the symbolic and the real – such that the two nevertheless being bound comes through a 'maximal' algebra, "to the point of effectively being its own border". The 'real' terms never suffice to justify their position in a series, but neither is the series extricable from its real constitution. This relation Badiou describes in terms of law – "What interests Lacan is less the law than the illegal, chance-like principle of determination that puts the law into effect",[677] such that there is a reciprocity between a necessary symbolic order and the 'illegal' transgression of it through the encounter with the real. While Deleuze's notion of structure in *The Logic of Sense*, as with that of 'How Do We Recognize Structuralism?', could be characterized under these terms, it is the introduction of these notion of the "unique throw", the affirmation of the whole of chance, that drives a key aspect of Badiou's critique of Deleuze in *Deleuze: The Clamor of Being*, a critique it will be useful to pass through to better understand the specificity of the shift that takes place in *The Logic of Sense*.

Per Badiou's reading there are three essential characteristics to the Deleuzian dice-throw – it is unique, it is an affirmation of the "whole of chance each time",[678] or "all of

[674] Ibid., 59-60.
[675] Deleuze, *The Logic of Sense*, 64.
[676] Badiou, *Theory of the Subject*, 225.
[677] Ibid. See also Alain Badiou, "Philosophy and Psychoanalysis," trans. Raphael Comprone and Marcus Coelen, in *Umbr(a)* 1:1 (1996): 19-26.
[678] Deleuze, *Difference and Repetition*, 198.

chance in a single moment",[679] and it is the same dice-throw that recurs in each outcome – binding chance to the eternal return of the same. Badiou's argument, in short, is, first, that Deleuze's notion of chance effaces numerically distinct occurrences of chance, reducing their plurality to a totalizing monism, and, second, that this leads to a kind of quietism, a solemn – or worse, joyful – acceptance of a status quo in which the subject cannot assert itself as an actor – "At no time can we be the source of what we think or do. Everything always comes from afar, and further: everything is always already there within the One's infinite and inhuman resource".[680] In another sense, Badiou's argument is that by affirming the whole of chance Deleuze is effectively effacing any positive sense of the serial and structural, as anything more than merely epiphenomenal, as "only superficial stampings or simulacra of the Great Cast".[681]

Insofar as chance pertains to an "ontologically unique throw"[682] the plurality of events is, for Badiou, "purely formal" – "there is only one event, which is, as it were, the event of the One".[683] Badiou's argument is that Deleuze's affirmation of the 'whole' of chance ultimately negates individual instances of chance, that it is an affirmation of chance which does not have the necessity to implicate itself again in the symbolic, that individual instances only elude a merely analogical relationship to the one or whole through an infinitesimalization which nevertheless in the end reduces them to that very one. The Deleuzian plurality would come in the serial form of what Badiou termed a "flat combination of terms". As such while Badiou claims that he is not imposing a probabilistic model of chance on the Deleuzian model – accepting that refuting a probabilistic account of the eternal return is of "the utmost importance" to Deleuze[684] – it is difficult to see how Deleuzian chance is not at the very least subject to the same criticisms as probabilistic chance. Following our previous account of serialization, Badiou's claim is that the categorial organization that the process of serialization

[679] Deleuze, *The Logic of Sense*, 180.
[680] Alain Badiou, *Deleuze: The Clamor of Being*, trans. Louise Burchill (Minneapolis: University of Minnesota Press, 2008), 96.
[681] Ibid., 74.
[682] Deleuze, *Difference and Repetition*, 304.
[683] Badiou, *Deleuze*, 74.
[684] Ibid., 71.

produces is ultimately irrelevant to Deleuze, that each toss of the coin or throw of the dice is equivalent in its chance result and hence in the end reducible to the one. Badiou's claim that he does not believe in any of the possible interpretations of eternal return (of the same, the status of Deleuze's notion of eternal return of *difference* going unaddressed) – as Parmenidean (as permanence of the one), cosmological (as law of the same imposed on chaos), probabilistic (as "an equilibrium arising at the infinity of a series"), or what he calls the Nietzschean-Deleuzian sense ("affirmation of all chance in a single moment")[685] obscures the very close connection, if not conflation, that Badiou draws between the latter two interpretations.

While Deleuze locates his notion of the throw of the dice in Mallarmé, Badiou will oppose his own Mallarméan understanding of chance against what he presents as Deleuze's Nietzschean understanding. Badiou's claim that "[a]bsolutely no compromise is possible between Deleuze's vitalism and Mallarmé's subtractive ontology"[686] is aligned with what Badiou somewhat puzzlingly sees as a "strongly critical" perspective on Mallarmé in *Difference and Repetition* but against the "attempts at annexation" we find in *Foucault* and *The Fold*. As Badiou summarizes the divide, for Nietzsche-Deleuze "Chance comes forth from the Infinite, which has been affirmed", for Mallarmé-Badiou "the Infinite issues from Chance, which has been denied". For Badiou this means that each evental dice throw is formally speaking the same but ontologically speaking absolutely distinct,[687] definitively irreducible and ungroupable to any One – of Badiou's Mallarmé, "being qua being is only the multiple-composition of the void, except that it follows from the event alone that there can be truths of this void or empty ground"[688] – chance as a discontinuous exception. As Ray Brassier succinctly describes the distinction, "in place of what he considers to be Deleuze's transcendent ontological disjunction between a qualitative realm of virtual intensity and a quantitative domain of actual extensity, Badiou substitutes the immanent phase shift between the inconsistent, unpresentable multiplicity of being as ontological void, and its consistent presentation

[685] Ibid., 75.
[686] Ibid., 72.
[687] Ibid., 75-76.
[688] Ibid., 89.

as a multiple-in-situation".[689] Of Deleuze, Badiou says that this solution "concedes too much to the negative".

Cage and series

This critique will be familiar, echoing as it does the two poles of criticism we found oriented towards Cage's procedural use of chance and indeterminacy – as an abnegation of subjective choice (Rainer, Boulez) and as a pseudo-mystical (or outright mystical) affirmation of an infinite fullness (Kahn, Piekut), the latter at the expense of any reformulation of questions of subjective practice with regards to an effective rather than merely epiphenomenal symbolic realm. The serial work, despite its association with Eco's 'open' work, in its most significant articulations took on a kind of structural regrounding – in Schoenberg with the persistence of traditional forms, in Boulez with a hyper-formalism where the ('Occidental') closure of the work reinscribes the ('Oriental') chance element in the terms of a closed structural analysis. Thus the questions – are Cage and Deleuze alike in formulating a notion of chance that abnegates decision? Does this preclude them from making the necessary engagement with questions proper to contending with the increasing nominalism of musical composition and the decentering of the subject that serialism and structuralism respectively announce?

Our consideration of this question centres on the notion of *interpretation*. Cage, while composing the last work he would term 'serial' in the 1930s, would turn to discussing series in relation as an instance of chance at work, in a story from 'Indeterminacy' we will quote here in full:

> A crowded bus on the point of leaving Manchester for Stockport was found by its conductress to have one too many standees. She therefore asked, "Who was the last person to get on the bus?" No one said a word. Declaring that the bus would not leave until the extra passenger was put off, she went and fetched the driver, who also asked,

[689] Ray Brassier, "Stellar Void or Cosmic Animal? Badiou and Deleuze," in *Pli: Warwick Journal of Philosophy* 10 (2000): 210.

> "All right, who was the last person to get on the bus?" Again there was a public silence. So the two went to find an inspector. He asked, "Who was the last person to get on the bus?" No one spoke. He then announced that he would fetch a policeman. While the conductress, driver, and inspector were away looking for a policeman, a little man came up to the bus stop and asked, "Is this the bus to Stockport?" Hearing that it was, he got on. A few minutes later the three returned accompanied by a policeman. He asked, "What seems to be the trouble? Who was the last person to get on the bus?" The little man said, "I was." The policeman said, "All right, get off." All the people on the bus burst into laughter. The conductress, thinking they were laughing at her, burst into tears and said she refused to make the trip to Stockport. The inspector then arranged for another conductress to take over. She, seeing the little man standing at the bus stop, said, "What are you doing there?" He said, "I'm waiting to go to Stockport." She said, "Well, this is the bus to Stockport. Are you getting on or not?"[690]

Cage here offers an ironic take on the disruption of a commonsensical shared reality by the incongruous conjunction between independent series. The policeman, original conductress, 'little man', and replacement conductress have heterogeneous understandings of the field in which they are placed, and the confusion between these independent but interacting lines does not appear to arrive at 'destination', that is, any interpretation which offers retrospective understanding of the contingent meeting, but ends only with diffuse laughter.[691]

In some respects the interpretive meaningfulness of this situation is foreclosed in the figure of the other bus passengers, aware of the series of the other actors running alongside each other without a common point being reached, and indeed that of the reader, who equally has a distanced view allowing for a comprehensive interpretation of the situation. Another degree of complexity is added, however, by the context of the story within the piece 'Indeterminacy'. As described in Cage's preface to the version of 'Indeterminacy' found in *Silence*, its composition consisted simply of Cage listing stories and anecdotes he could remember, his own as well as those from friends and from books, and writing them in no particular order. Further still there is the

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[690] John Cage, *Silence*, 271.

[691] While we will not be addressing it here the question of humour in *The Logic of Sense* offers an interesting point of connection between many of our concerns – as disruption of interpretation in relation to the Zen koan, itself associated with Mallarmé, – "the abolished signification and the lost denotations" of Zen arts (Deleuze, *The Logic of Sense*, 137); "Humor is the art of doubles, of nomad singularities and of the always displaced aleatory point; it is the art of static genesis, the savoir-faire of the pure event, and the 'fourth person singular' – with every signification, denotation, and manifestation suspended, all height and depth abolished" (ibid., 141), and so on.

performance of the piece, as represented in the studio recording of it on the Folkways label (one of the few such recordings of his pieces that Cage would attend to), under the title *Indeterminacy: New Aspect of Form in Instrumental and Electronic Music*. In this recording Cage's recitation of ninety minute-long short stories is accompanied by David Tudor playing sections from *Concerto for Piano and Orchestra* and noise elements from a tape realization of *Fontana Mix*.[692] With no determined relation between Cage's recitation and the music, there are many moments in the recording when Cage's speech falls deep into the sound mix, his words lost, despite which Cage continues to read. In the liner notes to the release Cage compares this to the visual experience of "seeing someone across the street, and then not being able to see him because a truck passes in between".[693]

The notion of a determinable, interpretable whole that is 'Indeterminacy' is also disrupted through its presentation in *Silence*, where the texts that constitute it are not all gathered together, but rather some are positioned following other pieces, with no visible determining logic to the choices. Cage's intention with this gesture, however, is not to eliminate connections, between words, sounds, and other series entirely, but rather to indicate a complexity to their relations that is not reducible to any one explanatory principle, or one perspective – of

> putting the stories together in an unplanned way […] to suggest that all things – stories, incidental sounds from the environment, and, by extension, beings – are related, and that this complexity is more evident when it is not oversimplified by an idea of relationship in in person's mind.[694]

For Cage there is a richness of relation between things if the move of a final

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[692] Cage, *Silence*, 260. David Grubbs describes the origin of *Indeterminacy* in depth, including considering the curious status of its title – Cage's ninety stories are, after all, not indeterminate in his technical sense of the term but pre-prepared (David Grubbs, *Records Ruin the Landscape: John Cage, the Sixties, and Sound Recording*, (Durham: Duke University Press, 2014), 81-86).
[693] John Cage, *Indeterminacy: New Aspect of Form in Instrumental and Electronic Music* (Smithsonian Folkways, 1992), CD. This is also reminiscent of one of the stories in 'Indeterminacy', concerning Daisetz Suzuki's lectures at Columbia University: "Suzuki never spoke loudly. When the weather was good the windows were open, and the airplanes leaving La Guardia flew directly overheard from time to time, drowning out whatever he had to say. He never repeated what had been said during the passage of the airplane" (Cage, *Silence*, 262).
[694] Cage, *Silence*, 260.

interpretation of these relations, a 'destination', is resisted, to allow for a more diffuse and plural notion of relationality to come into place, to open things up to 'chance' relations the terms of which are not determined in advance of their happening. As Cage renders this point in the context of performance, there is no need for any determining agreement between performers – "Patterns, repetitions, and variations will arise and disappear".[695] As Cage later describes the application of chance to text works, "[t]he mechanism of the I Ching […] is a utility. Applied to / letters and aggregates of letters, it / brings about a language that can be / enjoyed without being understood".[696]

The purpose here is less to rule out acts of interpretation and the determination of relations *a priori* than it is to recognize how these moments are constituted as partial understandings in an open field of possible connections. Here chance reveals itself as a profusion of possible paths which are united by the binding function of what Deleuze in *Difference and Repetition* and *The Logic of Sense* will call 'destiny', not as an inviolable deterministic connection between the present and the past but as an affirmation of the contingency and conjunction that forged given relations:

> it implies between successive presents non-localisable connections, actions at a distance, systems of replay, resonance and echoes, objective chances, signs, signals and roles which transcend spatial locations and temporal successions.[697]

This aspect of Cage's use of chance is emphasized by N. Katherine Hayles through the terms of the series, stressing that the progressive chain of a series is not continuous but rather conjunctive[698] – there is no means for understanding a series in terms of a wholly internal causality, retroactive or otherwise, but this need not produce the kind of effacement of the specific articulation of the series we see in Badiou's critique of Deleuze or in Rainer's of Cage. As Hayles describes the experience of reading Cage's *Mureau* (1971-72), a text piece with strong visual similarities to *Un coup de dés*,

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[695] Cage, *Silence*, 15.
[696] John Cage, *M: Writings '67-'72* (Middletown, Conn.: Wesleyan University Press, 1973), 215.
[697] Deleuze, *Difference and Repetition*, 83.
[698] N. Katherine Hayles, "Chance Operations: Cagean Paradox and Contemporary Science," in *John Cage: Composed in America*, ed. Marjorie Perloff and Charles Junkerman (Chicago: University of Chicago Press, 1994), 228.

> the reader struggles to correlate differences so that they become significant, until finally the mind is swamped with the enormity of the task and comes to rest. At this point the text can begin to function like a Zen koan, releasing the initiate from the circle of her assumptions by posing a question that cannot be answered unless she is willing to relinquish the primacy of human intention.[699]

Here, then, we see a practical manifestation of the kind of chance operation as distinct from intentional choice that Cage found appealing in the *I Ching*, not as a diffusion of the series but as a different understanding of it, by which the complexity of its constitution and hence its fundamental contingency and uncertainty, rather than the necessity forced upon it by interpretation, is emphasized – "Chance expresses itself through the profusion of possible paths and the emergence of one, intention by rigorously adhering to the indicated worldline until it has crystallized into existence through painstaking operations".[700]

It is not surprising, then, that Rocco Gangle notes the affinities between the elaboration of what he calls 'combinatorial divination', like that found in the use of the *I Ching*, and Deleuze's use of chance in *The Logic of Sense* in particular but also in *Difference and Repetition*. As Gangle interprets such divinatory practices, the 'soothsaying' aspect ascribed to them – that by which individual casts are intended to map onto a specific future event – is less important than what he terms the 'spiritual' or 'contemplative' element of the cast, oriented not so much towards determining a currently unknown future as it is to its bearing within the series of throws itself.[701] As Gangle notes, the resonances that the cast enacts are immanent to the series itself, not as a mapping but as a process of open determination. By being bound to the series each cast can be both an affirmation of the whole of chance and be indexed to a material context, but this material context is itself attributable to the cast. The cast is then both actual and virtual, pertaining to both an indefinite past of the series and the incalculable future.[702] Describing this in the context of practices of combinatorial divination itself, Gangle argues they "do not remain simply closed in on themselves, but communicate *a priori*

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[699] Ibid., 236.
[700] Hayles, "Chance Operations: Cagean Paradox and Contemporary Science," 231.
[701] Rocco Gangle, "Divinatory Chances," in *SubStance* 39:1 (2010): 83.
[702] Ibid., 84.

with the self-differentiating, virtual 'whole' of chance, and *a posteriori* with the practices of other traditions and systems".[703]

Here we see what Cage gets from his conjunction "Duchamp Mallarmé?" that would not have been derived from either alone. From Mallarmé, an impersonality where Duchamp still runs against questions of the individual – it is notable that Duchamp was drawn more to Jules Laforgue than to Mallarmé, concerned less with convention being undone towards an ideality of form than of the persisting weight of convention on subjective life, interrupting at every moment[704] – from Duchamp, a material bond which insists on openness and relationality, however opaque. Where Boulez finds in Mallarmé a profound and rigorous formalism through the removal of all convention and gestures of expression, for Cage chance enacts the unpredictable unfolding of a material situation, an intrinsic relation to life, but a 'life' quite distinct from the concern with the unconscious we see motivating aspects of Duchamp's work.

This bond between chance and the still effective existence of series is indicated in *Difference and Repetition*, where Deleuze's response to the question of what it means to "affirm the whole of chance, every time, in a single time?" is immediate, and starkly contrasts Badiou's reading

> This affirmation takes place to the degree that the disparates which emanate from a throw begin to resonate, thereby forming a problem. The whole of chance is then indeed in each throw, even though this be partial, and it is there in a single time even though the combination produced is the object of a progressive determination.[705]

The singular throw is as such not at all negated by its relation to an affirmation of the whole of chance, but rather this affirmation can only take place insofar as it implicates itself in a process of serialization and problematization.

Many have responded convincingly to the details of Badiou's argument. Catherine

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[703] Ibid.
[704] See Jerrold Seigl, *The Private Worlds of Marcel Duchamp: Desire, Liberation, and the Self in Modern Culture* (Berkeley: University of California Press, 1995), 149.
[705] Deleuze, *Difference and Repetition*, 198.

Cazenave, for instance, traces the origin of Deleuze's concern with chance to *Nietzsche and Philosophy* and tracks it through to his mature reading of Mallarmé, wherein Deleuze, as Badiou rightly notes, distances himself from any concern with the void and the "preponderance of negative values" in *Un coup de dés*, but does so by conjoining a Nietzschean affirmationism with a distinctly Mallarméan logic of chance[706] – in this respect the Nietzsche-Mallarmé conjunction functions for Deleuze as the Duchamp-Mallarmé conjunction does for Cage. More generally, commentators including John Protevi and James Williams have argued against Badiou through a foregrounding of the concept of intensity, understood to its fullest extent not so much as virtual, nor as actual, but through its quasi-causal capacities constituting in some respects a third ontological level, one which allows for a detailed understanding of the passage between virtual and actual and vice-versa without a reduction to the virtual which Badiou diagnoses, or at the level of Badiou's reading of Deleuzian (and Bergsonian) multiplicity.[707] Jon Roffe's careful dissection of Badiou's reading of Deleuze also adds much to these arguments.[708] While Protevi, Williams, Roffe, and others provide convincing counters to many of Badiou's arguments in terms immanent to the philosophical apparatus of *Difference and Repetition* and *The Logic of Sense*, it nevertheless appears that an internal justification was not entirely satisfactory, long in advance of Badiou's critique, for Deleuze himself. Likewise, these defences make Deleuze's auto-problematization that takes place through and with Guattari more difficult to track, and obscures some of the key questions in the fractured unfolding of *The Logic of Sense* – in what theoretical direction does this affirmation of the whole of chance point?

Towards the machine

[706] Catherine Cazenave, "Le coup de dès ou l'affirmation du hazard," in *Cahiers Critique de Philosophie* 2 (Avril 2006): 111.
[707] See, for instance, John Protevi, "Review of Peter Hallward, *Out of this World: Deleuze and the Philosophy of Creation*," in *Notre Dame Philosophical Reviews: An Electronic Journal* (08/03/2007), accessed 24/09/2015 https://ndpr.nd.edu/news/23058-out-of-this-world-deleuze-and-the-philosophy-of-creation/; James Williams, *Gilles Deleuze's* Difference and Repetition: *A Critical Introduction and Guide* (Edinburgh: Edinburgh University Press, 2003), 176; James Williams, *Gilles Deleuze's Philosophy of Time* (Edinburgh: Edinburgh University Press, 2011), 186n8.
[708] Jon Roffe, *Badiou's Deleuze* (Durham, NC: Acumen, 2011).

The gradual shift gestured at in 'of the Ideal Game' is completed with a startling break at the close of the thirteenth series, 'of the Schizophrenic and the Little Girl', as Deleuze introduces the convulsive 'Body without Organs' of an Artaud who "is alone in having been an absolute depth in literature",[709] against whom Carroll's play on the surface appears superficial – "We would not give a page of Artaud for all of Carroll". At the end of a Carrollian theory of sense and non-sense is a demand to discover a method of genesis, of the production of sense rather than merely adequation to a state of affairs. From this moment Deleuze shifts his concern to the "dynamic genesis" of language, from its primary order of prelinguistic sounds from the depths of the body, through to the tertiary arrangement as propositions, via the secondary order of the surface of sense itself as the condition for the movement between the two[710] – "What renders language possible is that which separates sounds from bodies and organizes them into propositions, freeing them for the expressive function".[711] Here is where our previous critique of phenomenology coincides with a critique of structuralism, where Carroll's non-sense operates entirely on the secondary organization of sense, remaining within its already-given terms and enacting a play within these, within a form of common sense.

What are these depths we find in Artaud? Here we can see the figure of Artaud here is taking up what in 'How Do We Recognize Structuralism?' is referred to, speaking of the final criteria of structuralism, 'From the Subject to Practice', as the "structuralist hero", a "resistant and creative force", "neither God nor man, neither personal nor universal, it is without an identity, made up of non-personal individuations and pre-individual singularities. It assures the break-up of a structure affected by excess or deficiency".[712] The structuralist hero is posited as the site of a practice which does not succumb to the symbolic given, judged on its power to mutate structure, to enact transformations resisting analogy to that which has gone before, judged, by the subsequent logic of the ideal game, "on its power to cause relations to vary and to redistribute singularities,

[709] Deleuze, *The Logic of Sense*, 93.
[710] See Daniel Smith, "From the Surface to the Depths," in *Essays on Deleuze* (Edinburgh: Edinburgh University Press, 2012).
[711] Deleuze, *The Logic of Sense*, 181.
[712] Deleuze, *Desert Islands*, 191.

always casting another throw of the dice".[713]

In the apparatus of *The Logic of Sense* we, that is, those of us who are not, in Sylvère Lotringer's terms 'Mad Like Artaud',[714] do not appear have any real access to the primary order of language, as it seems associated with an unrefined and uncontrolled madness. Per Deleuze's description, Artaud "is alone in having been an absolute depth in literature, and in having discovered a vital body and the prodigious language of this body. As he says, he discovered them through suffering. He explored the infra-sense, which is still unknown today"[715] – a uniqueness Artaud indeed would corroborate, with his description of himself, in the 1925 text 'Here is Someone...', as "the man who's best felt the astounding disorder of his language in its relation to his thought. I am the man who has best charted his inmost self, his most imperceptible slitherings".[716] Nietzsche too is one who "saw a new way of exploring the depth", but again the question of depths is addressed with hesitation, warning of Nietzsche as one who "perished in his own manner".[717]

There is across these discussions at once the reluctance to remain on the surface, but a deep danger in the plunge into the depths, and a questioning of philosophy's capacity to in any case contend with these questions, of the "ridiculousness of the thinker",[718] even regarding the questions of sense with which philosophy has most directly concerned itself:

> What is left for the abstract thinker once she has given advice of wisdom and distinction? Well then, are we to speak always about Bousquet's wound, about Fitzgerald's and Lowry's alcoholism, Nietzsche and Artaud's madness while remaining on the shore? Are we to become the professionals who give talks on these topics? Are we to take up collections and create special journal issues? Or should we go a short way further to see for ourselves, to be a little alcoholic, a little mad, a little suicidal, a little of a guerilla – just enough to extend the crack, but not enough to deepen it irremediably?

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[713] Ibid.
[714] Sylvère Lotringer, *Mad Like Artaud*, trans. Joanna Spinks (Minneapolis: Univocal, 2015).
[715] Deleuze, *The Logic of Sense*, 93.
[716] Antonin Artaud, *Artaud Anthology*, ed. and trans. Jack Hirschman (San Francisco: City Lights Books, 1965): 37.
[717] Deleuze, *The Logic of Sense*, 108.
[718] Ibid., 157.

> Wherever we turn, everything seems dismal. Indeed, how are we to stay at the surface without staying on the shore?[719]

Even accounting for the function of intensity, of the combinatorial serial logics at work, the bind between surface and depth appears uneasy, a swing between on the surface mere semantics and in the depths utter madness. There appears to be something captured in Badiou's argument which Deleuze himself had already found somehow unsatisfying, that the affirmation of the whole of chance was indeed in some respects an abnegation of the thought and praxis to which as a philosopher Deleuze felt committed.

With the invocation of the Body without Organs the Lacanian auto-critique enacted in *The Logic of Sense* escapes its anchor, and the Lacanian real as a solely negatively-defined psychosis, as exclusion from the symbolic, is upturned, Deleuze taking this madness as a practice in the form of not so much an erasure of the structural subject as it is the production of a nomad subject.[720] The figure of Artaud, however, is invoked not so much for a reformulation of structure than as something which appears to be resisting structure altogether. Insofar as we continue to discuss structure, it appears to remain within Lacan's terms – the accident, chance, remaining immanent to structure in the obscure 'practice' of the structuralist hero, a symbolic which persists as closed in its retrospective, interpretive function. The status of the singularity before it enters into a sense-producing process of serialization and problematization or structuration remains obscure. Does this commit us to accepting Badiou's thesis, that there is in Deleuze ultimately the affirmation of a One at the expense of any effectivity of structural articulation?

Antonio Negri contends that even if we find in *Difference and Repetition* and *The Logic of Sense* a fully realized structuralist conceptual apparatus, even if through a purified structuralism Deleuze puts to rest the "transcendental philosophy in the phenomenological tradition" and "that empiricist logic which […] considers perception

[719] Deleuze, *The Logic of Sense*, 157-58.
[720] See Éric Alliez, "Structuralism's Afters: Tracing Transdisciplinarity through Guattari and Latour," in *Theory, Culture & Society* Special Issue: Trandisciplinary Problematics (2015): 5.

to be the only means of knowing", we are still left asking – where does creation take place, where does agency take place, where is the 'structuralist hero'?[721] As Negri argues, the encounter with Guattari is key – it is through Guattari that the significance of the *break* that occurs in the structural apparatus of *The Logic of Sense*, by which it is pushed to and beyond its limits of functionality, is fully articulated.

In 'Machine and Structure', Guattari's review of *The Logic of Sense* which brought him and Deleuze into contact, Guattari agrees with the first two of Deleuze's three minimum conditions for the determination of structure – that "There must be at least two heterogeneous series, one of which is defined as the signifier and the other as the signified" and that "Each of these series is made up of terms that exist only through their relationship with one another"[722] – but the third condition, that "two heterogeneous series converge towards a paradoxical element, which is their 'differentiator'"[723], Guattari will ascribe to the order of the machine.[724] We have already seen that for the Deleuze of *The Logic of Sense* this third condition already has an elusive position within the relation between series and structure – it is "the principle of the emission of singularities", it "belongs to both series at once and never ceases to circulate throughout them", and it is through this elusiveness (as empty square) that it provides the functional ground for structure, associated with the throw of the dice, the plunge into the depths. For Guattari this third condition, regarding "the exchange or substitution of particularities", the level at which singularities are characterized by a non-substitutable and non-exchangeable nature,[725] is to be understood through the machine, as work, production, the "heart of desire".[726]

What we find then in the notion of the machine is a level of articulation that is not structural, and merely semantic, but nor is it abyssal, a plunge into madness. For

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[721] Antonio Negri, "Gilles-félix," in *The Guattari Effect*, trans. Shane Lillis, ed. Éric Alliez and Andrew Goffey (London ; New York, 2011), 157.
[722] Deleuze, *The Logic of Sense*, 50.
[723] Ibid., 51.
[724] Félix Guattari, *Molecular Revolution: Psychiatry and Politics*, trans. Rosemary Sheed (New York: Penguin, 1984), 111n2.
[725] Deleuze, *Difference and Repetition*, 1.
[726] Guattari, *Molecular Revolution*, 113.

Guattari this concept allows for the detachment of production from the still-representational and retrospectively interpretive character of the signifier-signified relation towards a form of production as experimental practice.[727] That the structuralist hero is still only seen to act at the level of structure produces a point of obscurity in its practice, that "accidents do not at all happen to a structure from the outside. On the contrary, it is a matter of an 'immanent' tendency, of ideal events that are part of the structure itself, and that symbolically affect its empty square or subject"[728] skews closely to a foreclosure of the symbolic, the letter always reaching its destination. As Guattari says of group phantasy, "[a]ny change is precluded, and can be seen only *between* structural levels. Essentially, no break is any longer accepted"[729] – a status quo which the differenciating factor resists and pushes against, but in an all-too-obscure way if it is still understood at the level of structure.

The gesture here, then, is to unbind the singularity from a strictly structural understanding, but still with a degree of determination – to free the productive element from its exclusive understanding under the terms of structure as a retrospective interpretation or a semantic communication. The distinction is posited precisely to emphasize that which is productive and operational in the relation between singularity and structure, to "make it easier to identify the particular positions of subjectivity in relation to events and to history"[730]. It acts to displace any semblance of the dissociation between the affirmation of the whole of chance and the understanding of its articulation through structure that Badiou sees in the theoretical apparatus of *The Logic of Sense*, and instead associates this affirmation, as the basis of a machinic theory, immediately with a revolutionary practice

> We may say of revolution, of the revolutionary period, that this is when the machine represents social subjectivity for the structure […] The common denominator of writings of this kind in history would be the opening up of a pure signifying space where the machine would represent the subject for another machine. But one can no longer then say of history, as the site of the unconscious, that it is 'structured like a

[727] Ibid., 114.
[728] Deleuze, *Desert Islands*, 191.
[729] Guattari, *Molecular Revolution*, 116.
[730] Ibid., 111.

language' except in that there is no possible written form of such a language.[731]

Guattari's reading of *The Logic of Sense* is thus not so much a critique as it is an attempt to push its theoretical apparatus to and beyond its limits, a critique already internal to *The Logic of Sense* in a limited form – a problematic reading, or transcendental critique, of Deleuze himself, whereby that of Deleuze's work which through its structural apparatus is still operating within what Deleuze would later term psychoanalysis' "automatic interpretation machine" is broken apart to "set a whole field of experimentation, of personal or group experimentation, against the interpretive activities of psychoanalysis".[732]

This clarifies much about the status of experimentation and guides us into our final articulation of the question of experimental practice. We see that in our understanding of experimentation, *The Logic of Sense* is a more experimental text than *Difference and Repetition – Difference and Repetition*'s philosophical apparatus is dauntingly robust and resistant to moments of unexpected interference, but with *The Logic of Sense* on the contrary we find a text that experiments with its own philosophical architecture to the point where this architecture can no longer sustain itself. In this we find, in an auto-critical form, precisely the transcendental critique or problematic reading we have traced through Deleuze's engagement with the philosophical tradition, and which likewise we have found in Cage's trajectory regarding the history of music and of art. With this we can return to our starting point, to the problematic understanding of the Idea and of music and sound. With this questioning of the experimental efficacy of a structural definition of the problem, and an increasing opposition between experimentation and interpretation, what are the consequences for our initial understanding of music as an experimental practice regarding the problematic Idea of sound?

[731] Ibid., 117-18.
[732] Deleuze, "Five Propositions on Psychoanalysis," in *Desert Islands*, 276.

Rhythm, sound, performance

Across the preceding three chapters we have mapped the singular and contextual unfolding of the practices of experimentation developed by Cage and Deleuze, in Cage's case through the status of sound in experimental practices of music and in Deleuze's case through a transcendental critique within the philosophical climate of phenomenology and structuralism, working through these respective problematics at their points of historical and theoretical conjunction and conflict. In the previous chapter we saw how through the procedural use and ontological understanding of chance the status of experimentation comes to be clarified, our enquiry increasingly becoming posed on the opposition between experimentation and interpretation.

From here our discussion can return to the terms set out in our first chapter – to the problematic understanding of music and sound. We will consider how the trajectory of Cage's practice we have mapped through the 1950s and 1960s brings into focus and mutates how music is conceptualized as a problem – how questions of the conceptual understanding of sound, the relation between composer, score, performer, and listener, and the opening of music to the other arts and of art to life, demand a reevaluation of how the very problem of the problem is to be understood. This will be developed by considering how Cage's practice both welcomes understanding through the problematic Idea and provides an indication of the limitations of this understanding, with the tensions and impasses of this approach anticipating the renewal of these questions through the critique of structuralism and emphasis on becoming found in Deleuze & Guattari's *A Thousand Plateaus*.

In order to understand the conceptual mutations Deleuze's thought undergoes we will take his *Francis Bacon: The Logic of Sensation* as a key point connecting the two periods and aspects of his thought, helping us articulate how the shifts between them occur. From here we can develop a series of musical-philosophical concepts operating across Deleuze's and Cage's work, focusing particularly on the concepts of rhythm and modulation. Setting off from the resituating of the question of sound through post-

Cagean musical practices found in musical minimalism, we will investigate how in Cage's own late return to a more specifically musical domain we find a rich experimental practice encapsulating and carefully articulating the consequences of a broad constellation of musical, artistic, theoretical, and social encounters, articulated through a machinic theory of modulatory rhythm.

Notation, structure, and interpretation

The increasing formalization of harmony, as discussed in our first chapter, runs conjoined with a shift in the status of the interpretation of the score. In early forms of notation (such as that developed in fifteenth century Italy) the score provided a skeleton of the performance, but much in the way of a choice or improvisational freedom was left to the director and to the performers, and while this space of freedom has little in the way of a precise methodological grounding, it is understood that there is no necessary split between the unity of the work and the individuality of different performers.[733] It is only in the nineteenth century that the identification between the musical work and the score becomes absolute, and the score takes on a position of decisive authority with regards to performative decisions. Almost immediately there are counter-arguments to this – as with Herder's discussion of music as an 'energetic' art, concerned with activity rather than product[734] – but this understanding has weighed heavily on the techniques of musical analysis since, up to the Schenkerian deep structural harmony we have seen dominating musicological practices.[735]

We have likewise seen already the implications this authority of the score has for

[733] Chanan, *Musica Practica*, 70.
[734] See for instance Johann Gottfried Herder, "Critical Forests, or Reflections on the Art and Science of the Beautiful: First Grove, Dedicated to Mr. Lessing's Laocoön," in *Selected Writings on Aesthetics*, trans. and ed. Gregory Moore (Princeton: Priceton University Press, 2006), 140 and *passim*. The romantic emphasis on forces (see for example Friedrich Schiller, *On the Aesthetic Education of Man in a Series of Letters*, trans. Elizabeth M. Wilkinson and L. A. Willoughby (Oxford: Clarendon Press, 1967) is key to the trajectory Deleuze & Guattari map from classicism to romanticism and onto the modern (Deleuze & Guattari, *A Thousand Plateaus*, 338-343).
[735] McCreless, "Formalism, Fair and Foul".

listening. Nicholas Cook, for example, poses "musicological listening" as a listening which "involves the co-ordination of what is heard with some scheme of representation that is adapted to the purpose in hand".[736] Cook regards the listener's experience as immersive with regards to the piece, but through a form of listening that can be broken by 'external' sources – be it visual distraction or the playing of a 'wrong' note which makes the listener aware of a performer rather than of only the immanent unity of the piece. Here there is as a structural analogy between score, performance, and reception, and, as the score is primary, the performance and the listening experience are both acts of *interpretation.* By this understanding those elements which deviate from the path set out by the score are, unlike with the limited freedom of earlier models, deemed not merely to take on the risk of disorder but to be *inarticulate*, impossible to accommodate to the analytical understanding of the piece.

In the (analytic) philosophy of music this authority of the score has seen performance often understood in terms of a split between nominalists like Nelson Goodman, who hold strictly to a performance acting as a precise parallel to the written score, the failure to do so requiring it be understood as a distinct piece, and 'Platonists' like Peter Kivy, who allow for an element of imperfection in a performance, but nevertheless assert that it can be judged in terms of adherence to an original score, the allowance of imperfections with regards to its ideal form taking place through expert interpretation.[737] Common with musicological understandings, both of these approaches ground their analysis on discontinuous, discrete, and unambiguous terms of notation linked to a notion of performance defined in terms of structural resemblance to the score.

Goodman's assessment of Cage in *Languages of Art* clarifies the relation of this approach to our discussion here. In this reading, Goodman looks at section BB of Cage's *Concerto for Piano and Orchestra, Solo for Piano*, also a source for Cage's *Variations*

[736] Nicholas Cook, *Music, Imagination, and Culture* (Oxford: Oxford University Press, 1992), 154.
[737] See for example Peter Kivy, *Music Alone: Philosophical Reflections on the Purely Musical Experience* (Ithaca: Cornell University Press, 1990). The relation between this 'Platonism' and Deleuze's 'overturning' of Platonism could be an interesting line of enquiry (see, among other sources, 'Plato and the Simulacrum' in Deleuze, *The Logic of Sense*, 253-265).

scores, as discussed in our third chapter. Goodman's concern with this section concerns its iterability as a work – that on account of a lack of semantic and syntactic detail at the level of the score we may find ourselves with performances which have no evident character of unity, no clear point of resemblance conjoining them to the original score.[738] With insufficient differentiation at the level of the score we are left, says Goodman, with no basis for determining a performance to be a "true copy" of the piece, and as such this method of scoring does not qualify as notational. This follows the commonly-held notion that, as Carl Dahlhaus terms it, a 'composition' is fixed with regards to its performability and persists as an aesthetic object communicated towards the listener, so insofar this ground of identity cannot be found between performances, the work does not rightly qualify as a work.[739]

Leaving any general comment on the conservatism of these approaches aside, these tendencies and the figures of grounding they make use of – a structural certainty of the score, an isomorphism between each element of the process, the possibility of unhindered communication to an expert listener – nevertheless persist into strands of the avant-garde, as we have seen through Schaeffer's and Cage's confrontations with serialist and post-serialist composition. Cultural musicology has done much to shift musical understanding away from what Lydia Goehr has termed, in the Kantian sense, this 'regulative' notion of the work,[740] but while the "pragmatic, cultural" approach towards alternative forms of notation by cultural musicologists has done much to unbind musical analysis from these strictures,[741] it is perhaps at the expense of conceptual and functional analyses at the level of detail for which more restrictive fields of study proved conducive. How, then, are we to formulate a conceptual understanding of notation that accommodates Cage's emerging musical thematics, of indeterminacy,

[738] "[W]ithout some stipulation of minimal significant units of angle and distance, syntactic differentiation is wanting" (Goodman, *Languages of Art*, 188).
[739] See, for instance, Carl Dahlhaus, "Qu'est-ce que l'improvisation musicale?," trans. Marion Siéfert and Lucille Lisack, in *Tracés: Revue de Sciences humaines* 18 (2010), accessed 25/09/2015 http://traces.revues.org/4597.
[740] See Lydia Goehr, *The Imaginary Museum of Musical Works: An Essay on the Philosophy of Music* (Oxford: Clarendon Press, 1992), 102-106.
[741] See Virginia Anderson, "The Beginning of Happiness: Approaching Scores in Graphic and Text Notation," in *Sound & Score: Essays on Sound, Score and Notation*, ed. Paulo de Assis, William Brooks, and Kathleen Coessens (Leuven: Leuven University Press, 2014), 136-37.

process, and openness, which are so at odds with the fixed character of notation and performance-as-interpretation, without a detrimental reduction in their complexity?

Daniel Charles raises Goodman's critical remarks in conversation with Cage, to which Cage responds that "writing is one thing, performing another, and listening a third; and that there is no reason for these three operations to be linked".[742] If they are not 'linked', what is their relation to be? Deleuze & Guattari can help us understand the conceptual stakes of this question. The 'Becoming-Intense, Becoming-Animal, Becoming-Imperceptible...' plateau of *A Thousand Plateaus* begins with a discussion of natural history – a field that will be crucial to Deleuze & Guattari's own understanding of and theoretical deployment of musical themes. Under the heading 'Memories of a Naturalist', Deleuze & Guattari turn to series and structure as the ways in which natural history has conceived of the relationships between animals. Series here has the specific sense of resemblance, "*a* resembles *b*, *b* resembles *c*, etc" whereby "all of these terms conform in varying degrees to a single, eminent term, perfection, or quality as the principle behind the series"[743] – analogy of proportion. In the case of structure, we speak rather of analogy of proportionality, whereby "*a* is to *b* as *c* is to *d*". In structural understandings there is a denunciation of the imagination, "the establishment of resemblances in a series, the imitation pervading the entire series and carrying it to its term, and the identification with this final term", and by Lévi-Strauss it is "no longer a question of instituting a serial organization of the imaginary, but instead a symbolic and structural order of understanding".[744] This pattern can equally be found in the study of music – as we saw in our first chapter, with the diminishment of music as a *practice* inseparable from social, cultural, and religious contexts there is a move to subtract the imaginary element of the construction of a series of resemblances aimed towards a higher order, positing rather a matter of analogy to hold between performance and score, and ultimately between score and a general musical schema (including but not limited to

[742] Cage, *For the Birds*, 129. See also Daniel Charles, "Figuration and Prefiguration: Notes on Some New Graphic Notions," in *Writings about John Cage*, ed. Richard Kostelanetz (Ann Arbor: University of Michigan Press, 1993).
[743] Deleuze and Guattari, *A Thousand Plateaus*, 234.
[744] Ibid., 236.

harmony), with any deviations being termed unacceptable aberrations.

Deleuze & Guattari here take structuralism as their target but subtend it to a notion of structure which has been progressively determined and applied in a much broader range of analytic techniques, none more refined than that of the reciprocity between harmony and the score, and the authority of the score which exceeds even its solid ground of harmony – as in the persisting serialist and post-serialist reliance on interpretive understandings of performance.[745] Structure, in this respect, undoes the necessity of a higher order that we find in a serial approach, but only to place itself in that role. The underlying understanding here is that natural history has only been able to think in terms of relationships (between A and B) rather than in terms of production (from A to *x*).[746] Despite this use of the term *production*, central to the formulation in *Anti-Oedipus* of the break from structuralism enacted after Deleuze's confrontation with Guattari,[747] there is at this point not yet any specific deviation from the critical reformulation of structuralism we find in the Deleuze of the late 1960s – it is precisely the radicalization of the relation between the open series and the closed structure that we saw as the basis for Deleuze's engagement with structuralism in the previous chapter.

Music and the problematic

This reconnects us to our understanding of Cage's practice as a *problematic* practice, his works as problematic works,[748] and we now have the conceptual, practical, and historical grounds to elaborate on the questions opened in our first chapter with regards

[745] As noted by Georgina Born in her anthropological study of IRCAM, the French institute of contemporary classical music founded by Pierre Boulez in 1977, one of the great fissures in the European avant-garde came to be between those invested in the notated form – including Boulez – and those who felt that the score could not do justice to the sound worlds created by new technologies (Georgina Born, *Rationalizing Culture: IRCAM, Boulez, and Institutionalization of the Musical Avant-Garde* (Berkeley: University of California Press, 1995), 139, 224).
[746] Deleuze and Guattari, *A Thousand Plateaus*, 234.
[747] For instance, how "everything is production: production of productions, of actions and of passions; productions of recording processes, of distributions and of co-ordinates that serve as points of reference; productions of consumptions, of sensual pleasures, of anxieties, and of pain", Deleuze and Guattari, *Anti-Oedipus*, 4.
[748] See Deleuze, *Difference and Repetition*, 69.

to the Cage of the 1960s, the Cage at the fullest expansion of his experimental trajectory. With regards to the problematic Idea, it is not subject to the aforementioned limits of serial and structural thinking as posed in *A Thousand Plateaus*, insofar as there is a difference in kind between problems and solutions:

> The problem is at once both transcendent and immanent in relation to its solutions. Transcendent, because it consists in a system of ideal liaisons or differential relations between genetic elements. Immanent, because these liaisons or relations are incarnated in the actual relations which do not resemble them and are defined by the field of solution.[749]

If we maintain for now that sound is the problem of music, Cage's notational advancements appear to be moving ever closer to reducing the purely representational nature of the score and instead constructing a problematic field to be *actualised* in performance – as Charles describes this act of composition, "[t]o compose is to prefigure the figurations not yet in existence, not yet available".[750] This approach reaches a point of formal refinement, as we have discussed in our third chapter, with *Variations II*.

Here it is not so much, as in Thomas DeLio's nevertheless important and helpful analysis, that the score of *Variations II* resists fixing any given structure and rather presents the full, open-ended possibility of statistical complexes implicit in the possible configuration of the transparencies.[751] In DeLio's understanding the piece would be like those open works of Boulez or Stockhausen which Cage would deem still subscribed to the work-form, that still in the score there was an element of finality and closure – no matter how detailed and nuanced the range of possibilities, the performance is still intractably bound to a finally closed fidelity to the score. Rather, as Joe Panzner argues, the score could be said to delimit a space of potential, not preordaining the statistical field that DeLio sees it as but instead as determining the potential for soundings to be actualised in performance.[752] Per Panzner's argument, drawing from the Deleuzian

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[749] Ibid., 163.
[750] Charles, "Figuration and Prefiguration: Notes on Some New Graphic Notions," 258.
[751] Thomas DeLio, *Circumscribing the Open Universe: Essays on Cage, Feldman, Wolff, Ashley and Lucier* (Lanham, MD: University Press of America, 1984), 17.
[752] Joseph Edward Panzner, *The Process That Is the World: Cage/Deleuze/Events*/Performances, PhD

problematic Idea, the Cagean transparency score is *completely determinate*, but only at the level of potential, remaining open-ended with regards to its interpretive, performative solutions.[753]

There are, however, complications to this understanding of such scores of Cage's, and of others who use notation as a kind of map of the sound-space of a piece, and they occur again at the level of performance and interpretation. Of particular note here is *Variations II*, and the role in its composition and performance played by David Tudor. While notationally speaking the piece complexifies the procedure of interpretation, there is another level at which the performative practice taking place points to a complicated and often contradictory position Cage takes with regards to interpretive freedoms, insofar as Cage appears to give Tudor a kind of interpretive freedom – and an *intentional* freedom – he rarely allows elsewhere with his works. Most immediately interesting is how Tudor associated the piece intrinsically with his ongoing investigations into musical technology, which would eventually lead him away from piano and into exclusively electronic music, by binding its performance to his development of the amplified piano. This instrument, as Tudor indicated, was conceived specifically towards the six parameters of Cage's score, oriented through a complicated network of microphones and phonograph cartridges triggered in numerous ways, the sounding as a whole deriving only from the various resonances, feedback loops, and signal interferences of the piano, microphones, and cartridges in reciprocal interaction. In some respects this constitutes a multiplication of the indeterminate qualities of Cage's prepared piano, taking performative authority away from the pianist and distributing it through a complex instrumental assemblage, Tudor noting that he could "only hope to influence" it.[754]

It is also notable, however, that Tudor would appear to stray from the instructions in the

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dissertation: Ohio State University, 2012), 52-69.
[753] Ibid., 43, Deleuze, *Difference and Repetition*, 184-85.
[754] See James Pritchett, "David Tudor as Composer/Performer in Cage's *Variations II*," delivered at *The Art of David Tudor*, Getty Research Institute, 2001. Online text accessed 25/09/2015 https://www.getty.edu/research/exhibitions_events/events/david_tudor_symposium/pdf/pritchett.pdf. We also find a detailed analysis of the complicated creative relationship between Cage and Tudor in Martin Iddon, *John Cage and David Tudor: Correspondence on Interpretation and Performance*.

score, devising his own system to convert the measurements of the original score into a looser and more open-ended performative model. Tudor would also apply such procedures to the score of *Winter Music*, with the result in that instance being 'indeterminate' performances that were nevertheless almost identical from one to the next – a situation Cage was seemingly quite supportive of.[755] Cage would not be so generous with other performers taking such freedoms. Most famous is the New York Philharmonic's performance of *Atlas Eclipticalis*, as part of a large public series on 'The Avant-Garde' organized and conducted by Leonard Bernstein. As Cage recounted the performance in a letter to Christian Wolff, the Philharmonic largely refused any adherence to the score, rather improvising freely, playing scales, talking to each other, quoting other works and so on. Per Cage's description, "[t]hey acted criminally […] They deliberately sabotaged; they killed the piece".[756] This interpretation is complicated, however, by other accounts of the performance – noting that among other factors were a highly complicated system of amplification that resulted in unpredictable and dangerous peaks of volume, and a lack of time allowed for the orchestra to rehearse or otherwise engage with the piece. To some extent, it appears that Cage failed to account for the kind of demands he and the score made of the performers, and the discomfort they had having this imposed upon them – a discomfort with the authority of Cage and of the score.[757]

Also notable are the cases of Julius Eastman and Charlotte Moorman. In 1975 Eastman – a gay African-American composer and singer – performed Solo 8 from *Song Books*, following from *0'00"* with its sole instruction of "In a situation provided with maximum amplification (no feedback), perform a disciplined action". Eastman's performance consisted in a mock lecture entitled 'a new system of love', during which he undressed his partner 'Mr. Charles' and attempted also to undress his sister, who vocally refused.[758] Cage attended the performance and was reported to be furious, commenting "I'm tired

[755] Piekut, *Experimentalism Otherwise*, 58
[756] Silverman, *Begin Again*, 202.
[757] See Benjamin Piekut's detailed account of this performance in chapter one of *Experimentalism Otherwise*.
[758] Silverman, *Begin Again*, 274.

of people who think that they could do whatever they want with my music!"[759] In the case of Moorman, her prolonged series of performances for cello of *26'1.1499"* – a piece written to be strenuously difficult, tending towards performative impossibility,[760] hence the amusing factor of its length being determined down to one ten-thousandth of a second – would incorporate increasing elements of performance art, such as a performance with Nam June Paik in which Paik, stripped to the waist, imitated a cello, his back being bowed by Moorman. Of this performance Cage would refer to the "liberties taken" with regards to the score,[761] later commenting on "the striking thing" of "tak[ing] a piece of mine and playing it in a way that didn't have to do with the piece itself", and in private correspondence describing *26'1.1499"* as "[t]he one Charlotte Moorman has been murdering all along".[762]

Marking both Eastman's and Moorman's performances is a direct confrontation with cultural and social questions in a way Cage would tend to avoid in his compositions.[763] In Moorman's case there is both a connection to the emerging practices of feminist performance art and also the significance of the prominently displayed partially naked Asian male body at the height of the Vietnam War,[764] in Eastman's case a public engagement with his homosexuality in a way that Cage would never do with his own.[765] Leaving aside the directly political questions regarding Cage's objections to these pieces, there appears to be a conflict between how Cage understood and wished to

[759] Rob Haskins, *John Cage* (London: Reaktion Books, 2012), 120.
[760] A theme that would increasingly interest Cage, for instance speaking of his 1970s *Etudes* pieces in terms of a concern with "the practicality of the impossible" (Quoted in Pritchett, *The Music of John Cage*, 198).
[761] John Cage, "On the Work of Nam June Paik," in *Nam June Paik: Video Time, Video Space*, ed. Toni Stooss and Thomas Kellein (New York: Harry Abrams Publishers, 1993), 21.
[762] Quoted in Piekut, *Experimentalism Otherwise*, 149-50. Notably in a later discussion about notation Cage indicates an attempt to account for the performer – "When I write, for instance, for orchestra, I'm writing for strangers and so I tend to write very conventionally. I'm careful to make something that can be understood without spending too much time" (Kostelanetz, *Conversing with Cage*, 99).
[763] Albeit not exclusively – see for example *Litany for the Whale* (1980) among other tendencies towards ecological and environmental themes.
[764] See for example Ryan Dohoney, "Charlotte Moorman's Experimental Performance Practice," in *Charlotte Moorman and the Avant-Garde, 1960-1980*, ed. Corrine Granoff (Evanston, Ill.: Northwestern University Press, forthcoming 2016).
[765] See Jonathan Katz, "John Cage's Queer Silence; or. How to Avoid Making Matters Worse," in *Writings through John Cage's Music, Poetry, and Art*, ed. David W. Bernstein and Christopher Hatch (Chicago ; London: The University of Chicago Press, 2001) for a close and thoughtful study of the relation between Cage's art and politics and his public reticence regarding discussion of his sexuality.

present the blurring of art and everyday life and how it is presented in the developing field of performance art. Part of this will come down to, as we have described elsewhere, the matter of intention, and Cage's resistance towards the ego's place in performance, but in important respects this alone is not entirely satisfying.

Moorman, it seems quite clear, started from an attempt to 'authentically' interpret Cage's extraordinarily difficult and significantly open piece, and only gradually, over a prolonged period of time and many performances, revised her approach to the piece to produce something quite different – a close engagement with the work indicated by her heavily annotated notation.[766] While this produced something unrecognizable, as we have seen the different performances of other indeterminate pieces of Cage were likewise unrecognizable, attributable to their very nature as problematic compositions. The core of Cage's critique of Moorman, on the contrary, comes down to the liberties taken "in favor of actions rather than sound events in time".[767] This points again to the tension described in our third chapter between the modernist tendency in Cage, exemplified by the variable field that is his sound-space, and his other tendencies and of those who followed him, towards openness, mutability, and connectability.

Cage seems unwilling to account for the possibility that Moorman had taken on the work anew, as an experimental recasting of the problem itself through a close practical engagement with the piece, by which the problem mutated from a largely sonic problem into a problem of another order. If the slow and careful determination of a new performative problem, from one structure to another, can be deemed invalid on account of a failure to remain faithful to the original score, are we not maintaining something of what Goehr terms the regulative function of the score even in the problematic work? Deleuze remarks in *Difference and Repetition* that we remain slaves "so long as we do not control the problems themselves, so long as we do not possess a right to the problems, to a participation in and management of the problems",[768] but here in the

[766] Piekut, *Experimentalism Otherwise*, 158.
[767] Cage, "On the Work of Nam June Paik" 21
[768] Deleuze, *Difference and Repetition*, 158.

understanding of the completely determined problematic Idea, as the field of sound-space, there appear to persist points of blockage and tension between the problem and experimentation properly speaking. Is the problematic Idea, as a regulative, Kantian Idea, still implicated in an interpretive schema in opposition to an experimental practice?

While Cage certainly puts strain on questions of performative authenticity and freedom, there is still an aspect here that is unsatisfying, where the experimental approach slows back into a logic of interpretation. We would argue, very far from Goodman, that there is perhaps still a degree of determination at the level of the score that sits somewhat uneasily with Cage's theoretical trajectory, that a theoretical and practical tension runs through his insistence on the score – even in pieces such as *Variations V*, performed without a score but *retroactively* scored and paradoxically noting it to be a "Performance without score or parts".[769] The case of Tudor's role in *Variations II* points, however, in a quite different direction, where what seems to be a lack of fidelity to the score is allowed to function as a positive, transformative act, where the performer is no longer 'slave' and has his or her own hand in the constitution of the problem – as James Pritchett notes, it would "not be out of the question" to call *Variations II* Tudor's first composition.[770] Tudor's role would appear exemplary of the situation where composition and performance are 'not linked' but nevertheless enact a relation of some kind, performing himself an experimental rather than interpretive function and in so doing redefining the problem with which the piece contends.

Here we ask again the question that is raised in the final pages of 'How Do We Recognize Structuralism?' and echoes through this phase of Deleuze's work – how are we to account for, to *enact*, the mutation of structure, the transition from one structure to another, or from one problem to another? What kind of procedure have the problems of music and sound, has the problem of music *as* sound, undergone in the shift in Cage's practice we have mapped, and how does it guide us through these contradictory points

[769] See Fetterman, *John Cage's Theatre Pieces*, 130.
[770] Pritchett, "David Tudor as Composer/Performer in Cage's *Variations II*".

of closure and disciplined stability – and through the unsatisfying elements, the points of inefficiency, we found with Deleuze's structuralism in the final pages of the previous chapter, particularly with regards to the problematic Idea?

Sensation and sound as a problem after structure

The problem of sound as developed here can build a crucial bridge between Deleuze's pre- and post-Guattari work, the shape of which was outlined at the close of our previous chapter, as it is to Cage's notion of sound-space that Deleuze & Guattari turn in one discussion of the concepts smooth space and the plane of immanence, or plane of consistency, in *A Thousand Plateaus*. This understanding of the plane is presented in opposition to the plane of transcendence, or plane of organization, which Deleuze & Guattari define through the terms of musical tonality, describing a certain traditional form of composition – the Western art music form – in terms of a

> developmental or organizational principle does not appear in itself, in a direct relation with that which develops or is organized: There is a transcendent compositional principle that is not of the nature of sound, that is not "audible" by itself or for itself [771]

That is to say, following the musical trajectory mapped out here in our first and second chapters especially, musical composition has relied on a principle beyond the sounds themselves, a structure which, while not present in the sounds or in their audition, comes to define them, comes to give form to the relations between sounds so as to unify their heterogeneous qualities under the terms of tonality. The function of the plane of transcendence takes place through a form of hylomorphism, in which principles of structure come to define the material to which form is given. Opposed to this plane, and as such opposed to the hylomorphic theory of form and matter, is the plane of immanence. On the plane of immanence we no longer turn to form to characterize that which exists on the plane – there are rather "only relations of movement and rest, speed and slowness between unformed elements",[772] a kind of activity that takes place without

[771] Deleuze and Guattari, *A Thousand Plateaus*, 266.
[772] Ibid.

reference to principles exceeding the activity itself. It is with this plane that the twentieth century musics rejecting the authority of harmony have contended, have attempted to articulate themselves through, and for Deleuze & Guattari it is indeed Cage who "first and most perfectly"[773] deploys the fixed plane of sound that will mark the musical plane of immanence – fixed not as immobile but as "the absolute state of movement as well as of rest, from which all relative speeds and slownesses spring",[774] a plane from which these speeds and slownesses are rendered sonorous.

This gives us a clear entry point into following through Deleuze and Deleuze & Guattari an analysis of how Cage's understanding of the problem of sound and music shifts, and allows us to return to our earlier passage through the tenth plateau of *A Thousand Plateaus.* In 'Memories of a Bergsonian' the still-Deleuzian critique of structuralism of 'Memories of a Naturalist' unfolds into the distinctly Deleuze-Guattari confrontation with Deleuze's own structuralism – that structuralism which is constructed by rendering structuralism Bergsonian, that is, by rendering structure virtual. This confrontation takes place through the concept of *becoming*. While affirming a Bergsonian coexistence of heterogeneous durations, Deleuze & Guattari reject an evolutionary logic for one of 'involution', resisting both the hereditary telos of evolution and, as Keith Ansell-Pearson has argued, the "residual humanism and perfectionism" of Bergsonian 'creative evolution'.[775] In all of these instances there remains an insistence on fixed terms, de-emphasizing the precise character of the change that takes place *between* these terms. The logic of becoming, on the other hand, concerns itself with "irreducible dynamisms drawing lines of flight",[776] reality here being ascribed to the "block of becoming" rather than the terms it passes through – becoming being of the order of the rhizome rather than classificatory or genealogical tree,[777] rhizomatics as a principle of connection between differing kinds of semiotic chains without reduction to the logic of any given

[773] Ibid., 267.
[774] Ibid.
[775] Keith Ansell-Pearson, *Germinal Life: The Difference and Repetition of Deleuze* (Routledge, London: 1999), 140.
[776] Deleuze and Guattari, *A Thousand Plateaus*, 237
[777] Ibid., 239.

one.[778]

We see in the final chapter of Deleuze's *Bergsonism* that Bergsonian creative evolution is bound up with the logic of actualisation we see in *Difference and Repetition*, whereby, following the understanding that a constitutive power of the problem means that the construction of an organism is both the stating of and solution to a problem,[779] it is argued that to create is to actualise, and actualisation is *evolution*.[780] Already this understanding is part of what Deleuze terms a critique of evolution*ism*, which assumes a chain of actual entities, hence the virtual construction of the problem. However, per the argument of *A Thousand Plateaus*, the logic of actualisation which serves as the model of transcendental empiricism operating in *Difference and Repetition* and *The Logic of Sense* is itself inadequate. Even the terms of *Anti-Oedipus* are resisted – the model of production is itself not enough, still with the implication of a 'product'.[781]

The logic of this passage is not always clear within the terms of the *Capitalism and Schizophrenia* project, but we find a clearer elaboration of the shift in Deleuze's thought through three monographs he published in the 1980s, *Foucault*, *The Fold: Leibniz and the Baroque*, and *Francis Bacon: The Logic of Sensation*, all of which can be seen in some respects as Deleuze rearticulating the questions of his pre-Guattari work through the post-Guattari mutations his thought has undergone, and as such offering a point of connection between the two. The focus of our attention here will be *Francis Bacon*, released almost contemporaneously with *A Thousand Plateaus*. Here the title both makes clear a confrontation with Deleuze's work pre-Guattari – how does a logic of sensation relate to a logic of sense? – and offers several clear points of connection traversing Deleuze-Deleuze and Deleuze-Guattari. One such point we will work towards is regarding the Body without Organs (BwO). Introduced in *The Logic of Sense* and

[778] Ibid., 7.
[779] Gilles Deleuze, *Bergsonism*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Zone Books, 1991), 7.
[780] Ibid., 98.
[781] This perhaps constitutes a final break with Kant, with *Anti-Oedipus*' notion of desire as productive being the strongest remaining element of the previous structural Kantianism to be found in Deleuze's thought (Deleuze and Guattari, *Anti-Oedipus*, 25).

present in *A Thousand Plateaus*, in the latter text it takes on a significantly different character, as something to be constructed,[782] rather than that of the earlier text, where it is presented as something tending dangerously close to fully inarticulate chaos. Through this we address these key questions – how do we get to this point? What is the passage from a problematic logic of actualisation to here? Under these terms how are we to understand the problem of sound?

First, on the question of 'sensation'. This term – first only the term, the precise conceptual bond we will have to carefully develop – provides us with a link back to Cage. Why did we find in Cage an insistence on the production of sound events rather than other kinds of events, resisting the expansive fluidity of other models of conceptualism? One significant aspect of this is precisely in the question of sensation, on which Cage will most strongly distinguish himself both from Duchamp and from conceptual art – what does this imply about their methods of engagement, of construction?

There is perhaps a key inversion of Duchamp's position involved in Cage's becoming "a duchamp unto myself", determined by Cage's practice being a musical one. Where Duchamp posits a break with a history of visual arts concerned solely with the eye and gestures towards conceptuality, Cage's break is with a history of music which has *not* concerned itself with the ear, a break extracting sound from a conceptuality unconcerned with hearing or with other bodily responses to sound.[783] As Cage himself described this relation, "[a] contradiction between Marcel and myself is that he spoke constantly against the retinal aspects of art, whereas I have insisted upon the physicality of sound

[782] Deleuze and Guattari, *A Thousand Plateaus*, Plateau 6: 'November 28, 1947: How Do You Make Yourself a Body Without Organs?'

[783] The Western classical tradition and its philosophical readings, in all their diversity, from Rousseau up to Adorno, are strongly characterized by a denigration of music's physicality, by maintaining a distance between the sensory-corporeal and the intellectual (see Jeremy Gilbert and Ewan Pearson, *Discographies: Dance Music, Culture and the Politics of Sound* (London: Routledge, 1999), 59.). Deleuze speaks of a relation to music by which it "traverses our bodies in profound ways" (*Francis Bacon*, 54) but also associates it with a *disembodiment*, a loss of materiality, while through painting there is rather a kind of discovery of materiality (Ibid., 54-55). Pursuing this notion could be of great interest in future research, some possibilities of connection including to the 'dematerialization' of the art object in conceptual practices or the renewed concern with materiality in contemporary sound studies.

and the activity of listening".[784] This is clarified by Cage's comments on conceptual art, first in his series of interviews with Daniel Charles, where Cage has little awareness of Joseph Kosuth's formalization of this notion but is resistant towards the erasure of the experiential element of the work entirely, arguing, with reference to his own unexpected experience of the eighteen hour long performance of Satie's *Vexations*, that to remove the aesthetic element is to determine in advance our understanding of the work.[785] Similarly, in a 1971 interview with Alcides Lanza, Cage will resist the claim of his 'influence' on conceptual art, suggesting instead a situation into which he was only one of many to fall, but notes that he considers *4'33"*, as possible source of his influence on conceptual art, to be a "very physical work".[786] Morton Feldman uses this distinction to describe Duchamp and Cage as "opposites",[787] but it is perhaps better understood as an indicator of how Cage is at the nexus of a number of discourses and practices, with musical and visual artistic conceptualism, formalism, and theories of experience being articulated in quite distinct and often seemingly contradictory ways.

For Cage, neither the conceptual nor the aesthetic appear to stand as sufficient conditions for the work, and their conjoined necessity shifts how each is to be understood – a strong notion of conceptual art is a refusal of certain experiences, much as a common-sensical understanding of experience has an uninterrogated conceptual element which itself only permits for certain kinds of preordained experience. By

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[784] Kostelanetz, *Conversing with Cage*, 186.
[785] Cage, *For the Birds*, 153. For a critique of Kosuth's 'strong' conceptualism see Osborne, *Anywhere or Not at All*, 48-50.
[786] Kostelanetz, *Conversing with Cage*, 218.
[787] Morton Feldman, "Conversation between Morton Feldman and Walter Zimmermann," in *Morton Feldman Essays*, ed. Walter Zimmermann (Kerpen, West Germany: Beginner Press, 1985), 235. For Feldman, following his understanding of Cage's inversion of Duchamp, sounds can be understood as found objects – "Everything is a found object. I mean, I didn't invent the major 6th. I didn't invent the minor 7th […] Even something I invent is a found object" ("Darmstadt Lecture," in *Morton Feldman Essays*, 195), but within this the sonic properties of the 'found object' are what pushes at the limits of its conceptuality. Relating this to Guattari's discussion of Duchamp's Bottlerack could be an interesting line to pursue – describing how it "functions as the trigger for a constellation of referential universes engaging both intimate reminiscences (the cellar of the house, a certain winter, the rays of light upon spider's webs, adolescent solitude) and connotations of a cultural or economic order – the time when bottles were still washed with the aid of a bottle wash…" (Félix Guattari, "Ritornellos and Existential Affects," trans. J. Schiesari and G. Van Den Abeele, in *The Guattari Reader*, ed. Gary Genosko (Oxford: Blackwell, 1996), 164), Guattari's account has little role to play for sensation, so a sonic found object, irreducibly contextualized but also irreducibly sensory, could be an illuminating elaboration on such an outline.

working within this nexus Cage is, even at this most conceptual, working precisely to maintain a minimum component of sound as something to be experienced without it being reduced to merely, in Adorno's terms, a "slice of empirical reality",[788] to work through what conditions our situation as listeners and how this relates to the world of sound.

In *Francis Bacon* Deleuze raises the question of sensation in a similar context, regarding artistic abstraction. Anticipating the passage later developed in *What is Philosophy?*, as discussed in the closing pages of our third chapter, Deleuze argues that abstract art and figurative art are alike in not attaining sensation, insofar as "they pass through the brain, they do not act directly upon the nervous system".[789] This is developed later through a distinction between geometric abstraction and abstract expressionism, with geometric abstraction being associated with asceticism, leaving aside figuration but also leaping over chaos for the "spiritual salvation" of formal certainty in the construction of an exclusively optical space,[790] while abstract expressionism loses this optical element entirely for the manual and tactile (hence 'action painting') – it "imposes the hand on the eye"[791] by producing a catastrophic visual space on which the eye can find no rest. While the specificity of these art historical arguments can be disputed, they nevertheless point towards the ontological basis of Deleuze's claim regarding sensation – that neither of these practices, on one hand that which undoes figuration in the service of a more fundamental form, and on the other no longer this transformation of form but that of utter decomposition, can be seen to attain the level of *becoming*, of what Deleuze will here term the "direct action" of sensation, rather being understood in terms of a shift from one structure to another.

Of sensation, it is crucial that it be understood as passing between levels, and not in the sense of the transformation of form, from one form to another (which abstract and even

[788] Theodor W. Adorno, *Sound Figures*, trans. Rodney Livingstone (Stanford: Stanford University Press, 1999), 197.
[789] Gilles Deleuze, *Francis Bacon: The Logic of Sensation*, trans. Daniel W. Smith (London ; New York: Continuum, 2004), 36.
[790] Ibid., 103.
[791] Ibid., 107.

figurative art can and do very well enact), but as experienced, a becoming irreducible to the logic of meaning – and the logic of sense – that slips back into the terms of representation and resemblance, as discussed in our first chapter – "[s]ensation is what is painted. What is painted on the canvas is the body, not insofar as it is represented as an object, but insofar as it is experienced as sustaining *this* sensation".[792] Experienced, and experienced through the body, sensation is "the master of deformations, the agent of bodily deformations",[793] "*the action of invisible forces on the body*".[794] Deleuze considers a phenomenological explanation for this passage between levels, whereby levels of sensation refer to the different sense organs and their ways of referring to each other, painting making visible a unity of the senses – but this unity, as we have seen in our first chapter with regards to Kant, is made possible only with reference to its pre-organic constitution, through what we will later see as the power of rhythm, not a pre-ordained harmony.[795]

Here is where the passage between these two phases of Deleuze's thought is clearest, as upon its introduction at this moment the BwO appears to bear more resemblance to that of *The Logic of Sense* than that of *A Thousand Plateaus*, a body no longer defined by its organic unity – as Deleuze says, it is less a matter of being without organs as that these organs are not ordered in the form of the organism.[796] The BwO here is convulsive, spasmodic, provisional, the 'difference of level' said of sensation revealed as concerning the encounter with force that enacts moves not between heterogeneous but fundamentally unified organs, as with the phenomenological understanding, but from a terrifying indeterminacy to the formation of "temporary and transitory" organs. As such this movement between levels concerns what we saw in *The Logic of Sense* as a plunge into the depths, but here already there is a degree of distinction from that understanding. Where in *The Logic of Sense* we were concerned with the obscure passage between the disarticulate BwO and determinate structure, here we see degrees of articulation and

[792] Ibid., 35.
[793] Ibid., 36.
[794] Ibid., 41.
[795] Ibid., 41-42.
[796] Ibid., 44.

disarticulation, towards a task of painting – and, we can extend, of practice more generally – no longer concerned with structural articulation.

The painter is then faced with the problem of how to act when confronted with the canvas, and here the contention with structure we find in *The Logic of Sense* remains important, rearticulated in the relation between the act of painting and figuration. For Deleuze the canvas is not blank, but littered with the givens of figuration, preconceived clichés and habits of thought and vision, "ready-made perceptions, memories, phantasms"[797] with which the painter must contend in order to "extract the improbable Figure form the set of figurative probabilities".[798] And again, as in the *The Logic of Sense*, the means of beginning is through chance – in the case of painting through what Deleuze calls 'free marks', made quickly so as to bring out the accident beneath the certainties of figuration, a "manipulated chance"[799] where a choice is made, the choice to throw the dice, which the painter utilizes to pull the painting away from the figuration which pre-marks the canvas[800] – a problematization of figuration through a practical gesture.

This turns us back to the problem of *The Logic of Sense* – we see the use of chance to unbind the act from the probabilistic and interpretive logic of the structural given, but if in *Francis Bacon* we are not concerned with the return to structure, the structural rearticulation of the throw of the dice, then how does this chance opening function with regards to the technical and material process of composition? Here it is necessary to consider the character of sensation itself, namely its "irreducibly synthetic" character.[801] At the most basic level, this synthetic character is derived from the vibratory nature of sensation – the 'first' synthesis of Deleuze's recasting of the three syntheses found in different forms in, for instance, *Difference and Repetition* and *Anti-Oedipus*, here with

[797] Ibid., 87.
[798] Ibid., 95.
[799] Ibid., 94.
[800] This is against Deleuze and Bacon's understanding of Duchamp, who for them treats chance probabilistically, and also against the gesture of producing abstract art – the pictorial code of abstract art operates through a principle of binary choice rather than this properly speaking random choice (ibid., 104).
[801] Ibid., 37.

regards to sensation – insofar as even a simple sensation is defined by the ebb and flow taking place at the nervous level of the BwO.[802]

The synthesizer and music after Cage

From this fundamental level we can follow Deleuze in enacting a shift to a musical register and reconnecting this passage to that of *A Thousand Plateaus*. At this point the role of Guattari's thought starts to become more pronounced, with the introduction of the concept of the diagram, also known as the abstract machine. Guattari would earlier refer to the diagrammatic components of an assemblage as relating to the "contingent construction of certain components that 'take on' specialized functions of transcoding and deterritorialization",[803] expressed through "a constant entanglement involving heredity, apprenticeship, experimentation, and improvisation"[804], indicating its status as operating at once in terms of the construction of *and* through the expressive capacities of the BwO, as what Deleuze will later call "the map of relations between forces […] which […] acts as a non-unifying immanent cause".[805] In the terms specific to *Francis Bacon* the diagram refers to "the operative set of asignifying and nonrepresentative lines and zones, line-strokes and colour-patches"[806] beneath the figurative givens of painting, and leads us towards a discussion of how it is that sensations are to be related, both internal to their diagrammatic articulation and to their expression.

The first option here is the digital, whereby elements are taken to be basic units of code, of the kind that renders abstract art as a reduction to elementary formal units.[807] This pertains to an understanding through serial and structural resemblance – covering

[802] Ibid., 45.
[803] Félix Guattari, *The Machinic Unconscious: Essays in Schizoanalysis*, trans. Taylor Adkins (Los Angeles: Semiotext(e), 2011), 146.
[804] Ibid., 148.
[805] Deleuze, *Foucault*, 37. Likewise, the "the diagrammatic or abstract machine does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality" (Deleuze and Guattari, *A Thousand Plateaus*, 142).
[806] Deleuze, *Francis Bacon*, 101.
[807] Ibid., 112-13.

"certain forms of similitude or analogy: analogy by isomorphism, or analogy by produced resemblance".[808] On the other hand, we have the analogical – understood as "a language of relations, which consists of expressive movements, paralinguistic signs, breaths and screams, and so on".[809] Deleuze acknowledges the obscure nature of this distinction, and turns to the question of musical technology to explain – through the synthesizer.[810] With the digital synthesizer we have an 'integral' setup, defined by a homogenization of the data received, the adherence to a transcendent code, with the filtering of the sound produced by the *addition* of predetermined formants. In theory, additive synthesis, through the summation of simple waves, can produce any sound whatsoever, but in practice the production of any degree of sonic richness requires a vast amount of source material, with early practitioners spending hundreds of hours creating single sounds.[811] The analogical (analog) synthesizer, on the other hand, is 'modular' (more on which later), it establishes an "immediate connection" between heterogeneous elements, that is, not subject to a higher code, where on a "field of presence or finite plane those moments are all actual and sensible". At the level of the filter, the analog synthesizer is subtractive, meaning that frequencies are removed from the waveform to produce different timbral qualities, complexity and richness being produced not by increasingly complicated additions but by subtle shifts which enact significant and not entirely predictable changes, the "intensive subtractions" that constitute sensible movement.[812]

In *A Thousand Plateaus* Deleuze & Guattari refer to an equivalent notion of the analogical synthesizer when discussing the musical transformation undergone at the

[808] Ibid., 114-15.
[809] Ibid., 113.
[810] Deleuze's account draws from Richard Pinhas, whose own articulation of this question can be found in the section 'Le rythme et la modulation synthétique' of Richard Pinhas, *Les larmes de Nietzsche: Deleuze et la musique* (Paris: Flammarion, 2001).
[811] Aden Evens, *Sound Ideas: Music, Machines, and Experience* (Minneapolis, University of Minnesota Press, 2003), 92-93. In fact digital synthesizers can equally make use of a version of subtractive synthesis, although it should be noted that at the time of Deleuze's writing digital synthesis was a technology still in its infancy, with digital synthesizers adequately powerful for any but the most basic synthesis having only recently become commercially available (see e.g. Holmes, *Electronic and Experimental Music*, 165).
[812] Deleuze, *Francis Bacon*, 116. See also Evens, *Sound Ideas*, which deals with the question of sound synthesis in great detail, beyond this quite simplified distinction.

beginning of the twentieth century, as discussed in our second chapter. Here they describe a shift after romanticism, whereby the problem of art is "no longer that of the beginning" but now "a problem of consistency or consolidation, how to consolidate the material, make it consistent, so it can harness unthinkable, invisible, nonsonorous forces"– through which we enter into the "the age of the Machine, the immense mechanosphere, the plane of cosmicization of forces to be harnessed". [813] In this move Edgard Varèse is "exemplary", his procedure, in a description drawing in all of the elements of analogical synthesis as set out in *Francis Bacon*, involving

> a sound machine (not a machine for reproducing sounds), which molecularizes and atomizes, ionizes sound matter, and harnesses a cosmic energy. If this machine must have an assemblage, it is the synthesizer. By assembling modules, source elements, and elements for treating sound (oscillators, generators, and transformers), by arranging microintervals, the synthesizer makes audible the sound process itself, the production of that process, and puts us in contact with still other elements beyond sound matter.[814]

As described in our second chapter, Varèse no doubt pointed the way forward for the twentieth century's working with sound, but was himself caught in technical and theoretical impasses – significantly regarding technological limitations but also concerning his most productive period predating the fullest articulation of experimental questions of notation, compositional authority and the composer-performer-listener relation, work stretching and exceeding the disciplinary boundaries of music, and so on – more on which later. It is only with Cage that the plane for working with this kind of sonic material is fully laid out, but this is a Cage for whom, following the analysis in our third chapter, the question very quickly coincides with an opening of the artistic field, seemingly not wholly conducive to the kinds of refined sonic concerns Deleuze & Guattari seem to be focusing on here. As such it will be useful to relocate Cage in a musical terrain, first by considering some passages of a post-Cagean music.

From the early 1960s we see a significant reinscription of Cage's broadening idea of sound back onto a more exclusively sonic and musical terrain through the loose

[813] Deleuze and Guattari, *A Thousand Plateaus*, 343.
[814] Ibid.

grouping of composers making what would retroactively be termed minimalist music.[815] For these composers, the four key figures perhaps being La Monte Young, transitioning out of the Fluxus phase of his work discussed in our third chapter, Terry Riley, Steve Reich, and Philip Glass, the emphasis on process, the letting be of sounds, a questioning of compositional authority, and a redistribution of the circuit of functions between composer, performer, and listener – ultimately, the fullest extraction of the question of sound and music from their classical grounding – are taken up again in a more enclosed field than the broad multidisciplinary practices that dominated Cage's work in the 1960s.

Generally resisting the complexities of serialism,[816] musical minimalism favoured the simplicity of differentiated repetition and the use of drones.[817] Deleuze and Deleuze & Guattari cite these composers as exemplary cases of the modern music standing in opposition to traditional models of organizing music, citing Reich and Glass when noting how

> Certain modern musicians oppose the transcendent plan(e) of organization, which is said to have dominated all of Western classical music, to the immanent sound plane, which is always given along with that to which it gives rise, brings the imperceptible to perception, and carries only differential speeds and slownesses in a kind of molecular lapping: *the work of art must mark seconds, tenths and hundredths of seconds*.[818]

For Deleuze, Reich in particular "wants everything to be perceived in act in music, wants the process to be completely understood: therefore his music is the slowest, but because it makes us perceive all the differential speeds"[819] – a desire Reich makes clear

[815] Named following a perceived resemblance to artistic minimalism, and largely outlasting the other terms applied to it such as 'repetitive music', 'acoustical art', and 'meditative music' (Mertens, *American Minimal Music*, 11). Michael Nyman and Tom Johnson have both laid claim to coining the term (Kyle Gann, "Thankless Attempts at a Definition of Minimalism," in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (London ; New York: Continuum, 2004), 299).
[816] See Paul Hillier's introduction to Steve Reich, *Writings on Music 1965-2000* (Oxford: Oxford University Press, 2002).
[817] See Evens, *Sound Ideas*, 50.
[818] Deleuze and Guattari, *A Thousand Plateaus*, 267. For more on this relation see Béatrice Ramaut-Chevassus, "Capter des forces : l'exemple des processus répétitifs américains," in *Gilles Deleuze: la pensée musique*. Ivanka Stoïanova drew a connection between minimalist music and Deleuzian philosophy earlier, for example in *Geste-texte-musique*, 45.
[819] Deleuze and Parnet, *Dialogues II*, 25.

in his text 'Music as a Gradual Process', writing of his interest in presenting sonic processes "extending farther than [we] can hear",[820] which through prolonged differentiated repetition are, to use Deleuze & Guattari's terminology, rendered sonorous.[821]

We find extremely refined instances of these kinds of processes in many of Reich's early works, with for instance *Piano Phase* (1967) and *Violin Phase* (1967) combining short phrases in seeming unison but drawn apart by small rhythmic shifts or variations in tempo, repetition multiplying the order of internal difference.[822] Perhaps most interesting in this regard are Reich's earlier pieces for tape, such as *Come Out* (1966) and *It's Gonna Rain* (1965). *Come Out* takes a sample of speech from a young African American man wrongfully accused of a murder which took place in the Harlem riot of 1964, the piece reproducing this speech, isolating and repeating elements, until mechanical repetition begins to strip the sounds of their linguistic qualities towards vocal inflection and ultimately into deep textural and rhythmic movements, exposing the sonic material of speech.[823] Through the emphasis in these pieces of a process set in motion by the composer rather than the composition as the product of compositional intention, Reich sets a notable precedent for a compositional practice which is not as invested in the refusal of intention as Cage's work, but is nevertheless unpredictable and indeterminate in significant ways.[824] This productive and curiously unclassifiable musical moment would not last, however, with by *Music for 18 Musicians* (1976) a remarkable turn to harmonic complexity and towards a revived classicism, using elements of his earlier work largely only as techniques within the wider more traditionally-defined work.

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[820] Reich, *Writings on Music*, 35.
[821] For example, Deleuze and Guattari, *A Thousand Plateaus*, 343
[822] "The interior of repetition is always affected by an order of difference: it is only to the extent that something is linked to a repetition of an order other than its own that the repetition appears external and bare, and the thing itself subject to the categories of generality" (Deleuze, *Difference and Repetition*, 25).
[823] This description drawn from Reich's own in the notes to his *Early Works*.
[824] Jean-Jacques Nattiez would say of these compositions that it was possible that they had succeeded where Schaeffer did not, in qualifying as musical works while still rendering a fundamental distinction between composer and listener unnecessary (though what this would imply for his tripartite semiotic schema is left unanswered). Nattiez, *Music and Discourse*, 101.

If Reich's regrounding of Cage's ideas in a new musical practice led towards a regrounding of traditional musical ideas, we see a comparable if quite distinct trajectory through La Monte Young. Young's interest in drone appears very early in his work, pre-Fluxus, while still composing pieces by a serial method – 1958's *String Trio* being one instance of his use of notes and consonances held for periods of several minutes.[825] As we have seen our third chapter, this carries into his text scores of the turn of the 1960s, *Composition 1960 #7* bearing only the instruction to hold the notes B and F# "for a long time", but we also see the addition of intrinsically social elements and a broad opening to extremes of performative indeterminacy – for instance in *Composition 1960 #3*'s instruction to "announce that everyone [in the audience] may do whatever he wishes for the duration of the composition", or *Composition 1960 #10* refinement of the method of *#7* with the instruction "Draw a straight line and follow it"[826] – an instruction that could well be taken musically, but equally otherwise, as Nam June Paik did in his *Zen for Head* (1962), performed by dipping his head, hands, and necktie into a bowl of ink and tomato juice and pulling himself along a the length of a long sheet of paper.[827]

More insight into Young's musical trajectory can be discerned from his 'Lecture 1960', largely on the topic of the *Composition* pieces. Here Young follows Cage in a preference for letting sounds be themselves, unhindered by structuration or the limits of interpretation, stating that "[i]f we are really interested in learning about sounds, it seems to me that we should allow the sounds instead of forcing them to be things that are mainly pertinent to human existence".[828] For Young, as for Cage, sounds are interesting in themselves, not requiring connection to other sounds or things to give them interest or render them expressive. It is with this principle in mind that Young explored his interest in drone and extremes of both duration and volume, which for Young was a route to realizing a desire to "get inside" the sound.[829] The precision and simplicity of Young's practice is praised by Deleuze & Guattari, aligned with the

[825] Mertens, *American Minimal Music*, 20-21.
[826] See Young, *An Anthology of Chance Operations*.
[827] See Kim-Cohen, *In the Blink of an Ear*, 134.
[828] La Monte Young, "Lecture 1960," in *The Tulane Drama Review* 10:2 (Winter, 1965): 80-81.
[829] Ibid., 81.

simplicity of the analogical synthesizer rather than the layering of pre-given elements of the digital:

> It is clear that what is necessary to make sound travel, and to travel around sound, is very pure and simple sound, an emission or wave without harmonics (La Monte Young has been successful at this). The more rarefied the atmosphere, the more disparate the elements you will find. Your synthesis of disparate elements will be all the *stronger* if you proceed with a sober gesture, an act of consistency, capture, or extraction that works in a material that is not meager but prodigiously simplified, creatively limited, selected.[830]

Young's work with sound feeds back into Cage's own understanding of sound and of his own musical practice. Cage would state, as early as 1961, that in hearing Young's pieces he had "utterly different experiences of listening than I've had with any other music", and that subsequently he was "able to hear differently than I had ever heard *because of what he has done*".[831] Cage follows through on Young's notion of 'getting inside' the sound, noting that through the repetition or continued performance of single sounds he was able to recognize in the sound that "what I have all along been thinking was the same thing is not the same thing after all, but full of variety".[832]

Nevertheless, for Cage this understanding is reached less through Young's own theorization than by what Young's pieces added to Cage's own thought – enriching his understanding of flux and process to something that sustains even within seemingly individual sounds, intensifying the notion of the 'interiority' of the sound.[833] The key distinction in their thought lies perhaps in how Young shifts what it means to get inside the sound. For Young this move is an experience of "how each sound was its own world and that this world was only similar to our world in that we experienced it through our

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[830] Deleuze and Guattari, *A Thousand Plateaus*, 344-45.
[831] Kostelanetz, *Conversing with Cage*, 215.
[832] Ibid. This is more akin, then, to the articulation of internal variation, *internal difference*, we find in Reich's tape work, and indicates the care that must be taken in understanding Cage's interest in sound as being with 'sound-in-itself' – this has quite different connotations if related to a Bergsonian-Deleuzian difference-in-itself than to a Kantian thing-in-itself.
[833] Young would claim that he and Cage "are like opposites which help define each other." La Monte Young, "Interview with Peter Dickinson, New York City, July 2, 1987," in *CageTalk: Dialogues with & about John Cage*, ed. Peter Dickinson (Rochester, NY: University of Rochester Press, 2006), 153.

own bodies, that is, in our own terms".[834] Rather than a Cagean affirmation of openness and interpenetrative multiplicity, Young, in what can be seen as an extreme extrapolation of the Fluxus-tinged 'Theatre of the Singular Event', reaffirms the objecthood of distinctly separable worlds, a distinction that over the following six decades Young has projected it into an all-encompassing ethos and world-construction.

As Young's explorations developed this notion of resonance between sound and body comes increasingly through an appeal to a kind of Pythagorean music of the spheres, a fundamental and eternal harmony to be rediscovered. As Wim Mertens says of such Young pieces as *The Tortoise*, the discrete performances "are meant to be excerpts of the total work that is supposed to continue between performances, which themselves only take up the interrupted thread"[835] – in Young's words

> Even before the first man moved successively from one frequency to another (melody if you like) a pattern for this movement, that is the relationship of the second frequency to the first was already predetermined (harmonically) by the overtone structure of the fundamental of the first sound. And in the life of the Tortoise the drone is the first sound.[836]

While Young follows Schoenberg, Cage, and others in rejecting harmony as it has been understood in European traditions, he nevertheless accepts a more fundamental acoustical harmony. It is in this light he also rejects equal temperament, moving towards tunings based on pure ratios, arguing that "the harmonic series represents the truth".[837]

Young's early work in exploring these harmonic series came largely through the formation of the 'Theatre of Eternal Music', along with John Cale, Tony Conrad, and Marian Zazeela. Conrad has discussed his time in the Theatre of Eternal Music at length, discussing practice sessions of extraordinary length taking place regularly over a period of years, in which the players would very gradually find themselves attenuating

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[834] Young, "Lecture 1960," 81.
[835] Mertens, *American Minimal Music*, 29.
[836] See La Monte Young and Marian Zazeela, "Notes on The Theatre of Eternal Music and *The Tortoise, His Dreams and Journeys*" (online document, 2000), accessed 26/09/2015 http://melafoundation.org/theatre.pdf.
[837] Young quoted in Robert Palmer, "A Father Figure for the Avant-Garde," in *Atlantic* 247:5 (May 1981): 48.

to the single tones and intervals on which Young focused.[838] For Young, this was oriented towards recognizing the cosmic truth of the fundamental unity of harmonic ratios – Conrad, on the contrary, saw it as a contingent perceptual retraining effected through the group's interactions through their alternate tuning system.[839] Young saw the group's extensive and painstaking practice as a discipline taking them towards the truth of the sound, driving the body to recognize something that is within it but obscured by the acclimatization to equal temperament and other impure forces, appealing to what Aden Evens calls a "naturalized corporeal aesthetics".[840] Indeed Young would even later tell Richard Kostelanetz that his own technique and that of his playing partners at the time of the *Compositions 1960* was not yet good enough – that even at this time the performance was to be judged by its adherence to an ideal form,[841] rather than through any productive relation between the ideal and its practice.[842] Conrad would later, in his essay 'Slapping Pythagoras', a thinly-veiled critique of Young, describe this gesture as an effectuation and reinforcement of "the Idealization of number" by substituting "a Theology of Number for the pragmatics of counting",[843] that is, substituting a transcendent order for a *practice*.

We see several correspondences to the critiques of Cage discussed in our third chapter – in Reich's case the opening of the field of sound and its relations is reabsorbed back into dominant musical models, in Young's case a series of deeper questions – a concern with the singularity of sound leads from an inquisitive, playful, and remarkably open conceptualism towards concerns of a submission of the performer and listener alike to a

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[838] See Tony Conrad, "Inside the Dream Syndicate," in *Film Culture* 41 (Summer 1966): 5-8. For many years Young refused to disclose the precise frequencies of his tunings, only revealing them after the encouragement of Kyle Gann, who discovered the tunings used in Young's *The Well-Tuned Piano* through painstaking trial and error while writing an analysis of the piece. See Kyle Gann, "La Monte Young's *The Well-Tuned Piano*," in *Perspectives of New Music* 31:1 (Winter 1993): 134-162.
[839] See Joseph, *Beyond the Dream Syndicate*, 333-34 and *passim*.
[840] Evens, *Sound Ideas*, 181n50.
[841] Kostelanetz, *The Theatre of Mixed-Means*, 205.
[842] For this reason Young would gradually shift towards electronically generated frequencies so as to examine the effects of continuous periodic sound waves on listeners, an early instance being *Map of 49's Dream*, and develop with Zazeela the 'Dream House', a permanent audio and visual installation of a room filled with one complex chord (see Mertens, *American Minimal Music*, 30-31).
[843] Tony Conrad, "MINor Premise," liner notes to *Early Minimalism Volume One* (Table of the Elements, 1997, CD), 39.

transcendent outside which reinforces harmony at a higher level, of a mystical veneration of sound when it is shorn of associations.[844]

Asked by Daniel Charles whether Young's concern with these tonal relations marks a return to harmony, in replying Cage expresses less concern with the question of harmony in itself than with the claim that Young's extreme care for microtonal relations is oriented towards a relation to the listener which "differs, in fact, in every respect from the attitude that I have when I make music. My wish is to leave the attention of the faculties free; his is to concentrate them".[845] Cage saw less the sobriety of enclosed objects that Young gestured towards, but rather, "under a microscope", that such objects contain within them "a veritable world of possibilities and events".[846] Young's gesture towards a unified transcendence through Cage expands outwards, away from the 'Theatre of the Singular Event' towards a plurality of connections. If this is not to remain associated with Deleuze & Guattari's critique of conceptual art, a Cage lacking in the sober gesture – we have in Young and Cage quite different understandings of what it means to attempt to enter into the insides of sounds, but with concomitant risks – we must consider closely what happens to the concept of sound in the historical passage we have traced.

Rhythm and modulation

From late 1961 into mid 1962 Cage produced a text on immediate consideration quite distinct from these topics, a reading of the architectural theory of Le Corbusier, entitled 'Rhythm, Etc'. Cage here directs his critique specifically against Le Corbusier's

[844] Young - "Pandit Pran Nath said that when you're singing and you're perfectly in tune it's like meeting God. The meaning of this statement is that the concentration is so much to sing perfectly in tune that you literally give up your body and go to a higher spiritual state. Sound... Musicians like to think that sound is the highest form of meditation, that it takes you the furthest. Certainly, in my experience this is the case. I feel through sound I have come closest to God and closest to the understanding of universal structure." (Frank J. Oteri, "La Monte Young and Marian Zazeela at the Dream House: In Conversation with Frank J. Oteri," in *NewMusicBox* (October 2003), accessed 26/09/2015, http://www.newmusicbox.org/article.nmbx?id=2216).
[845] Cage, *For the Birds*, 149.
[846] Ibid., 150.

proportional measuring device intended to see architecture best fit human form, the Modulor. While the Modulor is suited to a number of proportional schemes, for Cage this form of thinking always amounts to a form of domination, what Cage calls a rhythmic police force.[847] Having no reason to believe in a necessary proportionality of the world, Cage argues that it would be absurd to subject ourselves to the proportions of the Modulor. We can see that this text could equally apply to Young – a political kernel in Cage's thought resisting submission to the external domination found in a pre-determined 'harmony'. What is problematic about the Modulor is that it operates within a pre-given space, defined in terms of similitude and identity – paralleling Deleuze's critique of the digital synthesizer, the reduction to a proportional order dictated by an external code.

What can rhythm be if not this kind of proportional device? For Cage, questions of rhythm becomes a matter of interest only when it subtracted from such notions of order, of organization, when they can be said of open structures rather than of a closed proportional relation – "The clutter of the unkempt forest",[848] "no longer any fixed structure: just parts in any number, superimposition, and duration" – "the permeation of space with sound".[849] It is, moreover, a concern with the fact that "something happens, something unexpected".[850] The notion of the synthesizer is important again in helping us unfold these claims, insofar as we find in Le Corbusier, and perhaps in Young, a form of coding described as *digital*, against which can again be posed the analogical, Modulor versus modulation.

We are now in a better position to consider the status of modulation. With regards to Deleuze's thought, let us begin not with *Francis Bacon*, but with his 1966 review of Gilbert Simondon's *L'individu et sa genèse physico-biologique*, in which Deleuze first closely engages with Simondon's work on individuation. Here Deleuze treats a number

[847] Cage, *A Year from Monday*, 124.
[848] Ibid., 126.
[849] Ibid., 127.
[850] Cage, *For the Birds*, 222.

of concepts which will be found across his later work,[851] focused on an understanding of individuation not modeled on the completed individual, but rather concerning first the process of individuation itself.[852] Here Deleuze emphasizes the prior metastable state that is the prior condition of individuation, a pre-individual system of disparate levels of energy, with individuation an act of resolving the *problem* of this disparity. As this passes into Deleuze's analysis in *Difference and Repetition*'s 'Asymmetrical Synthesis of the Sensible', the concern is with how problems are given to us, by which they are sensed through not the common relation of the faculties but their violent disassociated relation.[853] It is here that through individuation Deleuze unites the differential constitution of the problem with its actualisation, construction with expression, in the "total notion" of "indi-differen*t*/*c*iation".[854] Individuation accounts for how the completed individuals of the actual realm of differenciation are intrinsically attached to the pre-individual, virtual reservoir of singularities – the individual is "constructed upon a fundamental disparity, and functions on the edges of that disparity as such", the organism as local resolution of disparity.[855]

There is, however, in the final paragraphs of Deleuze's 1966 text, a critique of Simondon which asks questions of Deleuze's own use of his thought. Here Deleuze turns to Simondon's "moral vision of the world", which takes the form of a resistance towards the 'aestheticism' that seeks to maintain the complete individual "[cut] off from the pre-individual reality from which he or she emerged", in favour of an ethics that opens this individual in a move towards the transindividual by rendering "what is

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[851] The impact of Simondon is perhaps felt particularly in *Difference and Repetition*'s 'Asymmetrical Synthesis of the Sensible' chapter, *The Logic of Sense*'s fifteenth series, 'of Singularities', and 'The Geology of Morals' and 'Treatise on Nomadology – The War Machine' in *A Thousand Plateaus.* Much has been written on the relation between Deleuze and Simondon in recent years – of particular importance to our reading is Alberto Toscano, *The Theatre of Production: Philosophy and Individuation between Kant and Deleuze* (New York: Palgrave Macmillan, 2006), with other insightful readings including Sean Bowden "Gilles Deleuze, a Reader of Gilbert Simondon," in *Gilbert Simondon: Being and Technology*, ed. Arne de Boever, Alex Murray, Jon Roffe and Ashley Woodward (Edinburgh: Edinburgh University Press, 2012), and Filippo Del Lucchese, "Monstrous Individuation: Deleuze, Simondon, and Relational Ontology," in *differences: A Journal of Feminist Cultural Studies* 20:2-3 (2009): 179-193.
[852] Deleuze, *Desert Islands*, 86
[853] Deleuze, *Difference and Repetition*, 226-27. See also our discussion of the role of Kant in *Difference and Repetition* in our first chapter.
[854] Ibid., 247.
[855] Ibid., 122.

interior […] also exterior".[856] Deleuze's concern is that this may reintroduce another form of the Self, as an ethical subject, in distinction from the disparate individual Simondon's theory of individuation otherwise works through. Muriel Combes alludes to this understanding of Simondon's ethics when she refers to the implied 'normative' ethical essence of Simondon's thought of a 'having-to-become',[857] whereby Simondon's subject as not so much an individual but rather a wider account of the individual spanning its pre-individual structures and its process of individuation.[858]

The question now is, does Deleuze, despite his critique, integrate a form of this ethical subject into his own thought? At points it very much appears so, as in his argument for an ethics of intensity – the command "do not explicate oneself (too much)", as to do so would be to cancel out intensity, to make the constitutive power of the problem disappear.[859] Where for Deleuze does this resistance to an excess of explication take place? As Alberto Toscano poses this question, what is the 'place' where Deleuze's 'universal ungrounding' happens?[860] In *Difference and Repetition* it appears to be in the experience of the philosopher-individual, here taking a role similar to that of the structuralist hero of 'How Do We Recognize Structuralism?', the philosopher as a kind of 'expert interpreter', not of structures as with various notions of the expert listener but of the dynamics of preindividual singularities. Discussing this figure in *Difference and Repetition*, Deleuze moves still through a Simondonian register, speaking of a "mobile, strangely supple" individuation, defined by intensities in communication and envelopment, of preindividual singularities making up multiplicities,[861] where we find a notion of the individual as the "universal concrete individuality of the thinker or the system of the dissolved Self".[862] As Toscano describes this relation, "it is to the extent that the thinker makes him or herself into a theatre of individuation, a 'universal

[856] Deleuze, *Desert Islands*, 89.
[857] Muriel Combes, *Gilbert Simondon and the Philosophy of the Transindividual*, trans. Thomas LaMarre (Cambridge, MA: MIT Press, 2013), 63.
[858] See Andrea Bardin, *Epistemology and Political Philosophy in Gilbert Simondon: Individuation, Technics, Social Systems* (Dordrecht: Springer, 2015), 58.
[859] Deleuze, *Difference and Repetition*, 244.
[860] Toscano, *The Theatre of Production*, 199.
[861] Deleuze, *Difference and Repetition*, 257.
[862] Ibid., 259.

individual', that the intensive movements beneath the representations of difference come alive".[863]

At this level there remains an uneasy relation to the doubts raised of the thinker in *The Logic of Sense*'s highly ambivalent twenty-second series, and something of a tension between the questions of individuation and actualisation which reflects the obscure passage between structure and praxis first set out in 'How Do We Recognize Structuralism?'. There appears to be a gap between levels of articulation, whereby in theorizing the actual and the virtual in their distinctness the precise character of the process of individuation which temporally connects them remains obscure, or even tempts a reduction of individuation to actualisation, rather than, as Deleuze makes clear, seeing that individuation is that which allows differential relations to actualise.[864] For Deleuze too the ethics of experimentation may appear as a normative epistemological stance, still founded upon a notion of interpretation, however radicalized.

It is notable that in this period Deleuze does not take on the question of modulation in his account of and use of Simondon. For Simondon modulation marks the coupling of systems, the boundary that produces the energetic exchange of the field.[865] Through this comes perhaps Simondon's key ontological term, that of transduction – the energetic process by which being goes out of phase with itself, progressively determining in a constant state of movement and relation.[866] This is a topic Deleuze takes up in a 1979 Vincennes lecture, the themes of which feed into *A Thousand Plateaus*. Here Deleuze discusses Simondon's critique of hylomorphism, central to the articulation of the plane of immanence in opposition to the plane of transcendence.[867] If the hylomorphic model is an imposition of form on matter, a mold which shapes matter under its fixed terms, the modulator is what Simondon calls a "continuous temporal mold",[868] molding in a

[863] Toscano, *The Theatre of Production*, 200.
[864] Deleuze, *Difference and Repetition*, 246. As Toscano notes, obscuring this distinction is key to Badiou's critique of Deleuze (*The Theatre of Production*, 188-198).
[865] Gilbert Simondon, *L'individuation à la lumière des notions de forme et d'information* (Grenoble: Milion, 2005), 532.
[866] Ibid., 36.
[867] Ibid., 23-25.
[868] Ibid., 47.

"continuous and variable manner"[869] – by this we see that Le Corbusier's Modulor does not in these terms 'modulate', but rather molds. The risk of positing a subject by which the process of modulation persists, then, is that this subject takes the form of a mold, an interpretive norm by which that which it relates is ordered.

The question of modulation and rhythm is taken up in *Francis Bacon*, where it also provides a closing point to Deleuze's engagement with and critique of phenomenology, deriving as it does from the expanded phenomenologies of Erwin Straus and Henri Maldiney. Deleuze notes that late phenomenology of art, such as that of Merleau-Ponty or Maldiney, concerns itself not only with sense experience as it relates to a defined object, but a distinctness of sensation, the field it marks out and the real effects it has, understanding that "I *become* in the sensation and something *happens* through the sensation, one through the other, one in the other".[870] This passing mention, however, somewhat obscures the centrality of Maldiney to how Deleuze develops the relation between sensation and rhythm.

First is Straus, who introduces a key distinction which marks a breaking point within phenomenology, precisely that between sensation and perception – perception, as discussed in our second and third chapters, persisting as the core of the phenomenological projects of Husserl and Merleau-Ponty, is for Straus secondary, with the primacy rather of a form of sensation through which the distinction between subject and world begins to emerge – "the sensing subject does not have sensations, but, rather, in his sensing he has first himself. In sensory experience there unfolds both the becoming of the subject and the happenings of the world".[871] In Straus' terms geographical space is perceptual while the space of the landscape concerns sensation[872] – the geographical space being organized, oriented and preestablished, the landscape

[869] Gilles Deleuze, *Anti-Oedipe et Mille Plateaux – Cours Vincennes, 27/02/1979*, accessed 26/09/2015 http://www.webdeleuze.com/php/texte.php?cle=186&groupe=Anti+Oedipe+et+Mille+Plateaux&langue=2.
[870] Deleuze, *Francis Bacon*, 31, 178n1.
[871] Erwin Straus, *The Primary World of Senses: A Vindication of Sensory Experience*, trans. Jacob Needleman (New York: Free Press of Glencoe, 1963), 351.
[872] Ibid., 317.

prior to these forms of epistemological demarcation.

This is the starting point for Maldiney's three 'moments' of art, specifically read through landscape painting. The first moment concerns a "primordial spatiality which has no system of reference, nor coordinates nor point of origin",[873] a "being lost" without the points of reference a geographical understanding offers:

> [n]o dominant view, no rule of transformation, only our determining the location in mutual relation in an oriented ensemble. The term of progression has no meaning in the landscape […] our walk is free from the minimum of motor schemes that give our lives, through the flow of time, the shape of a history [...] without worry for orientation or preestablished measure in the geographic space.[874]

Cézanne is exemplary here, his landscapes presenting an "iridescent chaos", "abyss", "catastrophe".[875] The second moment is that of the systolic compression, or contraction, into a "stubborn geometry", in which the moment Straus describes takes place, the progressive determination of a subject separating from the world, where "[s]lowly the geological strata appear before me … everything falls straight down … I begin to separate myself from the landscape, to see it." Self and world begin to separate towards their own poles, but never completely – this second moment is accompanied by a third moment, that of a diastolic expansion, again dissolving forms in an "expansive irruption", through which "an aerial, coloured logic abruptly replaces the stubborn geometry".[876]

The terms of systole and diastole are not distinct as such but rather constitute a "double movement",[877] and while often posed as sequential Maldiney notes also their simultaneity.[878] In this simultaneity we find rhythm – a rhythm of contraction and expansion, of *perpetual modulation*,[879] which marks the movement of form in

[873] Henri Maldiney, *Regard, parole, espace* (Lausanne: L'Âge d'Homme, 1973), 149.
[874] Ibid.
[875] Ibid., 150.
[876] Ibid., 185.
[877] Ibid., 178.
[878] Ibid., 190.
[879] Ibid., 171.

formation.[880] Deleuze's understanding of rhythm in *Francis Bacon* is precisely this – as that which

> places in each sensation the levels and domains through which it passes. And this rhythm runs through a painting as it runs through a piece of music. It is a diastole-systole: the world that takes hold of me in closing around me, the self the opens to the world and opens the world to itself[881]

The chance marks of the painter signal the first moment, as "intrusion of another world in the visual world of figuration", the diagram as "indeed a chaos, a catastrophe, but also the seed of order or rhythm".[882]

That this understanding of rhythm is elaborated with regards to Cézanne is key to reconnecting our argument to the musical terms of *A Thousand Plateaus*. The gestures of *A Thousand Plateaus* no doubt appear grander than those of *Francis Bacon* – where *Francis Bacon* carefully documents the details of an individual artistic practice, *A Thousand Plateaus* sweeps through a conceptual history of centuries of art in just a few pages – but through these connections we can see the complexity of the passage outlined in the latter text. Immediately preceding the discussion of music that leads to the concept of the synthesizer, Deleuze & Guattari, closely echoing Deleuze's words in *Francis Bacon*,[883] speak of Cézanne as marking the point where painting concerns itself fully with capturing forces.[884] While here the question of rhythm is not immediately clear, having seen its role in Deleuze's reading of Cézanne and consequently in the function of the synthesizer, we see a route into taking on the musical question of rhythm, following Cage not as a technique of molding, but of modulation.

On this question of rhythm it is useful to note that when in *Francis Bacon* Deleuze is at his closest to affirming artistic abstraction – in the form of the "purest pictorial situation" produced by broad fields of colour in which "the painting becomes truly aerial

[880] Ibid., 157.
[881] Deleuze, *Francis Bacon*, 31.
[882] Ibid., 67.
[883] Ibid., 37.
[884] Deleuze and Guattari, *A Thousand Plateaus*, 343.

and attains a maximum of light like the eternity of monochrome time"[885] – the term used to describe this notion is 'chronochromie', named for a piece by the French composer Olivier Messiaen. In this piece, eighteen birdsongs – birdsong being key to the concept of the refrain in *A Thousand Plateaus* – performed by stringed instruments are juxtaposed. With chronochromie, in Deleuze's understanding, rhythm is revealed in its simplest form, the kind of static experience produced by the most sober engagement with materials Deleuze & Guattari celebrate in La Monte Young. This provides us with an important connection between the rhythms of painting set out in *Francis Bacon* and the musical question of rhythm, and likewise to a more general ontological understanding of rhythm. On this basis it is worth elaborating on Messiaen's understanding of rhythm.

Messiaen is widely regarded as one of the most important contributors to theories of rhythm in the classical tradition of the twentieth century, both in his compositions and their use of what he calls "several personal rhythmic techniques such as rhythmic characters, non-retrogradable rhythms, and symmetrical permutations"[886] and in his extensive writings, particularly in his multi-volume *Traité de rythme, de couleur, et d'ornithologie*, where we find both analysis of a vast range of historical precedents and explication of his own developments. Indeed, it is his innovations with regards to rhythm that Messiaen deems his "most far-reaching contribution to Western music",[887] and in *Traité de rythme* we find the persistent assertion that a musician can only merit that title if he or she is also a 'rhythmicist'.[888] In a 1967 interview with Claude Samuel, Messiaen diagnosed what he saw as a neglect of rhythm in the Western classical tradition, finding, for example, "harmonic colors, and extraordinary contrapuntal craftsmanship" in Bach but naming him among "composers who knew nothing of rhythm".[889] This is because 'rhythm', in Messiaen's understanding of it, stands for a

[885] Deleuze, *Francis Bacon*, 148.
[886] Olivier Messiaen, *Music and Color: Conversations with Claude Samuel*, trans. E. Thomas Glaslow (Portland: Amadeus Press, 1994), 21.
[887] Anthony Pole, "Messiaen's Musical Language: an Introduction," in *The Messiaen Companion*, ed. Peter Hill (Portland: Amadeus Press, 1995), 32.
[888] For example, Olivier Messiaen, *Traité de rythme, de couleur, et d'ornithologie*, trans. Melody Ann Baggech (Oklahoma: Norman, 1998), 38.
[889] Messiaen, *Music and Color*, 68.

characteristic quite distinct from meter, with which it is often equated. Following Edgar Willems, Matila Ghyka and others, Messiaen begins his explorations of rhythm by distinguishing between rhythm as meter or cadence, where it stands only as homogeneous and static measurement, and that which is rhythm properly speaking, defined in terms of alternation, propulsion, variation - recurrence never as pure and simple repetition but as an irreversible unfolding movement in time.[890]

The importance of Messiaen's work to twentieth century classical music is immeasurable, both in terms of the influence of his compositions and theoretical writings and in the vast number of major figures in twentieth century music, including Pierre Boulez, Karlheinz Stockhausen, and Pierre Henry, who studied under Messiaen at both the Paris Conservatoire from 1941 to 1978,[891] as well as for short periods at the Darmstadt new music summer school. We have seen the effects of this throughout – up to our discussion here of the mold (as cadence) and modulation, and to Deleuze & Guattari's adoption of Boulez's related distinctions of smooth and striated, pulsed and non-pulsed, striated space and time equated with cadence, that is, rhythm as formal metric regularity, as a limitation of movement,[892] rhythm properly speaking being without measure, concerning how "a fluid occupies a smooth space".[893]

Quoted in *A Thousand Plateaus,* the music theorist Gisèle Brelet notes that the juxtaposition between chromatic durations in Messiaen's work aims to "suggest the idea of the relations between the infinitely long durations of the stars and mountains and the infinitely short ones of the insects and atoms: a cosmic, elementary power that [...] derives above all from the labor of rhythm".[894] There is, however, a troubling characteristic to Messiaen's work that offers an opportunity for a crucial clarification. Catherine Pickstock criticizes Deleuze & Guattari for omitting to treat the Catholic faith Messiaen deemed crucial to his understanding of rhythm – for Pickstock in not

[890] Messiaen, *Traité de rythme*, 53-54.
[891] See Jean Boivin, "Messiaen's Teaching at the Paris Conservatoire: A Humanist's Legacy," in *Messiaen's Mystical Language of Love*, ed. Siglind Bruhn (New York ; Abingdon: Routledge, 2012).
[892] Deleuze and Guattari, *A Thousand Plateaus*, 363.
[893] Ibid., 364.
[894] Ibid., 309.

considering Messiaen's Catholicism Deleuze & Guattari neglect that his music was essentially transcendent, the line of flight as an ascent to heaven, and require either an acceptance of this spiritual measure or of a nihilistic fall.[895]

The tendency in Messiaen to ascend to a unified One is present, but can perhaps be isolated from other elements of his thought and practice. When Messiaen is found reasserting the cosmic as a spiritual One it is perhaps when he remains within certain epistemological and music theoretical frameworks – when, as David Toop argues, he still fails to capture that of birdsong which is unpredictable, that which is at or beyond the boundaries of human perception, and, moreover, that which is beyond the inscriptional capacities of notation[896] – *Chronochromie*, for example, being scored for standard notation. Deleuze & Guattari's account, on the other hand, emphasizes that in Messiaen which does not give him a compositional privilege to create music as a singular ascent, that which posits the bird and human as equally musical – by which "music is not the privilege of human beings: the universe, the cosmos, is made of refrains; the question in music is that of a power of deterritorialization permeating nature, animals, the elements, and deserts as much as human beings".[897]

Something more of the question of rhythm must be elaborated, and at this juncture it is important to pinpoint where Deleuze and Deleuze & Guattari break from that which is still phenomenological in their understanding of rhythm, that which, as discussed in our third chapter, sees phenomenology tend towards a religious moment. Here this question of remaining within a single theoretical framework is crucial. The centrality of the BwO as that which renders any phenomenological interpretation inadequate is key – by emphasizing the BwO Deleuze resists that of this process which relocates its terms in

[895] Catherine Pickstock, "God and Meaning in Music: Messiaen and Deleuze," in *Sacred Music* 134:4 (2007): 57. This perspective could offer an interesting route into considering Peter Hallward's Badiou-inspired critical claim that Deleuze's philosophical system is "spiritual […] preoccupied with the mechanics of *dis*-embodiment and *de*-materialisation", and as such only concerned with the dynamics of creation at the expense of the created actual. See Peter Hallward, *Out of this World: Deleuze and the Philosophy of Creation* (London: Verso, 2006), 3, and *passim*.
[896] David Toop, *Sinister Resonance: The Mediumship of the Listener* (London ; New York: Continuum, 2010), 22.
[897] Deleuze and Guattari, *A Thousand Plateaus*, 309.

the subject and a self-world distinction, escaping a Kantian regulation, and rather foregrounds precisely this notion of rhythm as modulation. In this spirit the understanding of rhythm and modulation we find in *Francis Bacon* is taken to its farthest point in *A Thousand Plateaus*, reformulating the BwO as the plane of consistency. The concern is less with a constitution of a self-world distinction, even partial and transitory, than it is with understanding the rhythmic relations that take place on a plane of consistency. Hence the principle of the rhizome – as a principle of connection between differing kinds of semiotic chains without reduction to the logic of any given one.

It is in this respect that the concept of modulation allows Deleuze to comprehensively overcome the "wrenching duality" of Kantian aesthetics posed in our first chapter,[898] between a theory of possible experience and a theory of real experience. By refusing a grounding in the molding capacities of self, subject, or concept, Deleuze finds a theory of sensible experience prior to cognitive determination.[899] However, there are points where Deleuze & Guattari appear not to make this break completely, moments which may give us more insight into this problem. There is, for instance, something surprising in *What is Philosophy?* regarding the divisions that are reinstated, particularly between the operations of philosophy, science, and art, and the step back towards a problematic framework that seems to take place. Here, the resistance towards positing the philosophical concept as a given or as pre-formed, and against the adoption of the terminology of creativity by the "disciplines of communication",[900] leads Deleuze & Guattari to argue that it is self-positing, that it has "an autopoietic characteristic by which it is recognized".[901] Here philosophical creation is staged in solely philosophical terms, and that which relates the practice of philosophy to those of art and science remains somewhat obscure. We find, then, a closure of the concept comparable to the

[898] Deleuze, *The Logic of Sense*, 260
[899] See, for instance, Daniel Smith, "Deleuze's Theory of Sensation: Overcoming the Kantian Duality," in Smith, *Essays on Deleuze*. Steven Shaviro takes this insight and through engagement with Whitehead begins to develop a renewed theory of the beautiful as a theory of singularity – see Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* (Cambridge: MIT Press, 2009).
[900] Deleuze and Guattari, *What is Philosophy?*, 10. This could include also the discourse surrounding art, relating to the critique of conceptual art later in this text.
[901] Ibid., 11.

determination of the problematic Idea in *Difference and Repetition* – "this is really what the creation of concepts means: to connect internal, inseparable components to the point of closure or saturation so that we can no longer add or withdraw a component without changing the nature of the concept".[902]

As Keith Ansell-Pearson notes, there appears here to be a reversion to the logic of evolution which is rejected in *A Thousand Plateaus*, and with this, as with the problematic Idea, there appears to be little scope for a feedback process, between intensity and state of affairs or between the pedagogy of the concept and the pedagogy of historical experience.[903] It is notable that *What is Philosophy?* was written differently than Deleuze & Guattari's other collaborative works, the weight of its production more heavily on Deleuze,[904] and while Guattari's voice cannot be extracted (although neither can it be extracted from even Deleuze's single-authored works written after his encounter with Guattari), there are aspects where this distinction is significant, as with the question of autopoiesis. The inclusion of this notion appears to be Guattari's suggestion, but in his own concurrent work, *Chaosmosis*, he makes reference to it in a subtly different manner, whereby the autopoietic character of the machine is inseparable from its relation to other machines – it "always depends on exterior elements in order to be able to exist as such".[905] Autopoiesis commonly understood – that is, through the biological theory of Francisco Varela and Humberto Maturana – defines its 'auto' in opposition to an allopoietic notion of constitution by external inputs by rendering it an *exclusively* biological concept, distinct from, for example, "social systems, technical machines, crystalline systems".[906] For Guattari this is inadequate, and comparable to the structuralist dominance of the linguistic signifier. Machinic autopoiesis, on the contrary, "maintain[s] diverse types of relations of alterity",[907] not as 'external' constitutive forces, but as constitutively inseparable from other assemblages at a machinic level.

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[902] Ibid., 90.
[903] Ansell-Pearson, *Germinal Life*, 204.
[904] François Dosse, *Gilles Deleuze & Félix Guattari: Intersecting Lives*, trans. Deborah Glassman (New York: Columbia University Press, 2010), 14-15.
[905] Félix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradigm*, trans. Paul Bains and Julian Pefanis (Indianapolis, Indiana University Press, 1995), 37.
[906] Ibid., 39.
[907] Ibid., 40.

We believe that this latter articulation is crucial to understanding the conceptual passage that sound takes across the twentieth century, resisting a return to the enclosed problems of medium-specificity, to phenomenological and structuralist interpretation, and to other foreclosed and overdetermining fields of understanding. Daniel Charles, discussing the work of Xenakis in contrast to that of Boulez, describes the latter as limited by an aestheticism which limits his view of history to the history of music, while Xenakis, within a broader French lineage appreciative of Cage's work, "takes as his point of departure a view of *the history of civilization as such*",[908] following a scientific abandonment of classical determinism which cannot reground itself in harmony, series, sound, or any other fixed notion. This is present already in Varèse, but in a manner which may be obscured by an autopoietic understanding, and by the singular point that remains in 'Varèse' the composer[909] – the sound which Varèse is synthesizing cannot be synthesized distinct from the other domains Varèse has explored to theorize it, a Varèse for whom sound is not defined by pitch relations *nor* by a reductionist scientism but by a complex and malleable exchange between musical concepts, acoustical concepts, and concepts across the theoretical and applied sciences, a problematization of sound that is intrinsically connective and interpenetrative. How are we to understand this field of relations?

Refrain and rhythm in Cage's late work

We would like to suggest that it is through the notion of rhythm that these tensions and impasses can be brought into theoretical and practical focus. The central concept here is that of the refrain, hence the significance Deleuze of attributes to it – asked of what

[908] Charles, "Entr'acte: "Formal" or "Informal" Music?," 159.
[909] Deleuze's occasional references to artistic 'greats' stands in contrast to the elements of his thought we are emphasizing here, for instance in saying that "[c]inema's great *auteurs* work like Varèse in music: they have to work with what they've got, but they call forth new equipment, new instruments. These instruments produce nothing in the hands of second-rate *auteurs*, providing only a substitute for ideas. It's the ideas of great *auteurs*, rather, that call them forth" (*Negotiations*, 53) – a tension which could be an avenue of interesting exploration.

concepts he and Guattari had invented, it is to the refrain that he turns,[910] and elsewhere he speaks of it, contrasting with much of *What is Philosophy?*, as involving the "inseparable forces" of affects, percepts, and concepts.[911] In *The Machinic Unconscious* Guattari anticipates much of the use of the refrain in *A Thousand Plateaus*, and helps us clarify its use there. Introduced through the theme of a child singing at night, seeking to "regain control of events that deterritorialized too quickly for her liking",[912] here refrains are "basic rhythms of temporalization",[913] an affirmation of internal cohesion but not, as said of capitalistic societies, in the name of purity and an appeal to a "machine of autonomous expression, to hierarchized power formations".[914] Rather, the more enclosed nature of the refrain, by the extent to which its code is its own, the more in touch with the capacities of machinic mutation it is.[915] This is insofar as its relations are not reducible to a harmonious whole – "seemingly conscious and free, yet prone to anguished interrogations or spontaneous blockages preying upon every part of the intentional arcs".[916]

From the perspective of "concrete machinic assemblages duly situated within the cosmos, history, and socius",[917] then, relations cannot be so simple as a form-matter distinction, or molding, or harmonious agreement. Take the example used in both *The Machinic Unconscious* and *A Thousand Plateaus* of the wasp and the orchid. When the two meet their encounter produces a 'surplus-value of code', by which their specialization of internal territorial functions meet and produce a relation that is not merely the sum of their codings in totalized form, but rather forms a new assemblage combining elements of these codes in new ways[918] – hence the territorial refrain serving

[910] Deleuze, "We Invented the Ritornello," in *Two Regimes of Madness*.
[911] Deleuze, *Negotiations*, 137.
[912] Guattari, *The Machinic Unconscious*, 107. See also Deleuze and Guattari, *A Thousand Plateaus*, 311.
[913] Ibid, 108.
[914] Guattari, *The Machinic Unconscious*, 108. Guattari associates this 'purification' with the refinement and closure of the language of Western music, particularly through the disappearance of complex rhythms and the impoverishment of timbres. This resistance to purity could be contrasted with the purification of the arts sought by Greenberg.
[915] Ibid., 122.
[916] 127.
[917] 138.
[918] 122. See also Deleuze and Guattari, *A Thousand Plateaus*, 10.

as the basis for machinic mutation.

The refrain, furthermore, is the assemblage that is sonorous, or "'dominated' by sound",[919] drawing a territory through "territorial motifs and landscapes". Music, then, is defined as "a creative, active operation that consists in deterritorializing the refrain". Its significance comes precisely in being the most thorough articulation of the machinic assemblage as both a matter of internal regulation, territoralization, and an opening to the outside, deterritorialization,[920] the two aspects articulated together, construction and expression.

Here much of our discussion coalesces. Where we started with a notion of immanence derived from that of Kantian critique, with the plane of immanence, and of the musical practices that are concerned with this plane, with the move to the order of the machine we are speaking of another form of immanence, one which itself circulated through Deleuze's thought from an early stage, that of Spinoza. In *Expressionism in Philosophy*, alongside *Difference and Repetition* part of Deleuze's doctoral submission, Deleuze makes a statement that is quite difficult to understand through the latter text's apparatus of problematic actualisation, namely that in his reading of Spinozist ontology the modes must be made primary, prior to substance, a demand that "substance turn on finite modes".[921] In *Difference and Repetition*, it is said of a philosophy of difference that "substance must itself be said *of* the modes and only *of* the modes".[922]. It is only with *A Thousand Plateaus* that this understanding of the modes gains its fullest articulation, as relating to the aforementioned speeds and slownesses on a plane of consistency[923] and to the advanced conception of becoming, but the crucial question that commands this Spinozism – "What can a body do?"[924] – is conjoined by Deleuze to his earlier thought in *Spinoza: Practical Philosophy*, a revised and expanded version of 1970's *Spinoza:*

[919] Deleuze and Guattari, *A Thousand Plateaus*, 323.
[920] Ibid., 56-57.
[921] Gilles Deleuze, *Expressionism in Philosophy: Spinoza*, trans. Martin Joughin (New York: Zone Books, 1992), 10, and Deleuze, *Difference and Repetition*, 304.
[922] Ibid., 40.
[923] Deleuze and Guattari, *A Thousand Plateaus*, 254.
[924] Ibid., 256.

Textes choisis, Deleuze's final book before his collaboration with Guattari.[925]

Here and elsewhere Deleuze takes on this question of what a body can do, an emphasis on thinking through the modes, by turning to the ethology of Jakob von Uexküll. This guides us towards our fullest understanding of Cage's experimental practice – for Deleuze ethology is a "long affair of experimentation, requiring a lasting prudence, a Spinozan wisdom that implies the construction of a plane of immanence or consistency",[926] precisely insofar as it concerns us not knowing in advance what a body can do, not knowing the affects of which a body is capable. Experimentation takes the form of a practice without telos, connecting to our initial definition of experimentation, concerning acts 'the outcome of which is unknown', a notion we can now integrate into a rich, complex practice. The accounts of Uexküll's thought we find in *A Thousand Plateaus* and *Spinoza* are very similar – Uexküll's animal world is defined, for Deleuze & Guattari, by looking for "the active and passive affects of which the animal is capable in the individuated assemblage of which it is part", not of generic characteristics but of relations which are not presumed or predetermined but must be experimentally forged – "We know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into composition with other affects, with the affects of another body"[927] – and as such Deleuze & Guattari can draw on Uexküll's notion of the milieu (or *Umwelt*) to define doubly the singular, closed unity of any given assemblage and the manner in which this closed unity relates to other assemblages.

Uexküll describes his theory as a "stroll into unfamiliar worlds",[928] indicating that there is to be no unity found either at the level of the organism or at the level of the wider environment, of an ecosystem. Each body, through a machinic rather than organic functioning, can take the same material and imbue it with new connections. The same material enters into relations with different bodies and as such is heterogeneously

[925] Gilles Deleuze, *Spinoza: Practical Philosophy*, trans. Robert Hurley (San Francisco: City Lights, 1988), 17-18.
[926] Ibid., 125.
[927] Deleuze and Guattari, *A Thousand Plateaus*, 257.
[928] Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans, with A Theory of Meaning*, trans. Joseph D. O'Neil (Minneapolis ; London: University of Minnesota Press, 2010), 57.

manifest through these varied relations. What is relevant here is no longer the study of the animal as an organic whole which relates to an external environment, as such, but rather the animal's various relationships to the elements that make up its environment as, in their entirety, a particular type of machinic assemblage. The oak tree, for example, serves a different role for each *Umwelt* it bears relation to, from the fox's roof to the bark-boring beetle's nourishment.[929] For Deleuze this means that with ethology

> every point has its counterpoints: the plant and the rain, the spider and the fly. So an animal, a thing, is never separable from its relations with the world. So an animal, a thing, is never separable from its relations with the world. The interior is only a selected exterior, and the exterior, a projected interior.[930]

In Deleuze & Guattari's terms the territorial assemblage is staked out by the refrain, that is, by its particular rhythmic qualities, but in contrapuntal relation to other refrains it becomes – through deterritorialization – thinkable in this wider sense is that of the "cosmic refrain".[931] As Deleuze notes in *The Fold*, echoing Uexküll, "[a]t its limit the material universe accedes to a unity in horizontal and collective extension, where melodies of development themselves enter into relations of counterpoint, each spilling over its frame and becoming the motif of another such that all of Nature becomes an immense melody and flow of bodies",[932] gesturing towards Uexküll's concern with the processes of individual, enclosed milieus as part of a wider yet wholly inaccessible whole.[933]

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[929] Ibid., 74-75, 78.
[930] Deleuze, *Spinoza: Practical Philosophy*, 125.
[931] Deleuze and Guattari, *A Thousand Plateaus*, 349.
[932] Deleuze, *The Fold*, 155.
[933] Uexküll, *A Foray into the Worlds of Animals and Humans*, 80. See Brett Buchanan, *Onto-Ethologies: The Animal Environments of Uexküll, Heidegger, Merleau-Ponty, and Deleuze* (Albany: SUNY Press, 2008) for a detailed study of Uexküll's reception in philosophy. This discussion, however, obscures the orientation of Éric Alliez's coinage of the term 'onto-ethology' and of our mapping of Deleuze's relation to phenomenology, precisely that Deleuze's ethology is towards a resolution of the impasses of phenomenology – see Éric Alliez, *The Signature of the World, Or, What is Deleuze and Guattari's Philosophy?*, trans. Eliot Ross Albert and Alberto Toscano (New York ; London: Continuum, 2004), 65-66. Of special interest for our discussion here is what this says of the relation between Merleau-Ponty and Simondon, his student. Merleau-Ponty's closest engagement with Uexküll is in his late lectures on Nature, held between 1956 and 1960, simultaneous with the writing of *The Visible and the Invisible*. Here Merleau-Ponty took contemporary scientific theory as starting point for engaging with the question of nature as developed in the history of philosophy. In this move, the question of the organogenesis played a central role. Merleau-Ponty asserts that the organism is "progressively determined" (Maurice Merleau-Ponty, *Nature: Course Notes from the Collège de France*, trans. Robert Vallier (Evanston, Illinois: Northwestern University Press, 2003), 241) in a prefunctional manner – that is to say, the functional

In a musical context, then, we are speaking of something quite different than of a Messiaen who juxtaposes rhythms but does so under a determining order of a strictly musical understanding. Of Cage's late work it is difficult to find any unifying practical principle as we saw through the subtle determination of chance and indeterminacy, with James Pritchett describing these final decades as the 'joy and bewilderment' period of Cage's work,[934] but here we will suggest that these kinds of questions of diverse bodies in diverse relations of rhythmic modulation without recourse to any such principle is key

organism does not emerge in relation to a pre-given form, but rather during its embryonic stage it passes through a number of phases and breaks during which its organic functionality is determined. The picture of organogenesis becomes not one of pre-determined form, but rather of the immanent development of structures derived from but not determined by originary genetic information. In this development of a genesis of the organism there are derived two theses which can equally be applied to an ontogenesis – first, a 'principle of choice' emerges, as emergence is not wholly determined by its starting conditions. This entails that matter cannot be viewed as a "simple preformed reservoir" (ibid) from which the shape and structure of emergent things is already given from the beginning of the process. This in turn "eliminates actualism" – that is to say, we are left with an ontology wherein we cannot assert that only that which is actual is that which is real, a notion of possible tendencies in matter which are prior to any of these tendencies being actualised.

As such, and corresponding to the project outline in *The Visible and the Invisible*, this means that there can no longer be a distinction between form and matter, and rather that form comes into being only through the immanent and processual unfolding of matter. Merleau-Ponty in turn takes Uexküll's *Umwelt* and draws parallels between it and his own discussion of *Gestalt*. The *Gestalt*, as Merleau-Ponty reads it, is a whole not reducible to the sum of its parts, a form which emerges through the relations between its constituent bodies rather than prior to them. The body, that is, one's body, as Merleau-Ponty is here maintaining the primacy of a kind of human perception, is a *Gestalt* in itself, but likewise it bears relation, is in some sense also within, every other *Gestalt*. It is as such that Merleau-Ponty's reading of Uexküll serves a purpose comparable to that made by Deleuze & Guattari – to show at once how a body can be thought in its self-sustaining unity and in relation to both other bodies, ending only at the vastness of the cosmic milieu. How this is articulated, however, indicates the distance Deleuze & Guattari have put between themselves and any phenomenology – this cosmic milieu would be concerned with, as Merleau-Ponty puts it, "the relation between perceiving body and a sensible […] world" (Merleau-Ponty, *The Visible and the Invisible*, 206), that is, the manner through which the *Gestalt* provides a "central hinge or a pivot" between bodies and the wild Being from which they emerge. In this sense, the relationship between an actual body in a given milieu and its virtual or material conditions remains incomplete, the actual body never raising above the realm of metaphor in relation to the immanent flux from which it arises.

The distinction between Merleau-Ponty and Simondon's projects of ontogenetic individuation, then, lies again in the question of perception. Where Simondon's notion of transduction offers a unity of Being characterized by the dephasing of beings, the formal stability of which is only a metastability, Merleau-Ponty's unity of Being in terms of beings comes through the intersubjectivity entailed in the activities of perceiving and being perceived. In so doing, Merleau-Ponty again must turn to the transcendent nature of the subject-object relation and constitute a gap between subject and matter. See also Andrea Bardin's discussion of Uexküll's place in the relation between Merleau-Ponty, Simondon, and Canguilhem (Bardin, *Epistemology and Political Philosophy in Gilbert Simondon*, 160).

[934] Pritchett, *The Music of John Cage*, x.

to much of Cage's seemingly uncategorizable works, and that this understanding is particularly useful with regards to understanding the return to a distinctly musical simplicity in Cage's final years.

By way of an intermediary consideration, and connecting to the kind of relationality raised by the question of ethology, we will consider two works of the mid-1970s, *Child of Tree* (1975) and *Branches* (1976). Of his compositional process, Cage described several means for making 'discoveries' – for instance, through engagement with different kinds of ensembles, by more precisely compositional means, or through materials, such as that of the radio for *Imaginary Landscape No. 4*.[935] For these two pieces the discovery was plant materials, amplified with contact microphones through simple sound systems. The scoring for these pieces followed the lead set by Tudor's modifications of *Variations II*, with a high level of performative freedom allowed in two notable respects. First, following Tudor's example, Cage provided a two-level score that requires performers to construct their own performative boundaries through engagement with Cage's dense and complex instructions.[936] Second, within this construction of the score, improvisation was permitted, the plant material offering this as a possibility while still resisting intention in a way traditional instruments would not, insofar as "the improvisation can't be based on taste and memory since one doesn't know the instruments".[937] On top of this, the fragility of the plant material – the physical changes caused in the material by using it to produce sounds, be it the rustle of leaves and grass or the plucking of cactus spines – adds a degree of indeterminacy to this improvisation, as we have seen previously with the prepared piano and Tudor's amplified piano. The performer may well find a 'pleasing' sound, and try to repeat this sound, but the degradation of the material caused in producing the sound will have changed its sounding capacities. Performatively, these pieces see the performers distributed around the performance space, working independently with their materials among and around

[935] Kostelanetz, *Conversing with Cage*, 103.
[936] See Christopher Shultis, "The Process of Discovery: Interpreting Child of Tree" (online document, 2012), accessed 26/09/2015 http://chrisshultis.blogspot.co.uk/2012/11/the-process-of-discovery-interpreting.html, for a discussion of this process before Shultis' own performance of *Child of Tree*.
[937] Kostelanetz, *Conversing with Cage*, 92.

the audience.

In this respect these pieces provide a more interesting connection to the Deleuze-Guattarian rhizome than only the immediate matter of the metaphor of plantlife. Against the arborescent model of classical music, its elements united under the organizing terms of the work and the instruments voicing as one towards the listening audience, with *Branches* and *Child of Tree* there is no evident organizing unity. A listener could walk around the space and draw connections between a group of sound sources from one position, and then move to another where different connections will take hold – the plants organized only rhizomatically. It is therefore important also that the use of plant materials was not reducible to their sonorous and performative capacities, as Cage saw in the plant a metaphor for a more general social, and indeed ontological, concern. Cage uses growing plants as a metaphor for a practice of life:

> as we know, our ways of growing plants are to grow only one plant; the result is that each plant is separate from the others. But when one mixes the plants up, and it looks almost as though it were not agriculture but was wild, then everything regenerates everything else and it becomes a healthy situation for the plant. I would say in life too […] after all, our problem is that we're individuals, that we're members of society, and that society inhabits an environment – and that's Nature.[938]

While present from an early stage in the notion of 'imitating nature in its manner of operation', Nature has been a somewhat obscure term throughout Cage's thought, but in this context it reaches a new clarity, as indeed does this 'imitation'. It is not that Cage's concern with sound constitutes a kind of return to a primitive nature, of ascribing an obscure fundamental metaphysical power to sound in its natural form, but rather that nature is understood, as with Uexküll, as a complex of operations in irreducibly complicated relation, from the level of sound in its purely sensational form to the human and plant relations that are formed through *Branches* and *Child of Tree* to social questions and beyond. We see no longer the tendency towards a unified organicism found in 'Defense of Satie' but rather nature defined as, in Julia Robinson's terms, "networks constantly creating new micro/macro systems and ecologies".[939]

[938] Ibid., 262.
[939] Robinson, "John Cage and Investiture," 181.

Indeed, it is precisely when Cage comes to the conclusion that his problems are no longer strictly musical, but social – and as such no longer possibly bound to the constrictions of an empirically qualified sound-space which could pass for a kind of unified being – that he feels required to reevaluate the place of performative freedom in opposition to chance – "I must find a way to let people to be free without their becoming foolish. So that their freedom will make them noble".[940] Pieces like *Branches* bring into consideration notions of both space and place, an awareness of a dispersion of bodies – performers, listeners, other acoustic objects – in the room and their relation to each other, identifying a 'sounding' that takes a form not merely auditory. The opening to a plurality of types of relations produces more freedom to act at each level, as we have seen in the understanding of the machine that pairs construction with expression.[941] Taking us back to a concern of our previous chapter, with the difficulties of musical expression, we find here an understanding of expression which resists the assumptions of phenomenological intersubjectivity but rather concerns the construction of mobile relations.

This practice led to broader, more theatrical – if theatrical can remain the correct term for a practice which moves towards an erasure of the border between performer and audience – ideas for Cage, such as a never-realized plan to amplify a park, "a piece of music performed by animals, and butterflies",[942] but there is also within it the germ of the more musical direction of his late work. In 1987 Cage would start composing what have been termed his 'number pieces', the final years of his life being some of his most productive, with forty-one pieces produced using his new method of time brackets. The system for writing these works was remarkably simple, using chance operations to determine time brackets, sometimes fixed and sometimes flexible, within which the performers can sound notes from a small selection. In this there appears to be a departure from theatrical concerns towards a more purely musical outlook, but these

[940] Cage, "Indeterminacy," quoted in Kostelanetz, *Conversing with Cage*, 120.
[941] See Alliez and Martin, *L'oeil-cerveau*, 2.
[942] Ibid., 94. There was a failed attempt in Turin in 1979 (Silverman, *Begin Again*, 338).

cannot be distinguished so easily. For instance, the performative freedom written into the compositions – again, the performers constructing their scores from Cage's broad instructions – does not predetermine the kinds of relations that take places, and as such we find a wide variety being produced in various ways – as Cage notes we will often find notes microtonally close in pitch being juxtaposed, "getting in each other's way […] so that they sounds will be, as it were, rubbing against each other",[943] but also curious textural combinations, or the rhythmic shock of percussive elements punctuating sustained string tones, even emergent melodic aspects and harmonic shifts. That many pieces were written using a very similar method says little of their performative potentials – while there are similarities between many of these pieces, there are also a great many divergences between both pieces and performances, a vast plurality of relations taking place at many levels between score and performance.

In these pieces Cage achieves the remarkable simplicity which Deleuze & Guattari would ascribe to La Monte Young's work, and on some levels many of these pieces bear similarities to Young's pieces, often tending towards the static and singular, but in detail there are key points of distinction. Cage maintains the sober conditions of producing sounds, a careful understanding of the problem of sound and the loss of sensation that occurs when too much is added to the process, but this is not performed as a closure, rather a gesture making sonorous how relationality takes place unpredictably, without centre, without determination in advance. The lack of a theatrical aspect in these pieces is not a rejection of that principle – it can nevertheless be sensed on the edges of the performance, in the materiality of timbre, the moments of performative freedoms rising through the sonorous. Cage does not dismiss the modernist element of his thought in sound-space, nor even the classicist roots in the score, but they are positioned not as determining codes but as elements of a much wider machinery, their refinement and enclosure letting them act as a powerful creative force in relation to the other bodies they come into contact with.

[943] Cage and Retallack, *Musicage*, 122.

Here composer, score, performer, listener, sounds, space, and beyond are not 'linked',[944] by any isomorphism or determining relation, but enter into relations through vibration, resonance, and forced movement, oriented towards what could be otherwise – "we do not know what a body can do". These late works of Cage give sonorous bodies a space to sound, to articulate their inner differences and to open to an outside. This gives a new context to some of the dominant critiques of Cage we have encountered across the preceding chapters. Does Cage subsume all of sound into the hegemonic field of music? Does he open the subject to an indiscriminate outside with no concern for the 'inside'? Only with a certain understanding of inside and outside. The understanding of inside and outside we reach through the machinic body, where the "interior is only a selected exterior, and the exterior, a projected interior",[945] resists posing this distinction as an opposition which must ultimately fall on one side or the other, and rather posits it as a relation of creation of experimentation, at once constructive and expressive. This refinement of an experimental relation between inside and outside is central to Deleuze's late texts, particularly in the passage from the "thought of/from the outside" that his reading of Foucault circulates around[946] to the notion of the brain as a "junction" in the closing pages *What is Philosophy*?,[947] or as "this boundary of a continuous two-way movement between Inside and Outside, this membrane between them".[948] It is through the nuanced exploration of this junction that the experimental practices of Deleuze and Cage attain their fullest articulation.

[944] Cage, *For the Birds*, 129.
[945] Deleuze, *Spinoza*, 125.
[946] Deleuze, *Foucault*, 59.
[947] Deleuze and Guattari, *What is Philosophy?*, 208.
[948] Deleuze, *Negotiations*, 176.

Conclusion

We have followed Cage from an early concern with the opening of the field of music to noise, to a concern with letting 'sounds be themselves' and a concomitant disavowal of compositional intention, through to a productive engagement with a constellation of emerging artistic practices, and finally to a reinscription of this passage into the field of a renewed compositional process. These were bound together by an experimental practice, the form of which itself developed as it was practiced, increasingly leading to concerns of a shift from the 'work' or object to process, to the opening of the field of music to the other arts and to life itself, to the shifting and blurring of the roles of composer, performer, and listener, and to the accommodation of performative freedoms.

The posing of Cage's initial musical problems are inextricably implicated in questions of post-Kantian aesthetics, and with the passage into the 1950s and 1960s become likewise implicated in a phenomenological approach, first Husserlian and then Merleau-Pontyan, and with structuralism, through both of which a constellation of experimental and critical approaches crystallized but likewise a series of impasses and tensions emerged. By staging a critical confrontation between Cage and Deleuze, we have situated ourselves within this constellation of interpenetrating musical, artistic, and philosophical conditions, and developed a notion of an experimental practice taking this historical situation as the basis for a projection into the future, towards the unexpected and unpredictable. At once the immanent unfolding of a historical practice and the enactment of a series of breaks and lines of flight away from the given, we have followed this experimental practice to an end point, always provisional, of a machinic theory of rhythmic modulation.

This points towards many routes for future enquiry. While we have to some extent addressed the status of the GRM and IRCAM as musical institutions, and Cage's own relation to a series of institutions, a Deleuze-Guattarian enquiry into the role of the musical institution at these historical junctures and elsewhere could be a fruitful line of research. Guattari is critical of the traditional musical institution, regarding its "musical

caste system" of conservatories, educational traditions, rules of composition and so on as an instance of a collectivity of musical production which "hamper[s] and delay[s] the force of deterritorialization inherent in music as such".[949] However, there could be much of interest in these non-traditional institutional settings we have considered in our discussions. Perhaps the critical challenge of music and music theory is also its site of potentiality. Despite the passage of more than half a century, mid-twentieth century musical experimentalism has in some respects yet to be weighed down by the distinct trajectories that mark art criticism and art theory – movements, schools, institutions – as they do the classical music tradition. While similar questions are present in the engagement with musical experimentalism, there remains a greater degree of indeterminacy pointing in directions and to connections still unexplored – hence the emergence of still quite new fields, in some sense still in formation, such as new musicology and cultural musicology, or sound studies. Music is still striving to determine its problematic field, a still mobile process of formalization.

With regards to sound studies, a renewed understanding of Cage, beyond dominant reductive readings, could critically intervene in the impasses that have begun to mark this forming field. There would be, for instance, much to be said through our understanding of Cage with regards to the often tense relations between those areas of sound studies oriented towards understanding sound in a post-deconstructive textual manner,[950] those connecting with new materialism and affect theory but perhaps at the expense of the semiotic depth and engagement with the field of sense of the former approach,[951] and those which are steeped in a phenomenological discourse.[952] Our reading of Cage offers points of connection to all three of these approaches, but without being reducible to any given one.

More crucially to the status of this current project, in our final chapter we noted a

[949] Guattari, "Towards a Micro-Politics of Desire," in *Molecular Revolution*, 106-07.
[950] For example, Seth Kim-Cohen, *In the Blink of an Ear*, or Jonathan Sterne, *The Audible Past*.
[951] For instance, Cox, "Wie wird Musik zu einem organlosen Körper?", Hainge, *Noise Matters*, or Steve Goodman, *Sonic Warfare: Sound, Affect and the Ecology of Fear* (Cambridge, Mass.: MIT Press, 2010).
[952] For example Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010).

seeming blockage in the philosophy of *Difference and Repetition* of which some remnant persists in Deleuze's work with Guattari, particularly in what can seem to be the heavily foreclosed creative space of *What is Philosophy?*. Here Deleuze & Guattari appear to pacify the remarkable freedoms sought in *Anti-Oedipus* and even the more sober and careful theory of creative involution found in *A Thousand Plateaus*. The autopoietic nature of the concept in *What is Philosophy?* bears some of the restrictive qualities found in the problematic Idea of *Difference and Repetition*, key among these being the difficulty in locating any kind of process of reciprocity between an embedded, historical practice and the constitution of the concept – between the pedagogy of the concept and the pedagogy of historical experience.

We resist this formulation by turning to the concepts of rhythm, modulation, and the machine in order to justify a contextual, historical approach which is nevertheless not bound by its given conditions, a relation to context and history centered on the transformative capacities of an experimental practice. It is not enough, however, to simply accept the 'blockage' in Deleuze's thought as a contingent point to be overcome through a theory of the machine. Rather, it is crucial that we understand this in terms of the extraordinarily stringent conditions for creation which are present in *Difference and Repetition* and which Deleuze reinvests in a different context in his final works. The late essay 'Postscript on Control Societies' is crucial in understanding this move. Here Deleuze raises the concern that with a transition from disciplinary society to control society we see a logic of modulation co-opted into the operations of the state,[953] in terms that sound almost like a self-critique directed towards the Deleuze & Guattari of *A Thousand Plateaus*.

It is on this basis that the line between creation rightly speaking and the discourse of 'creativity' we find in the "disciplines of communication"[954] – of enterprise, marketing, 'ideas men', but also paralleled in the later critique of conceptual art – cannot be easily drawn, and perhaps why Deleuze returns to such a seemingly foreclosed model

[953] Deleuze, *Negotiations*, 178.
[954] Deleuze and Guattari, *What is Philosophy?*, 10.

regarding the legitimation of creation.[955]

There are moments where we would say that Deleuze resists too much the conditions of history, culture, or biography, as in his declining to consider even strikingly pertinent biographical features in his study of Bacon – for example the depiction of homosexual sex in *Two Figures* and *Two Figures in the Grass*. Here there is perhaps a tension between the refusal to overdeterminatively narrativize painting, to allow its discourse to circulate through information and representation, and the exclusion of a problematic condition for Bacon's work in the question of homosexuality. This could likewise be linked to Cage's reticence regarding his own sexuality. There is no simple resolution to the tensions that persist here, and even Deleuze's critical encounters with Kant, with phenomenology, and with structuralism cannot be considered closed. Engaging with these persisting tensions will be central to any future research.

We have addressed the problem of Cage's politics only in passing, and here too the question of control is central. There is, for instance, Branden Joseph's claim that Cage's understanding of power does not develop beyond understanding it as sovereign, with freedom consisting in the dissolution of this sovereign power.[956] This understanding is reflected in Cage's statements of remarkably simplistic, reductive, and perhaps naïve political sentiments – for instance, speaking of the Black Power movement to note that

> If blacks free themselves from the laws whites invented to protect themselves from the blacks, that's well and good. But if they in turn want to invent laws, that is, to wield power in exactly the same way as whites, what will the difference be? There are only a few blacks who understand that with the laws that will protect them from the whites, they will just be new whites. They will have come to power over the whites, but nothing will change […] Music demonstrates what an ecologically balanced situation could be – one in which whites would not have more power than blacks, and blacks no more than whites.[957]

[955] See Alberto Toscano, "In Praise of Negativism," in *Deleuze, Guattari and the Production of the New*, ed. Simon O'Sullivan and Stephen Zepke (London ; New York: Continuum, 2008).
[956] Joseph, *Beyond the Dream Syndicate*, 135. Also of interest in this regard would be an enquiry into Cage's 'anarchism', a "radical individualism" (Silverman, *Begin Again*, 109) which Benjamin Piekut all-too-quickly reduces to a form of liberalism (Piekut, *Experimentalism Otherwise*, 23-24) but which we believe could produce a more interesting network of connections.
[957] Cage, *For the Birds*, 230-31.

Whatever the nobility of sentiment there nevertheless appears to be a dearth of engagement with the subtlety and complexity of the power relations that concerned the Black Power movement, and while we believe that our final understanding of a Cage whose practice is articulated through a careful and complex theory of rhythmic modulation mitigates the reduction his theory to one of sovereign power, these questions must nevertheless be confronted directly. As much as the nuance and richness of Cage's experimental musical practice stands in contrast to such blunt political pronouncements, the relation between the two must be worked through.

The connection to Black Power points towards another seeming impasse in Cage's work, but one which we believe could produce a rich avenue for future research, namely in Cage's relation to jazz. Cage does not appear intrinsically hostile to the notion of jazz as an experimental music, but does question it as it is practiced, suggesting that in most cases jazz improvisation "resembles a conversation",[958] not experimental discovery but a recourse to memory and to a kind of musical egoism which his own procedures of chance and indeterminacy sought to evacuate.

Cage's attitude is indicative of what George E. Lewis has called the 'Eurological' approach to improvisation, wherein the white avant-garde obscures what it has borrowed from jazz improvisation by adopting it into its own approach, through techniques such as indeterminacy, constituting an othering of jazz composers and performers which reveals "whiteness as power".[959] For Lewis a racial space has been delineated through qualifiers to the word 'music' – 'experimental', 'new', 'art', 'concert', 'serious', 'avant-garde', 'contemporary' – from which traditionally black practices have been excluded.[960] At a more theoretical level, this also concerns an

[958] Cage, *For the Birds*, 171.
[959] George E. Lewis, "Improvised Music after 1950: Afrological and Eurological Perspectives," in *Black Music Research Journal* 16:1 (Spring, 1996): 99-100.
[960] Ibid., 102. A result of this is the construction of a black avant-garde in the Black Arts Movement – see, for example, Jason Robinson, "The Challenge of the Changing Same: The Jazz Avant-Garde of the 1960s, the Black Aesthetic, and the Black Arts Movement," in *Critical Studies in Improvisation* 1:2 (2005): 20-36. Amiri Baraka, the founder of the Black Arts Movement, for a period moved in the same artistic and social circles as Cage (See Amiri Baraka, *The Autobiography of LeRoi Jones* (New York: Freundlich Books, 1984), 185-86), and his theory could offer an interesting point of connection between the two traditions.

understanding of rhythm to which the rhythms of jazz have been deemed inimical, as in Messiaen's dismissal of syncopation in describing jazz as "non-rhythmic music which is thought rhythmic".[961]

While Cage makes no notable gesture in the direction of jazz in his later works, his reinvestment in questions of performative freedom and specifically improvisation is of note here. This comes at the end of a long process of determining conditions of experimentation and is realized, we have argued, through the freedoms that are offered by a compositional, performative, and listening practice which could be characterized in terms of a machinic assemblage operating through rhythmic modulation. Indeed, such a model has served to connect Deleuze & Guattari's thought to jazz improvisation in the work of Nick Nesbitt,[962] and Jeremy Gilbert has likewise engaged on the question of improvisation more generally.[963] As George Lewis argues, a more nuanced view of improvised music than that of the white avant-garde "might identify as more salient differentiating characteristics its welcoming of agency, social necessity, personality, and difference, as well as its strong relationship to popular and folk cultures",[964] a statement we would apply also to rhythm. This offers a basis for a critical re-engagement on the level of these two terms, rhythm and improvisation, beyond the restrictive version that motivates an exclusionary avant-garde. By taking on the subtlety of Cage's late experimental allowance of collective improvisation in its fullest, we believe an approach to a relation across musical practices could take place precisely through the question of rhythm, and serve as the catalyst for a productive encounter between 'Eurological' and 'Afrological' approaches. [965]

[961] Messiaen, *Music and Color*, 68.
[962] Noting the "instrument-club-musician-head-solo-influences-practice-time-mood assemblage", see Nick Nesbitt, "Critique and Clinique: From Sounding Bodies to the Musical Event," in *Sounding the Virtual*, 159.
[963] Speaking of a blurring of the lines between "composers, producers, performers and audiences". Jeremy Gilbert, "Becoming-Music: The Rhizomatic Movement of Improvisation," in *Deleuze and Music*, ed. Ian Buchanan and Marcel Swiboda (Edinburgh: Edinburgh University Press, 2004), 120.
[964] Lewis, "Improvised Music after 1950," 110.
[965] I provide a sketch of this trajectory in Iain Campbell, "Avant-Gardes, Afrofuturism, and Philosophical Readings of Rhythm," in *Afrofuturism 2.0: The Rise of Astro-Blackness, vol. 2* [title tbc], ed. Reynaldo Anderson and Charles E. Jones (Lanham, MD: Lexington Books, forthcoming 2016).

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