Energetics as a System of Cadence

Four Studies of Schoenberg, Brahms, Boulez, and Cage

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Abstract

This thesis shows how Andrew Eason's Schoenbergian closing concept can be used on a broader repertoire of non-tonal music to provide formal readings. It shows this by using the Schoenbergian closing concept, which this study refers to as the Schoenbergian cadence, to analyse Schoenberg's music and three other composers, and how the Schoenbergian cadence applies to music beyond the strict focus of Eason's "Cadence as Gesture in the writings of Arnold Schoenberg". The Schoenbergian cadence is defined in both material and non-material terms, and this study makes its analyses with the understanding that this music is of a repertoire which is either historically or conceptually related to that of Schoenberg, and which uses the same cadence concept is analysable with the same approach. At the end of his conclusions, Eason writes that his essay would be useful for analysts in forming a new path into non-tonal music. It is my intention that this study forms that new path into non-tonal music for composers. Specifically, I refer to composers who have training in a Western-European, classical or post-classical approach to composition, who would take classes in harmony, counterpoint, and form. It is my intention that the approach to the music which is taken in this study, would give these composers and students of composition a way into the piece of non-tonal music's repertoire explored herein.

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Go raibh maith agat a Harriet. Tháinig tú liom go Glaschú agus anois tá muid ag dul go Sasana. Bhí tú liom ar dtús agus beidh tú liom sa dheireadh. Tá mé ar bís dul leat abhaile. Go luath, beidh muid ar ais in Éirinn. Bíonn tú liom nuair atá laethanta dorcha ann agus nuair atá an ghrian ag soilsiú. Mo ghrá uilig duit go brách.

Author’s Declaration

“I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.”

Printed Name: William Patrick Lappin
Signature:

Introduction

1.1.1 – Introduction to Repertoire

The thesis which follows is an analytical project which provides a novel, graphic, and intuitive lens to view twentieth-century non-tonal music.[1] It is a lens for composers or students of composition, particularly those ones who favour a kind of compositional thinking which follows the tradition of European continental composition. This project consists of four individual analyses, each one of which exploits the fundamental theory in a new direction. The ground for this fundamental theory is what I call Andrew Eason's gestural analysis, which is based upon his observation of the 'Schoenbergian closing gesture'.[2] In his illuminating observation at the beginning of his essay, Eason writes 'Without tonality's harmonic markers, it can be very difficult to perceive beginning, middles and ends of phrases or larger sections in non-tonal music.'[3] If one believes that tonality is a broader system of structure rather than a more specific set of music-theory concepts then one may apply the term to the analysis of non-tonal music. In making this application, non-tonal music may be analysed in a manner of the same logic as tonal music. This allows students and composers alike a new path into this music that is not yet available as a system.

The first of these four analyses is an analysis of Schoenberg's "Intermezzo" from his *Suite for Piano*, Op. 25, which is a serialist work and is taken from the same suite of piano music which Eason analyses in his own essay. In this analysis, I will demonstrate Eason's concept of Schoenbergian closing gesture in the context of Schoenberg's own music. In doing so, I will demonstrate my additions to Eason's theory of gesture which include the introduction of the foreground, middleground, background paradigm, and graphic analysis. The second and third of the four analyses are first-movement, sonata-form analyses of Brahms' *Piano Sonata No. 3,* Op. 5 and Pierre Boulez' *Piano Sonata No. 2*. The analysis of Brahms' sonata seeks to demonstrate the features of this new approach, which I call gestural analysis in comparison to "tonal" means of analysis; it is an analysis of smaller duration, given its intentions. The analysis of the *Piano Sonata No. 3,* Op. 5 is an introductory prefix to the analysis of Boulez' *Piano Sonata No. 2*. This following analysis seeks to demonstrate the application of Eason's Schoenbergian closing concept to sonata theory. This new cadential approach gives new access to Boulez' composition, given that sonata theory depends on the existence of a system of

[1] This project may be followed by one which analyses the music of the twenty-first century in principle. Indeed, this is my ambition, so that the developing theory may be applied to today's music and used by composers, but such is beyond the scope of this study.

[2] Andrew Eason, "Cadence as Gesture in the Writings and Music of Arnold Schoenberg" in *Music Analysis*, 41, 2 (2022) p. 286 https://doi.org/10.1111/musa.12198 Accessed: 31/7/2025

[3] Eason, "Cadence as Gesture" p. 266

cadences through which norms are chiefly expressed.[4] The final analysis is an analysis of John Cage's *One* for piano solo. Cage's *One* exists in a compositional world which is further from Schoenberg than those of Brahms, and Boulez, although the analysis demonstrates that there is something more fundamental and more applicable in Eason's work, which may be exploited in further projects.

I will use an approach of the kind developed most recently by Eason to make a form-functional analysis of several pieces of non-tonal music. By form-functional analysis, Eason seems to mean something like the analytical methods developed for tonal music which describe form in the context of the function of particular musical elements.[5] One such example he gives of form-functional analysis is 'cadential function', which is not defined further in Eason's article, but I understand it as meaning the signal which is given by a cadence to indicate an event within a form.[6] Given the focus of this analytical work on Schoenberg and other theoretical considerations of the conclusions to Eason's "Cadence as Gesture", the present study fixes its focus on work by Arnold Schoenberg, Johannes Brahms, Pierre Boulez, and John Cage. These composers cover a body of repertoire which shares the quality of Eason's "Schoenbergian cadence", according to the "Schoenbergian closing concept" defined by Eason in his writing. When referring to this quality throughout this study, I use the broader term "cadence". Originally, I used the term "Schoenbergian" cadence in all four cases, but I do not want to imply through my definitions and use of terms that there is something "Schoenbergian" about all of the music with which I am dealing. Instead, I wish to imply that the phenomenon which Eason has discovered and described as the "Schoenbergian closing concept" is something which exists and operates at a more fundamental level than his naming suggests.[7] I will synthesise this cadence concept with a hierarchical, structural analysis and, with this synthesised approach, I will make four analyses of this music which is Schoenbergian and, in Cage's case, extended-Schoenbergian. In making these analyses, I will reach conclusions about the products of the new, gestural approach which will begin the formation of a novel approach to analysis, but also to composition as well.

Schoenberg was a teacher before he was a theorist.[8] There are many constellations of ideas within Schoenberg's written theoretical output which are disparate and particular to periods of his musical output. Perhaps, these characteristics are necessary ones of any musician's theory and philosophy of music and something for

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[4] James Hepokoski and Warren Darcy *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (Online: Oxford University Press, 2006) pp. 3-13 https://doi-org.ezproxy1.lib.gla.ac.uk/10.1093/acprof:oso/9780195146400.003.0001 Accessed: 31/7/2025

[5] Eason, "Cadence as Gesture" p. 292

[6] Eason, "Cadence as Gesture" p. 292

[7] I mean "more fundamental level" in a general, non-Schenkerian sense.

[8] Several references to Schoenberg's teaching can be found in Malcolm MacDonald, *Schoenberg* (Online: Oxford University Press, 2008) https://doi-org.ezproxy1.lib.gla.ac.uk/10.1093/acprof:oso/9780195172010.001.0001 Accessed: 31/7/2008

which Schoenberg is not unique. In an attempt to navigate these various constellations, the idea which applies most directly to this study, and which is most important is that Schoenberg believed that form could be communicated with or without "tonality". At this moment, this study must define tonality and its use of the term and its various siblings. The term "tonality" is used with various meanings and to various different ends in musical scholarship. Because of its importance to the matter of this study, I will be very clear about what I mean when I say tonality. The first kind of tonality is Schoenberg's tonality, which is important for understanding this constellation of his theory as it is relevant to Eason's work. By tonality, Schoenberg means the formal voice-leading and harmonic theory which was developed historically until the time he was writing.[9] Differently, by tonality, I mean the structuring force which works in a piece of music. This fact is something which Schoenberg observed but did not call tonality. Therefore, when I talk about a piece of "non-tonal" music, there are two senses in which this term may be used. There is non-tonal in the Schoenbergian sense, and non-tonal in the Lappinic sense. I am clear during the study when I am using the Schoenbergian non-tonal and the Lappinic non-tonal.

All of this work takes a formalist point of view and the question as to whether music, or a given piece of music is formal or non-formal in its approach to composition is one beyond the scope of this study. In brief, my approach is that there is no answer which is essentially correct, but each approach may yield different perspectives and be the beginning of different approaches to music. I prefer a formalist approach. For the purposes of this study, the music of Schoenberg's late, dodecaphonic period was formalist in such a way as allows for an opening through which a formalist type of analysis may reveal elements of the form.[10] When I use the term 'formalist music' in this study, I mean a music wherein the composer intends that the analyst may perceive and understand the music through the musical relationships within the work of art.[11]

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[9] Norton Dudeque, *Music Theory and Analysis in the Writings of Arnold Schoenberg (1874-1951)* (London: Routledge, 2017) p. 37 https://doi-org.ezproxy1.lib.gla.ac.uk/10.4324/9781315090795 Accessed: 31/7/2025

[10] Schoenberg's formalism is not necessarily the same as a "general" formalism or even the formalism of his contemporaries. As Daniel Regnier writes, 'I suggest that Schoenberg goes beyond theories by his contemporaries Kurth and Schenker that more exclusively emphasize unity. I argue that Schoenberg's positive valuing of colour and variety in music can fruitfully be understood as parallels to Plotinus' positive appreciation of poikilia. See further in Daniel Regnier, "More variation than theme: On poikilia in musical aesthetics from Plato to Schoenberg" in *Journal of Comparative Literature and Aesthetics* 42, 1 (2023) p. 71 http://ezproxy.lib.gla.ac.uk/login?url=https://www.proquest.com/scholarly-journals/more-variation-than-theme-on-poikilia-musical/docview/2807106066/se-2?accountid=14540 Accessed 31/7/2025

[11] This definition is an adaptation of Leonard B. Meyer's own definition of formalism, which is that 'the meaning of music lies in the perception and understanding of the musical relationships set forth in the work of art and that meaning in music is primarily intellectual'. This is an old definition yet one which is of the repertoire's period and still useful in its reworked application. See Leonard B. Meyer, *Emotion and Meaning in Music* (Chicago: The University of Chicago Press, 1961) p. 3

Therefore, the four musical cases will be analysed by an approach to analysis which is formalist in order to reveal an understanding of their structure.

Pierre Boulez' early music is not Schoenbergian in terms of being a direct consequence of Schoenberg's music. It is, perhaps, a musical cousin, niece, or nephew of some kind because Leibowitz and Webern were both teachers of Boulez.[12] One sees this relative closeness, for example, in the case of the *Sonatine*. As Susanne Gärtner summarises on the *Sonatine*,

> … he called it his first attempt to combine classical twelve-note technique with independent rhythmic structures such as Olivier Messiaen had demonstrated. Boulez also mentioned Arnold Schoenberg's first *Chamber Symphony* as a formal model.[13]

One sees here that there is in Boulez' early work, a relationship with Schoenberg's purely twelve-tone approach to form. It is not that Boulez inherited Schoenberg's music directly, but there is a relationship between Schoenberg and Boulez which there is not between Schoenberg and Messiaen, for example. Yet, there is a closeness between the two composers during this period. It is during this period that the second piano sonata was composed. It is a work of revolutionary spirit in terms of compositional approach. Yet, given the work's relationship to Schoenberg's own compositional approach, there may still be a form revealable by an Lappinic tonal approach to this work. In material terms, Schoenberg and Boulez's work share the characteristic that they are both composed using the materials of pitch, rhythm, speed, range, timbre, and texture, and they both communicate formal function without the use of a Schoenbergian tonality.

John Cage's late music is marked by a turn away from his middle period's absolute anarchy with respect to the compositional subject, an interest in wh ich was sparked during his earliest period of composition with Richard Buhlig.[14] This early compositional work featured direct interaction with Schoenberg and so there is a theoretical link between Schoenberg and Cage's works.[15] It is written that Cage learned an appreciation of form from Schoenberg which is the essential element required for Eason's style of analysis. Of course, Cage's biography and compositional development extend beyond his interaction with Schoenberg and Schoenberg was certainly not the only impact upon his composition. As Cage's compositional career progressed, he minimised the Schoenbergian relationship between composer and form, and then, towards the end of his career, he made a partial return to it. It is my opinion that the music from Cage's late

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[12] Caroline Potter, "Serialism and surrealism: Boulez's instrumental music 1946-8"in *Pierre Boulez: Organised Delirium* (Online: Boydell & Brewer, 2024) p. 97 https://doi.org/10.1017/9781805431237.004 Accessed 31/7/2025

[13] Susanne Gärtner, "Traces of an Apprenticeship: Pierre Boulez's *Sonatine* (1946/1949)" in *Pierre Boulez Studies* (Online: Cambridge University Press, 2016) https://go.exlibris.link/gLZQ6YFc accessed 21/05/2025 p. 3

[14] John M. Cunningham, "John Cage" in *Britannica Academic* (Online: Encyclopædia Britannica, 2024) np academic-eb-com.ezproxy1.lib.gla.ac.uk/levels/collegiate/article/John-Cage/18542 Accessed: 31/7/2025

[15] John M. Cunningham, "John Cage" np

output is of interest to the Easonian cadence project. To be clear, this music is materially distant from what Schoenberg wrote, in a way which Boulez and Schoenberg are much closer. I reiterate that I am departing in this study from Eason's "Schoenbergian cadence" as a term and towards the use of the broader term 'cadence' to highlight the deeper fundamentality of Eason's observation. This case demonstrates this departure and shows how the principles may be applied beyond the analysis of Schoenberg and his surrounding contemporaries.

1.1.2 – Introduction to Theory

This study is one on the use of energetics to analyse all three of these pieces. Energetics in this case is the indication of a musical moment's quality through the change in one or more musical elements. As the title of this study implies, these bodies of music are different but not altogether different. But this claim prompts the questions of (1) 'From what are they different or not different?' and (2) 'How are they different or not different?' The answer to the first question is simpler. In Schoenberg's case, the music is the direct historical consequence of Brahms' own music.[16] The music undergoes great changes in its approach to voice-leading, but less dramatic ones, if any in its approach to other musical elements. Herein, energetic analysis enters, which featured most recently in Andrew Eason's analysis of Schoenberg's dodecaphonic pieces *Verklärte Nacht* and the *Suite for Piano* of opus 25. Eason's analysis answers the question 'How can Schoenberg's concept of cadence be described and applied using a concept of energetic gesture?'[17] In the conclusion of the analysis, Eason reaches a definition of 'Schoenbergian closing gesture', which is a Schoenbergian cadence in other words. This Schoenbergian closing gesture is 'defined by energetic shaping more than its constitutive pitches' and is identifiable by its likeness to 'a fading sigh' where the elements of range, dynamic, and rhythm all diminish.[18] The method by which Eason arrives at this conclusion is a synthesis of energetics and what Eason calls 'form-functional analytical techniques'.

The theoretical dimension of this thesis is based upon the work on non-tonal cadences produced by Eason. Eason's analytical approach is too early in its development to be considered a system of analysis, although even the most developed and empirically informed methods of analysis do not describe themselves with such a word. Instead, gestural analysis has been applied to a small range of music. Specifically, it is applied to Schoenberg's late output. In his essay, "Cadence as Gesture", Eason

[16] Malcolm MacDonald, *Schoenberg* (Online: Oxford University Press, 2008) p. 24-53 https://doi-org.ezproxy1.lib.gla.ac.uk/10.1093/acprof:oso/9780195172010.003.0002 Accessed 31/7/2025

[17] A slight paraphrase of the question as formulated in the conclusion. See Andrew Eason, "Cadence as gesture in the writings and music of Arnold Schoenberg" in *Music Analysis* 41/ii (2022) p. 286

[18] Eason, "Cadence as gesture" p. 286

focuses on music from Schoenberg's *Verklärte Nacht* and *Suite for Piano*, Op. 25. So, this music is less a system, and more of an approach to this particular piece. Yet, there is a potential within this music to be applied to a broader repertoire. Eason's primary conclusion is that there is an identifiable, typically Schoenbergian closing gesture. Eason defines the Schoenbergian closing gesture using an equivalence; he says that 'Schoenberg articulates thematic closure with a specific closing gesture, *which I call cadential*.'[19] In a more direct format, my understanding is that Eason would say that the Schoenbergian closing gesture *is* a cadence. This is the foundations upon which a productive non-tonal analysis may be formed. In material terms, the Eason defines the gesture of the cadence saying that, 'The typical gesture for the most conclusive cadences is like a fading sigh, where the range and dynamics drop and the rhythms slow down, often with a marked *ritardando*.'[20] Therefore, there are two elements of the Schoenbergian closing gesture. The first element is metaphorical, that is the sighing quality of the cadence, and the second element is material, that is both the decreasing in range and dynamic.[21]

This division prompts the question as to whether one may identify a cadence by its sighing quality alone, or whether the material elements must be identified first. I do not find it to be clear from Eason's writing whether this closing gesture is present throughout Schoenberg's entire work or the degree to which it is present throughout Schoenberg's other work. Eason hopes that 'isolating these cadences in more salient contexts will help clarify the more complex and unique themes which Schoenberg utilises in his chamber music and other piano pieces'.[22] This hope reflects the limitations of the project and the precision of its focus. Although, at the end of the essay, Eason finishes with the following, 'Thus, although I recognise that energy contours are not inherent in music, I nonetheless hold that energetics is a powerful tool to describe our musical experiences in a grounded and shared language.'[23] Eason's ending portrays an ambition which I share, that this approach would be a means of describing musical experience and not leave musical writers without

The approach to which I refer as Eason's gestural analysis is a synthesis of a particular theory of cadence and a theory of energetics. Eason states his view on Classical cadence and later cadence clearly. He writes that… My view is that the Classical cadence can ultimately be understood in terms of all three devices (structural, rhetorical and syntactical) because the compositional style is rigidly prescribed and overdetermined. Over the course of the nineteenth century and into the twentieth,

[19] Italics are my own, see Eason, "Cadence as Gesture" in *Musical Analysis* 41, ii (2022) p. 273
[20] Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 286
[21] For these purposes, Eason seems to use "range" to mean the absolute range from the lowest sounding note to the highest sounding note, although this is not stated explicitly. I use this understanding of range throughout the duration of this study.
[22] Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 286
[23] Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 287

closure becomes more loosely defined in terms of harmonic structure but still readily adapts the rhetorical and syntactical devices to mark it more clearly.[24]

To be clear, it is a common feature of twentieth-century cadences that they adapt rhetorical and syntactical devices, or twentieth-century cadences are rhetorical and syntactical. These twentieth-century cadences are not however harmonic events. So, the cadence remains, and it does the same thing. This behaviour is what I will refer to, throughout this study, as the hauntology of cadences. I appropriate the term hauntology from the writings of Jaques Derrida in *Specters of Marx*. Within his book, Derrida takes a few select paragraphs where he seems to define the term. As it is written, it is difficult to summarise the concept in a space of less than these paragraphs, but such a definition would be impractical for the usage of this study. At the risk of diminishing in part the value of the word, I say that hauntology is the simultaneous state of 'One is' and 'One is not'. To quote an illustrative part of Derrida's definition,

> It would *comprehend* them, but incomprehensibly. How to *comprehend* in fact the discourse of the end or the discourse about to end? Can the extremity of the extreme ever be comprehended? And the opposition between "to be" and "not to be"? *Hamlet* already began with the expected return of the dead King. After the end of history, the spirit comes by *coming back* [revenant], it figures *both* a dead man who comes back and a ghost whose expected return repeats itself, again and again.[25]

Following Derrida's example, the twentieth-century cadence is both 'a dead man', which is to say that it is no longer, and it is 'a ghost' which is to say that it is yet. For this study, the conclusion implies that if a rhetorical and syntactical cadence may be observed, then it may be used as a feature in analysis.

Then, for Eason energetics and energetic gesture are the means by which he identifies and describes cadential function.[26] Eason explains his usage of energetics for his own purposes by saying that '[Larson's] definition of musical meaning, his justifications for energetics and the broader underpinnings of conceptual metaphor in fact enable my form-functional analyses of Schoenberg's twelve-tone work.'[27] This Larsonian definition of meaning is 'something that our minds create when they group things into patterned relations.'[28] If one accepts the premise of this approach that the

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[24] Here, structural means the harmonic dimension, it is not clear what rhetorical means, and syntactical means chronologic location, see Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 268-9

[25] Jacques Derrida, *Specters of Marx: the State of Debt, the Work of Mourning and the New International,* Tr. Peggy Kamuf (New York: Routledge, 2006) p. 10

[26] It is important to note at this junction that Eason writes that 'tonal or twelve-note' music written by Schoenberg may be identified and described in this manner. See, Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 273

[27] Eason, "Cadence as Gesture" in *Music Analysis* 41, ii (2022) p. 272

[28] I note that Eason explicitly ignores an element of Larson's definition in his adoption of it. This is the incompatibility with atonal music. I will ignore the same element in the course of this study for Eason's own reasons and for the fact that the quoted definition does not necessarily make this contradiction. Eason quoting Larson in Steve Larson, *Musical Forces: Motion, Metaphor, and Meaning in Music* (Bloomington: Indiana University Press) p. 33

system of structure which is tonality may be analysed in non-tonal music using a form-functional approach, then I suggest that one may go a step further and analyse the music hierarchically. This is my innovation which I propose to bring to Eason's gestural approach. The design behind this innovation is that it allows one to describe Schoenbergian, non-tonal music in the same way as the well-covered body of tonal music. Some of the referenced benefits of hierarchical analysis include: the foundation of an approach to composition; the revelation of motivic relationships; the revelation of a form or smaller forms which can give the analyst and reader a more functional understanding of a stretch of music; the simple revelation of new and satisfying ways of hearing which are not dependent on objectively present materials.[29] The main benefit of relevance, the approach to composition, is somewhat obfuscated by the fact that Schenkerian analysis is an approach which is conservative in the music which its language was designed to focus on.

1.2.1 – Summary of Previous Research

The research which informs this study divides into several groups. First, there is the analytical body of research and the philosophical one. The analytical body subdivides by repertoire into analyses of Schoenberg, analyses of Brahms and Boulez, analyses of John Cage, and music theory. These four main groups of analysis encompass a range of approaches, not all of which are relevant to the present study. In Schoenberg's case, there are analyses which attempt to read tonality into his work through Schenkerian approaches. There are other analyses of Schoenberg's music which involve the use of methods like set-class analysis. The connection between analyses of Brahms and analyses of Boulez are not theoretical or historical in nature. Instead, the analysis of Brahms's music will serve as an analytical prefix of a tonal sonata form as a context for the analysis of Boulez's sonata. Thus, the analyses of interest here are tonal sonata-theory analyses of Brahms and sonata-theory analyses of Boulez. Analyses of John Cage's late music take another approach entirely, which reflects Cage's late approach to composition. These approaches are often mathematical, or quasi-mathematical in some fashion, which is a consequence of Cage's indeterminacy. The analytical approaches which inform this study are Eason's Schoenbergian cadence, Schoenberg's theories of formal function, Energetics, and Schenkerian theory. Finally, the philosophical body of research mainly involves Derrida's work around hauntology which informs some of the analytical decisions made within this study.

[29] David J. Heyer, "Applying Schenkerian Theory to Mainstream Jazz: A Justification for an Orthodox Approach in *Music Theory Online* 18/3 (2012) np and David Temperley, "Composition, Perception, and Schenkerian Theory" in *Music Theory Spectrum* 33/2 (2011) p. 156

1.2.2 – Schoenberg Analysis

From twentieth-century music scholarship into that of the twenty-first century, Schoenberg's atonal and serialist music has remained foregrounded in the minds of analysts and theorists and the analytical work which concerns him during this period breaks down into two groups. These groups are Lappinic tonal and Lappinic non-tonal. The analysis of the Lappinic-tonal kind is of more immediate importance to this study. This Lappinic analysis is embodied by Schenkerian analysis and gestural analysis. The non-Lappinic analysis includes, largely, set-class and neo-Riemannian approaches. There is room for overlap between these two approaches, but they do two fundamentally different things.[30]

Schenkerian analyses are those which make attempts to apply Schenkerian theory directly to non-tonal music, whereas quasi-Schenkerian analyses acknowledge that such analytical approaches are flawed and seek to use some part of Schenkerian analysis while avoiding the untenable parts. The most recent attempts at an entirely Schnkerian approach come at the end of the 1990s, exemplified by James M. Baker's "Voice Leading in Post-Tonal Music: Suggestions for Extending Schenker's Theory". In this article, Baker writes that 'tonality in the strictest Schenkerian sense – that is, tonality based on the V-I tonal axis – prevails even in a good deal of music which has often been considered to have some other type of structure.'[31] This is, manifestly, the kind of "reading in" and "flattening" of which Schenkerian readings are commonly accused.[32] This is not to say that the approach does not work, but that the starting premise is flawed. *One way to resolve this problem is to take a framework which allows for an element to be at once present and not present*. In the directly consequent literature, the idea of a fully Schenkerian approach is out of fashion. The closest one gets is something like Jack Boss, who has provided Schenkerian readings of a number of Schoenberg's non-tonal works. Boss analyses pieces 2, 3, and 6 from the *Six Little Piano Pieces*, which is the same work that Baker analysed. These three analyses are Schenkerian in technique, but Boss uses them towards non-structural analytical ends; he demonstrates some remnant of Schoenbergian tonality in a surrounding body of non-tonal music, rather than a non-tonal music which has a Lappinic tonality.[33] In Boss's case, there is no non-tonal analysis

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[30] One example of overlap between Schenkerian and Neo-Riemannian approaches is J. Paul E. Harper-Scott and Oliver Chandler *Return to Riemann: Tonal Function and Chromatic Music* (London: Routledge, 2024) https://doi-org.ezproxy1.lib.gla.ac.uk/10.4324/9781003183655 Accessed: 1/8/2025

[31] James M. Baker, "Voice Leading in Post-Tonal Music: Suggestions for Extending Schenker's Theory" in *Muisc Analysis* 9/2 (1990) p. 177 https://doi.org/10.2307/854227 Accessed: 1/8/2025

[32] See Philip A. Ewell "Music Theory and the White Racial Frame in *Music Theory Online* 26, 2 (2020) np DOI: 10.30535/mto.26.2.4 Accessed: 1/8/2025

[33] See Boss's analyses in Jack F. Boss, "Six Little Piano Pieces, Op. 19 Nos. 2, 3, and 6)" in *Schoenberg's Atonal Music: Musical Idea, Basic Image, and Specters of Tonal Function.* (Online: Cambridge University Press, 2019); ""Away with Motivic Working?" Not So Fast: Motivic Processes in Schoenberg's Op. 11, No. 3" in *Music Theory Online* 21, 3 (2015); and ""Schenkerian-

occurring at all. Instead, Boss suggests that there is a mere Schoenbergian tonality at play in the music, so the music fails to be non-tonal. Musical analysis seems to have left behind this purely Schenkerian dimension of musical analysis, a fact which should be some warning against the approach's wholesale adoption. As the research focuses of Baker and Boss show, the adoption of a pure-Schenkerian focus requires the presence of a Schoenbergian tonality in the music, whether it might be read-in as in Baker's work, or existing as in Boss's work. The pure-Schenkerian approach is not useful to this study because it is not precisely focused on the study's ends as it attempts to answer a question of the existence of a kind of tonality with which this study is not concerned.

There is another kind of voice-leading analysis, the kind which is distinctively non-Schenkerian. It must be acknowledged because this analytical corpus contains the majority of analysis done since the end of the twentieth-century. This body subdivides into two main groups. There is voice-leading analysis using set-class theory. This is perhaps the most popular. The language used by the analysts of this body is different. In 2024, Rajan Lal writes that "This article focuses on one of the most discussed works in music-theoretical literature concerning tonal versus set-class organization, the second of Arnold Schoenberg's *Sechs Kleine Klavierstücke*."[34] The other branch of these analyses comes from musicians such as Dimitri Tymoczko, who's work has devised a means of composing through computer algorithms.[35] Tymoczko's work is only trivially related to this study; he seeks to compose in a way which is very different from the conception of this study. Even a set-class analysis, which deals with the structure of set-class events, deals not with a structure which is rooted in perceivable phenomena, or phenomena which are perceivable in the same way as those used in a Schenkerian approach.[36] This study intends to give a formal apparatus to composers who are already coming from the European musical tradition. To such composers, an approach informed by set-class would be impractical as it would require an entire musical retraining. As such, I rule out a set-class analysis as an approach for analysis because it lacks musicality.

There is then Eason's approach, which is a synthesis of cadence theory and energetics. This study will take the method which Eason used recently in 'Cadence as Gesture' and build upon it to explore the potential for the formation of a new theory of analysis and composition in Schoenbergian-non-tonal music. Eason's aim was to 'demonstrate how Schoenberg uses non-pitch parameters to establish cadential

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Schoenbergian Analysis" and Hidden Repetition in the Opening Movement of Beethoven's Piano Sonata Op. 10, No. 1" in *Music Theory Online* 5, 1 (1999)

[34] Rajan Lal, "Harmonic "Quality" and Set-Class Structure: Schoenberg's Opus 19, No. 2 Reconsidered" in *Music Theory Online* 20, 1 (2024) np

[35] See Tymoczko's work in Dimitri Tymoczko *Tonality: An Owner's Manual* (New York: Oxford University Press, 2023) doi:10.1093/oso/9780197577103.001.0001 Accessed: 1/8/2025; *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University Press, 2011); and Dmitri Tymoczko et al. "An Information Theoretic Approach to Chord Categorization and Functional Harmony" in the *Journal of New Music Research* 44, 3 (2015): pp. 219-244

[36] This study is primarily analytical in focus, and so it leaves the issue of perception for others.

function in both tonal and twelve-note harmonic languages.'[37] The foundations of Eason's approach, at which he arrives in his essay, break down into three main theoretical branches: 1) cadence theory, 2) energetics, 3) semiotics. When explaining cadences, Eason writes of stability, claiming that it is a means by which one can distinguish formal units in Schoenberg's music. I make the claim that this principle can be extended to composers in the Schoenbergian non-tonal tradition, that is, in particular, Boulez and Cage, because it is based upon Schoenberg's education in "classical" form and his musical conservatism. Eason's mechanism for describing stability in non-tonal music is language-based; it involves the separation of words into positive and negative pairs, with positive words being associated with decreased stability and negative words associated with the opposite. Nonetheless, Eason's method is still effective, so it seems to me, and it makes sense intuitively and musically, which is one of the aims of the present study. Then, cadence is decided by opposites. If a musical idea has a rising tendency, its cadence is likely to fall. As Eason writes, this approach comes from Schoenberg's writings on his own music. Then, this method is suitable for application to a wide range of music. It can describe anything which 'rises', 'slows down', and so on.

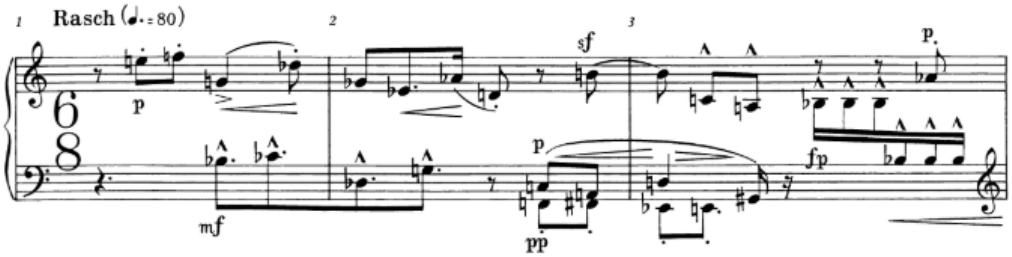
Beyond Schoenberg, Eason's method is based in energetics, which is not a musical discipline in its entirety, but there is a musical sub-focus which culminates in Larson and Johnson, who are Eason's two main sources. Larson and Johnson give to Eason a means of describing music while circumnavigating the need for a discussion of pitch, melody, or harmony. To summarise their views, 'listeners conceptualise musical motion as physical motion', musical events can be described in the same manner as physical objects moving through space.[38] As Eason points out, this has been understood at some level for centuries and is an inherent component of the way in which we, musicians, talk about music.[39] Then, this physical description is also used by composers to signify a degree of stability and therefore to signify moments in the structure including beginnings, middles, and ends, or initiations, continuations, and cadences. This was done in tonal music and is a language which has endured beyond the advent of non-tonal composition. Therefore, Eason has a means to describe structure.

With these two mechanisms, Eason is able to separate moments of non-tonal music into sections. It is a better developed for designating structure in non-tonal music than Schenkerian analysis. Take the following example of the opening bars of Schoenberg's "Prelude" from the *Piano Suite Op 25*, presented in Figure 1.1. The piece opens with a single voice which after a two-note utterance is joined by first one complimentary contrapuntal figure, and then a second in bar 2. There is a slight increase in stability as all three voices fall downwards over the course of the opening two-and-a-half bars, although the other musical materials mitigate and then exceed the increase in

[37] For the details in this paragraph, see Eason, "Cadence as Gesture" pp. 266-287
[38] Eason, "Cadence as Gesture" p. 270
[39] Eason, "Cadence as Gesture" p. 270

the direction of instability. This play in stability has the effect of a half cadence, before the dynamic is elevated and the duration diminishes. This example analysis reveals a number of further observations about the Eason's theory, not covered in the summary. There is a means through which to describe the degree of cadence and hence one can build a hierarchy of structural levels. This counts towards the use of the theory in the present study. In the use of the phrase 'the duration diminishes' one also sees the limitation of the theory, that it is not as simple as mapping increased stability onto negative words and decreased stability onto positive ones. In this case, the negative 'diminishes' describes a moment of decreased stability. In the end, this is still intuitive and does not cause any disruption in the function of the approach.

Figure 1.1 – Energetics in the Op. 25 Prelude, bb. 1-2



Semiotics is a musical field of study, but Eason's focus lies on a specific part of semiotics, Hatten and Agawu. Where energetics is Eason's mechanism for describing non-tonal music, semiotics is the mechanism for analysing it. From Hatten, Eason gets the idea that a melody may be described by its energetic quality instead of its specific pitch-content. From this, Eason develops a way for describing cadence and then form out of Hattens gesture concept.[40] Agawu gives Eason his framework in order to do this, the beginning-middle-end paradigm. Eason's theory is based upon Kofi Agawu's beginning-middle-end paradigm.[41] This is essential to the manner in which he describes structure and hierarchy of events within structure. In *Playing with Signs*, Agawu connects directly the beginning-middle-end paradigm and Schenker's Ursatz. He demonstrates what the relationship is in his view when talking about analysis of Bach's ritornello structure he says 'Like Schenker's *Ursatz*, its [the ritornello scheme's] members "display complementary tonal features," by which Dreyfus means that only as a totality is their ultimate meaning secured.'[42] To Agawu, an individual musical moment can only be understood with respect to a greater whole. This coincides with the focus of the study so far. Specifically, Agawu's work is tonal and his writing regarding the beginning-middle-end paradigm focuses largely on tonal procedures. Because it is dependent on tonal conditions, it is apparent that Agawu does not believe that this paradigm applies to any

[40] Eason, "Cadence as Gesture", p. 272
[41] Eason, "Cadence as Gesture", p. 273
[42] V. Kofi Agawu, *Playing with Signs: A Semiotic Interpretation of Classical Music* (Princeton: Princeton University Press, 1991) pp. 26-50

given musical moment generally. When speaking of nineteenth-century music, Agawu states that 'The problematic of closure… challenges the integrity of the beginning-middle-ending model.' I do not see this as an obvious problem though, in fact the paradigm functions as well as ever. The fact that the music refuses to close, is itself an interaction with the paradigm. This observation impacts on the present study in that this playing with tonal conclusion grew, eventually, into atonality. For Agawu, this is a problem as there is no way to apply the beginning-middle-ending paradigm. Yet, if elements other than tonality can communicate beginning-middle-ending quality, then this problem is circumnavigated.

What Eason's approach does *not* provide is a means for describing and analysing various structural levels of a piece, which is essential to a structural approach of analysis. Schenker provides the model approach to this end, albeit in the analysis of tonal music.[43] The *Ursatz* is a metaphor which takes the form of a contrapuntal cadence.[44] Importantly, the listener does not hear or perceive this cadence in the same way as they hear and perceive cadences in the foreground. Instead, this metaphorical cadence represents the signals of something like the beginning, middle, and end of the piece of music. It is this structural layer of a piece of music which allows a listener to understand a given moment of music within a larger unit whole; specifically, they can understand whether a given moment is beginning something, continuing something, or ending something. Further, a given moment may have different temporal qualities, at different structural levels, several of which can exist including and between the immediate foreground, and the deepest background. That is to say that a middle section of a P-space ternary form may be continuing the P-space while at the same time be a part of a larger unit which begins the form of a piece of music.

1.2.3 – Brahms and Boulez Analysis

I take Hepokoski and Darcy's sonata theory as a beginning for the analysis of sonata forms within this study. Their initial work on sonata theory focuses on the eighteenth-century sonata, although one might make the case to extend their theory into neighbouring repertoire. There is a body of sonata-theory analysis which extends beyond the paradigm, including work on Brahm's music. Recently, there was analysis of Brahms which works within an extended sonata theory framework.[45] There is one such example

[43] "Schenker's theory" is an incomplete concept; it is considered not developed fully as of the time of Schenker's death. When I use the term, 'Schenker's theory' and other related concepts, I am referring to the theory in its more complete form as it exists after the passing of Schenker himself.
[44] Heinrich Schenker, *Free Composition*, Tr. Ernst Oster (New York: Longman, 1979), pp. 10-16
[45] This study meets a cross-section of this line of analysis. A total summary would be a misuse of space, but for further reading, see Peter H. Smith, "Parallel Binary or Tripartite? Formal Hybridisation of Sonata Types in the Nineteenth Century" in *Music Analysis* 40, 3 (2021) and Peter H. Smith, "Dvořák and

of this music in 2023, Benedict Taylor proposes that a large body of Brahms's sonata forms are best described as being a "new kind" of type-3 sonata form.[46] Taylor's approach of an extended sonata-theory focuses on what happens in the space after the exposition, which is some of the most characteristic sonata-form action of Brahm's sonata-form movements. This study's analysis of Brahms's music focuses on the exposition period of the sonata form. Taylor's extension of the theory does not concern this study and so, a straightforward sonata-theory approach is used as a syntax to describe the movement, and the work is analysed by a form-functional approach.

There is a body of analytical work, pre-existing the advent of sonata theory, which focuses on Brahms's expositions. Peter H. Smith made the argument in 2006 that harmonic cross-reference 'involves harmonic linkage designed specifically to efface a formal boundary.'[47] It is unclear in his writing what the conclusion to draw from this observation. It might have the effect of diminishing the function of the different formal units of the expositional space. Scholarship seems to depart from this line of study after 2006 and focus on the aforementioned dimensions of Brahms's sonata forms. Few are the consequences of this research for this analysis. The approach via the Schoenbergian cadence concept allows for a sonata-form analysis which is able to highlight the sonata principles at play even when the traditional means of their location are minimised or obfuscated.

The body of analysis on Pierre Boulez's music is much smaller than the body on Schoenberg and Brahms's music. The analytical work of foremost relevance to the current study is Peter O'Hagan's analysis of Boulez's second piano sonata in *Pierre Boulez and the Piano*. O'Hagan's analytical approach for the first movement is, self-reportedly, descriptive, and it focuses on the serialist forces which unfold throughout the work. The conclusion of O'Hagan's analysis is that 'the first movement of the Second Sonata was to remain a unique, if flawed example of the consequences of the destruction of traditional sonata form.' [48]The analysis which takes place in this study elucidates a different understanding of the movement, an understanding of the way in which the movement may be understood as goal-oriented and what the goals of the movement are. With that, this analysis sits in a gap that has not been covered by other Boulez analysis.

Subordinate Theme Closure: "Positive" Analytic Results for a "Negative" Approach to Romantic Form" in the *Journal of Music Theory* 64, 2 (2020)

[46] Taylor invents new notation for his "new" type-3 sonata form which is not reproduced here but accessible in Benedict Taylor, "Feinting Repeats, Repeating Feints: The Developmental "Double Return" in Brahms and Sonata Theory Typology" in the *Journal of Music Theory* 67, 1 (2023) https://doi-org.ezproxy2.lib.gla.ac.uk/10.1215/00222909-10232069 pp. 71-98

[47] Peter H. Smith, "Harmonic Cross-Reference and the Dialectic of Articulation and Continuity in Sonata Expositions of Schubert and Brahms" in the *Journal of Music Theory*, 50, 2 (2006) p. 143

[48] Peter O'Hagan, *Pierre Boulez and the Piano: a Study in Style and Technique* (London: Routledge, 2017) doi:10.4324/9781315517858 pp. 77-89

1.2.4 – Cage Analysis

In the case of the final piece to be analysed in this study, the process of analysis will unfold in much the same way as it did with respect to the first and second pieces. The step further which this analysis will require is the formulation of a more indefinite language and narrative of the piece. For example, a given moment has a particular character, irrespective of what comes before it or after it. One must then imagine a given musical moment as being a beginning, middle, and end all in one moment. In this way, the avenue through which one may arrive at an architectonic reading of this music will be reached.

John Cage's *One* for piano is a further departure from pre-twentieth-century compositional work than either of the preceding post-tonal analyses. Visibly, the music shows a clear difference from earlier music before any technical consideration. Audibly, the music does not behave in the same way either, but to realise this requires multiple performances and hearings. The difference is caused by Cage's approach to the compositional process and the logic particular to this piece. The rules for the performance are laid out in the beginning of the score,

> There are ten time brackets, nine of which are flexible with respect to beginning and ending, and one, the ninth, which is fixed. No sound is to be repeated within a bracket. Each ictus in a single staff is to be played in the order given, but can be played in any relation to the sounds in the other staff. Some notes are half from one ictus to the next. A tone in parentheses is not to be played if it is already sounding. One hand may assist the other.[49]

The compositional logic means that there is no prescribed structure to the combined music of the upper staff and the lower staff. Instead, there are two simultaneous prescribed structures one particular to each of the two staffs. This arrives at the central difficulty of analysing this piece of music. Each time the listener hears a given performance of this piece; they will be given a different general structural product because of the indeterminate nature of the composition.

Therein lies the concept which this analysis seeks to explore. Does this piece of music defy any kind of structural analysis? It would be unproductive to conclude so and would give a kind of imperceptibility to this piece which it does not deserve. Yet, analyses of the number pieces hitherto have been at once deferent to this imperceptibility and desperately mathematical in their approach. Take Alexandre Popoff's words as an indication thus, 'Speaking of the structure of a piece which is indeterminate in its realization has no sense: by definition every performance is different.'[50] In fact, every

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[49] John Cage, *One for piano solo* (Paris: Conservatoire National Supérieur de Musique et de Danse de Paris, 1973) p. 2

[50] Alexandre Popoff, "Indeterminate Music and Probability Spaces: The Case of John Cage's Number Pieces" in *Mathematics and Computation in Music*, 2011 pp. 220-229

performance is different, but it is not *completely* different. Instead, I suggest that the solution is quite simple and here I want to demonstrate the scale to which one can apply a gestural approach to analysis and the area of repertoire which this allows one to cover. *One* is not 'a piece' of music as Popoff puts it, it is two pieces of music being performed and perceived simultaneously, which is to say that there are two distinct sets of gestural information being performed and perceived. Thus, the analyst can reveal the structure which listeners will hear through two simultaneous analyses of the music of the high staff and of the low staff. In so doing, the apparent imperceptibility of this music is breached, which is a positive thing for composition-focused analysis and analysis more generally.

There is an appearance of self-evidence and obviousness about Popoff's assertion, which is a problem with which any analysis of this music must contend. Indeed, it is not an assertion which is unique to Popoff, but one which is made by other writers as well. Furthermore, the experience of listening to *One* persuades one towards this assertion of Popoff. In order to express, concretely, the difficulties of this analytical task, one must proceed into the details of composition again. It is true that the high staff and the low staff behave in compositionally separate ways and follow separate dramatic arcs, but at particular moments throughout the composition, the writing of the parts make it likely that the music of one staff will cross the music of the other. In such cases, how is the listener to perceive two distinct compositions? This leads towards Popoff's follow-up assertion that the only way to perform a musical analysis of this music is to analyse individual performances, or individual manifestations of the score.[51] But these individual manifestations are *not* the piece itself, and I believe that to analyse one of these manifestations while ignoring the compositional practice behind its existence to be a trivial matter. This analysis is the process of exploring the dramatic arcs of the two compositions and the answer to the question of what translates into perception.

To this day, analyses of the number pieces are *not* musical. That is, they are not analyses to answer Ian Bent's question "How does it work?"[52] These analyses are overwhelmingly mathematical and, furthermore, they are overwhelmingly interested in the behaviour of the time brackets. In the rare exception in which the analysis is not in answer of some kind of mathematical question, it ventures into philosophical and ethical questions. The questions posed in these analyses include "What is the impact of the time bracket selection procedure on the characteristics of the different sounds which may occur?" "How to make the link with their [the time brackets'] musical properties to improve the musical performance?" and "Why Cage felt that he had harmonized the Apollonian and Dionysian (and the ethical consequences that entails?"[53] Not one of

[51] Popoff, "Indeterminate Music and Probability Spaces", pp. 220-229
[52] Ian Bent, *Analysis* (London: MacMillan Press, 1987) p. 5
[53] Alexandre Popoff, "Exploring the Manifolds of Possibilities in John Cage's Number Pieces: A Statistical Analysis of *Four²*"; Benny Sluchin and Mikhail Malt, "John Cage's Number Pieces, a Geometric Interpretation of "Time Brackets" Notation" and Tobias Hünermann, "Back from Weather Which Had Been Reached to Object: John Cage's Number Pieces *Two* (1987) and *Four²*"

these questions answers the question of how the music works although they do explore interesting topics in themselves. These research questions are clearly in response to the phenomenon which Popoff observes in his claim regarding the soundness of an analysis which attempts to analyse a piece of indeterminate music. This is the context in which I introduce the present analysis. The work, *One*, features a number of musical processes for which there is an existing analytical method by which a musical analyst can approach the work.

Further, there is also the matter of indeterminacy itself to consider. By which one means the *changing* nature of indeterminacy as the term was applied to Cage's music throughout his career. The work selected, *One* is one of Cage's number pieces and these were written late into the composer's career. If one was to use the term "late period", this would be the music to which that term would apply. To borrow Hünermann's ethical format, Cage's music sought out a kind of total anarchy in composition which minimised the compositional subject and maximised the freedom of the performer.[54] The late number pieces are a kind of return towards balance between the compositional subject and the freedom of the performer. In this music, there is clearly a compositional entity to analyse, whereas this is not the case in other examples of Cage's music, perhaps the "Concert for Piano and Orchestra." This is summarised in the term used by writers and Cage himself, "anarchic harmony". That is to say a piece with indeterminate elements but a fundamental structure.

The relationship between this late music written by Cage and the music already analysed is in its hauntology. Indeed, this music is far removed in its compositional approach from the pre-twentieth-century music already discussed. But there is a historical through line in approach from Schoenberg to Cage. As James Pritchett notes, there are signs of Schoenberg's indirect influence upon Cage's work from his earliest compositions, inspired by Richard Buhlig's introduction to composition, structure, and counterpoint.[55] I speculate that this influence proceeds into the later compositions, and might be an influence on the renewed presence of the composer in the number pieces. Of course, the number pieces are, to a lesser extent than Cage's earlier music, anarchic, yet there is a new presence of composed material which presents the piece as a viable candidate for this study.

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[54] Tobias Hünermann, "'Back from weather which had been reached to object': John Cage's Number Pieces Two (1987) and Four[2] (1990)" in *Contemporary Music Review* 33, 5-6 (2014) https://doi-org.ezproxy2.lib.gla.ac.uk/10.1080/07494467.2014.998424 pp. 597-615.

[55] James Pritchett, *The Music of John Cage* (Cambridge: Cambridge University Press, 1993) pp. 7-10

First Analysis: Schoenberg, “Intermezzo”

2 – Introduction

This analysis subdivides into two parts, the first is a consideration of the movement’s dodecaphony. In this first section, I provide a description of the pitch content and any analytical considerations which can be made thereof using the concept of a Schoenbergian cadence. This involves a description of the dodecaphonic tone-row, its energetic features, and how it manifests into a system of cadences within the piece. In this section, I argue that Schoenberg uses the language of traditional cadence within the construction of this tone row to signal moments of cadence, and potentially even half cadence.[56] On the back of this reading, I analyse the non-pitch content of the piece. With likeness to the reading of the pitch content, I describe the behaviours of the non-pitch content and how these behaviours manifest with the piece as a system of cadences. In the end, this analysis brings into dialogue the pitch and non-pitch content, which is a slightly broader project than Eason’s Schoenbergian cadence concept, and considers the potential for a system of cadential hierarchy and graphic analysis.

2.1 – Pitch-content analysis

The entire Op. 25 piano suite is composed out of one tone row, which Schoenberg presents in the order E♮, F♮, G♮, D♭, G♭, E♭, A♭, D♮, B♮, C♮, A♮, B♭.[57] This row, in an isolated and unmeasured form, is presented in Figure 2.1 with the relative height of one pitch to another preserved. In the raw tone row presented below, there are a few initial considerations to make. First, there is a distinct downwards trend in the progression of the notes. The final three notes, C♮, A♮, and B♭ have a traditional cadence’s distinct appearance. By “traditional cadence”, I refer to the type of melodic content one might expect to see over a V-I progression in B♭ major or minor, for example. Of course, the B♮, C♮, A♮, B♭ is a retrograde of the name “BACH” which Schoenberg employs during this suite, in line with the Baroque or neo-Baroque format of the suite. This fact alone highlights its importance from the rest of the tone row. From this raw information alone, it is clear that the end of the tone row is designed to signal cadence. This observation is supported by the energetic content of the row. The downwards trend, “prolonged” by certain upwards leaps in the short term, has the character of diminishing energy and so increasing stability,

[56] This analysis is not serialist in the sense of describing every moment in terms of the tone row. For a fully serialist analysis of this movement, see Jack Boss, “Presentation of “Musical Idea” through Tetrachord Exchanges and Rhythmic/Metric Correspondence In the Intermezzo and Gavotte of Schoenberg’s Suite for Piano Opus 25” in *Intégral* 27 (2013) pp. 1-52

[57] For this presentation, see the opening bars, 1-3, of the suite’s “Präludium” in Arnold Schoenberg, *Suite, Op. 25*, Ed. Edward Steuermann and Reinhold Brinkmann, (Vienna: Univeral Edition, 1925) p. 44

which is characteristic of the end of something. Therefore, when applying this analysis to the piece under study, the content from the end of this tone row can be considered as signalling the ending of something. For reference and descriptive purposes, Table 2.1 presents a summary with bar numbers of the Intermezzo's apparent sections based on figuring as well as each section's relative closing quality.

Figure 2.1.1 – Simple presentation of the Suite's tone row

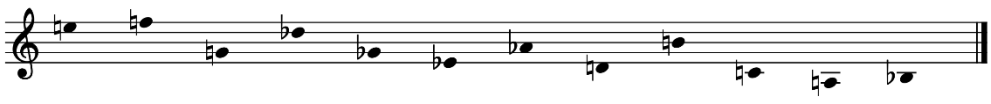


Table 2.1 – Summary of Form

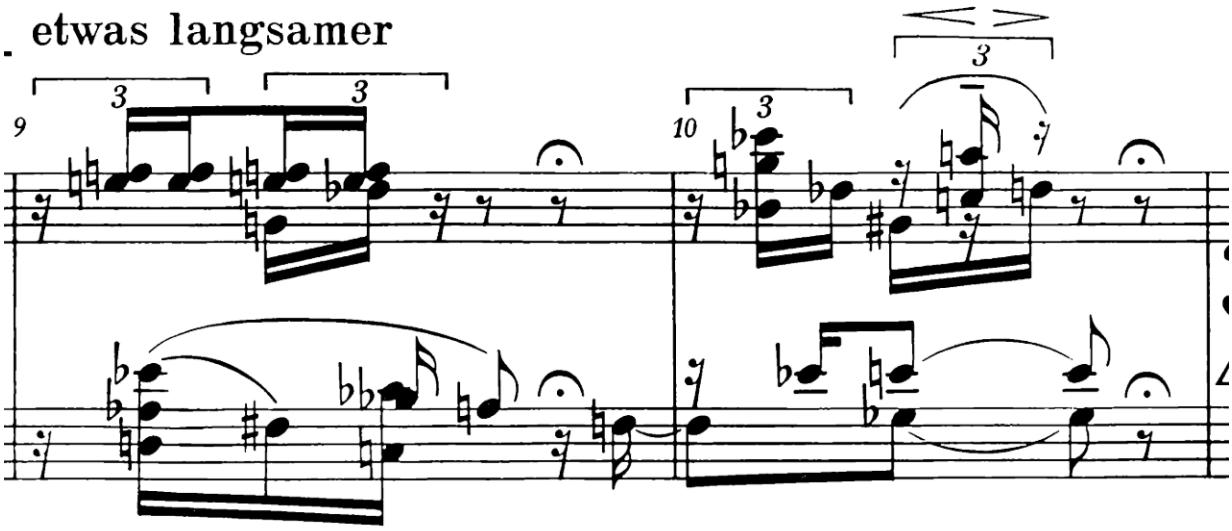
Duration in Bars	*Section*	*Closing Quality*
1-19	A	Weak
20-28	B	Weak
29-45	A‘	Strong

This row is worked into three distinct musical objects in the opening two bars of the "Intermezzo". First, there is a repeating accompaniment figure in the treble staff which uses the first four notes of the row. This figure is made out of the first four notes of the tone row. There are two small pieces of melodic content presented across two voices in the left hand which make up the second and third of the three objects. The second musical object uses the second four notes of the row, and the final object uses the final four notes. When considering endings, there is a clear one at the beginning of the second bar, wherein the hypothetical V-I in B♭ major would sound. Looking at the lowest voice, one sees the cadence highlighted in the analysis of the raw tone row. This cadence marked, even though three distinct elements of the tone row sound simultaneously.

Taking this approach to cadence identification, one can note other moments of cadential action within the A section by identifying this closing element of the row. During the similar musical content which follows in bb. 3-4, the tone-row material which makes this close can be seen in the accompanying figure. This has the effect of reducing the closing quality of the music, making it feel more like a continuation or prolongation. The next effective close comes in bar 9, where the flow of the accompaniment breaks and the music stops, see the pauses in bb. 9 and 10, which are reproduced for reference in Figure 2.1.1. I refer here to the notes B♮, C♮, B♭, and A♮, all of which are produced in the cadential "chord" from the final semiquaver of bar 9^1 to the ictus of bar 9^1. Note here the order of progression. Where before there was a progression of A♮ to B♭, there is now the retrograde progression of B♭ to A♮. This progression is certainly cadential, and if one accepts the premise that Schoenberg is using traditional cadential syntax, one can then consider this moment as a half cadence, which seems a curious claim to make regarding a non-tonal

piece of music, although is persuasive given the context. The notion of cadence degree or quality is not new to this study. It has been explored in historical musical analysis.[58] As such, I see no reason not to use it in the current analysis.

Figure 2.1.2 – "Half cadence" in bb. 9-10



The A-section then reinitiates in b. 11 with a passage of continuing quality which is similar to that described in bb. 2-3 and for similar reason. B♮-C♮-A♮-B♭ cluster, characterised by its potentially semitonal quality, once again appears transposed in the high register in the accompaniment's figuring, which I argue is "prolongating" because of the relatively continuing quality of the melodic material. See this moment in Figure 2.1.3. The music winds onwards for the duration of the A-section, without any firm ending gestures. Throughout the remainder of the A-section until bar 20, the figuring goes through a transformation where the predominant melodic focus shifts from the lower staff to the higher one. This marks the transformation from the A-section to the B-section, there is no firm cadence to mark its end. The other main marking of the B section the restatement of the melody from bb. 1-2, which takes place, transposed by a tritone, in bb. 21-23. This onset of the B-section is shown in Figure 2.1.4.

[58] David Lewin, "Transformational Techniques in Atonal and Other Music Theories", in *Perspectives of New Music* 21, 1 (1982) pp. 312-371 http://ezproxy.lib.gla.ac.uk/login?url=https://www.proquest.com/scholarly-journals/transformational-techniques-atonal-other-music/docview/1298095473/se-2?accountid=14540 Accessed: 9/8/2025

Figure 2.1.3 – Quasi transposition of bb. 2-3 in bb. 11-12

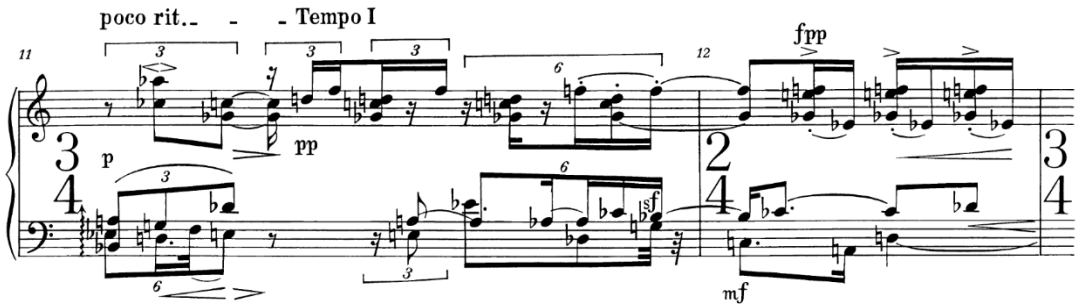
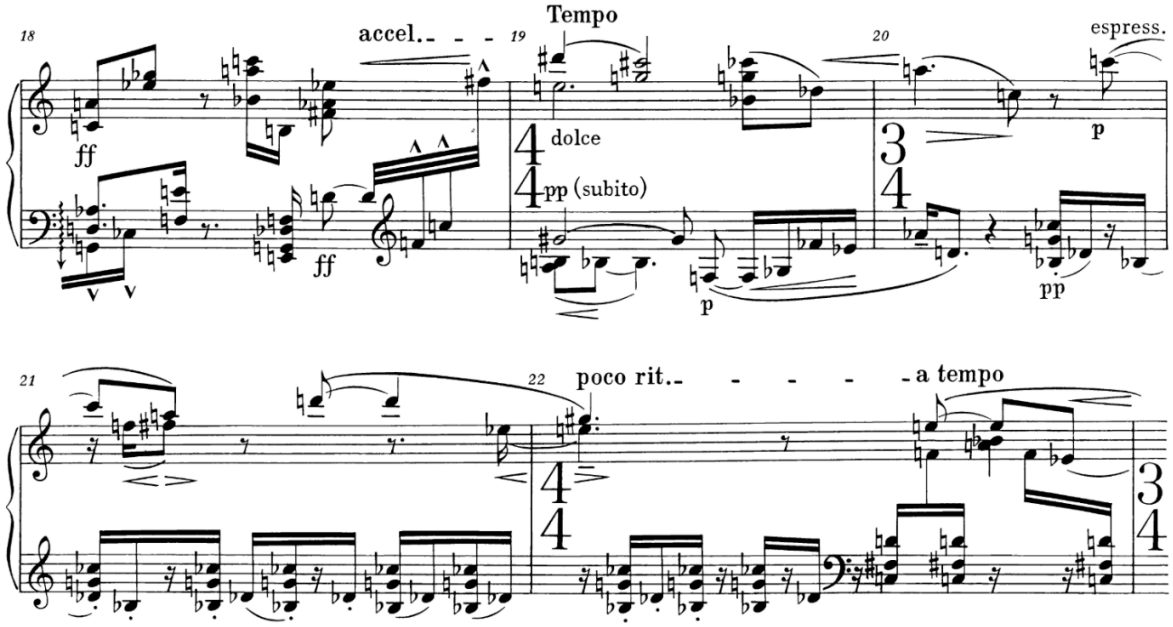


Figure 2.1.4 – Melodic restatement at the beginning of the B-section in bb. 21-23

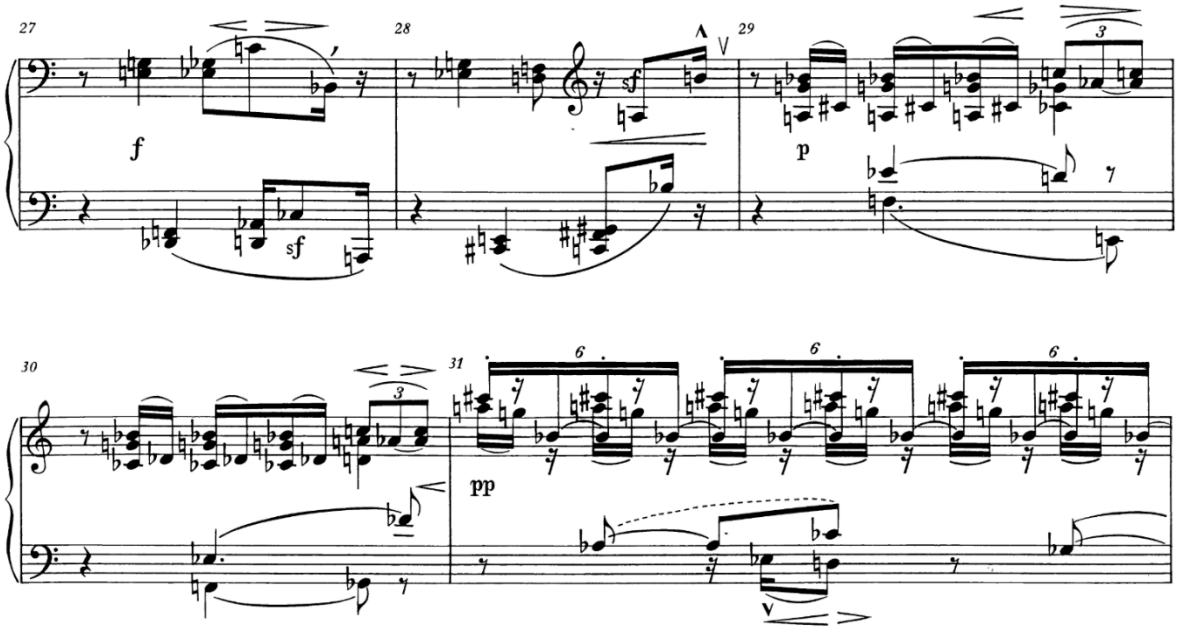


The B-section is short in duration relative to the A and A‘ sections. It essentially restates the material of bb. 1-3 in bb. 20-23 with the role of the treble and bass staffs exchanged. As such, the cadential content of these moments is the same, with a strong, although transposed cadence in bb. 21-22 and a likewise prolongating following in bb. 22-23. Similarly to the end of the A-section, there is no strong ending for the B-section, the four final notes of the tone row do make certain appearances, like that in the chord of bar 27’s first half. Otherwise, there is little to say about the B-section in terms of cadence. It might be read as a suffix to the A-section and the whole piece as a binary form. But either reading is possible. In either case, the point of the music is the same, the first section or sections make strong starts and weak endings, while the closing section makes a weaker start with a stronger ending.

See this weak start in bb. 29-30 which are given in Figure 2.1.5. The qualities of the accompanying and melodic materials are reversed relative to the material in bb. 1-2. The final four notes of the tone row are presented in the accompaniment’s figuring at their original pitch, along with some other elements. In addition, the B♭ and A♮ take place in

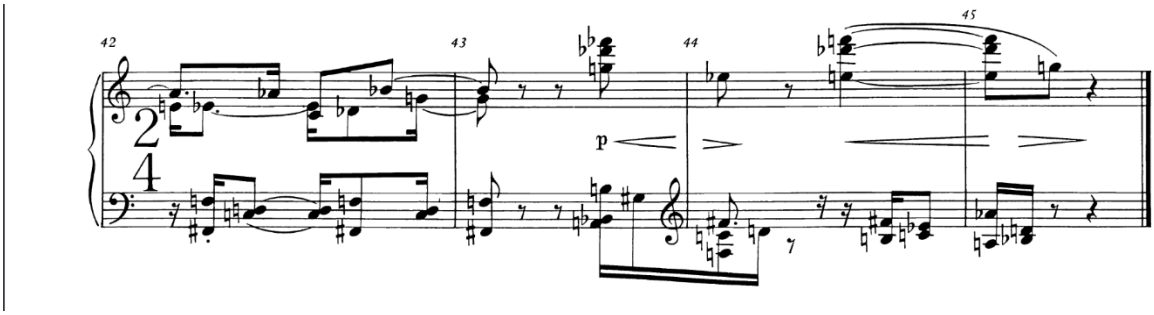
reverse order, in much the same way as the cadence highlighted in bb. 9-10. This contributes even further to an open ended or “weak” quality. The material from the beginning of the tone row makes up the melodic content and, in reference to the reading of the raw tone row, this musical content has the initiating quality of the tone row’s pitches. If this piece was tonal in the Schoenbergian sense, then one could read this moment by saying that it seeks resolution.

Figure 2.1.5 – Weak start of the A‘ section



Indeed, this resolution comes. When referring to the end of the piece, the B♮, C♮, A♮, and B♭ sound in order, in the lowest voice. This conclusion is shown in Figure 2.1.6, where one can see the clear statement of the end of the tone row. There is other musical content sounding which is derived from the tone row, but the bass voice is highlighted by the significance of the bass part at other structural moments within the piece. With these constituent pieces of pitch-content analysis, there are all of the required elements to begin the graph of a summary analysis of the piece.

Figure 2.1.6 – Strong cadence in bb. 44-45



2.2 – Analysis of non-pitch content

On the topic of the Schoenbergian closing cadence, Eason writes that the gesture 'is defined by its energetic shaping more than its constitutive pitches'.[59] While, the reading provided hitherto is useful, it is incomplete. For a broader story, one must consider the way in which Schoenberg has used non-pitch materials to craft the beginnings and endings. In doing the non-pitch analysis, there is a near identical behaviour emerging in terms of the closing quality in the piece's three sections, while there may be discrepancies at the foreground level. These smaller discrepancies are results of the fact that the two analyses focus on slightly different elements of the piece. This broad similarity of the two analyses shows that the combination of the pitch and non-pitch approaches may bear analytical fruit.

When analysing the non-pitch content of the piece, one notes the singing character of the music. Topically, this quality of the melodic lines tells the listener how to interpret the line as where it begins and where it ends. Having noted as such, the analyst is helped further by the overwhelming use of romantic compositional syntax as Schoenberg preserved much of the music of his antecedents even in his serialist music. This aesthetic through-line is what, Eason notes, allows for a meaningful gestural analysis in Schoenberg's music.[60] When looking at the piece through the lens off this musical syntax, there are groups of texture and timbre which contrast against each other as the music unfolds to give shape and colour to three distinct musical sections bb. 1-19, 20-28, and 29-45. In the two inter-sectional spaces, a kind of "fill" gesture serves a prefixal, or suffixal, function which itself suggests the existence of a punctuational caesura. These fill gestures are bb. 4 and 18-20. Within each section, one encounters the same fill gestures, which suggest themselves the existence of a sub-sectional punctuation. From these observations, one recognises a broad ternary form. As a further consideration, this shares many features with a Brahmsian intermezzo. The first of the three intermezzi in Brahms's Op. 117, shares all of these features and punctuational features with this piece.[61] This is in line with what Eason writes regarding the through-line from romanticism to Schoenberg.

These formal outlines are emphasised with dynamic and registral shifts as well as general coincidences of speed and rhythmic energy. For example, the end of the A' section stretches out horizontally, or sparsens in rhythmic content. The final two utterances are completely separated by a pause.[62] One other element which appears to

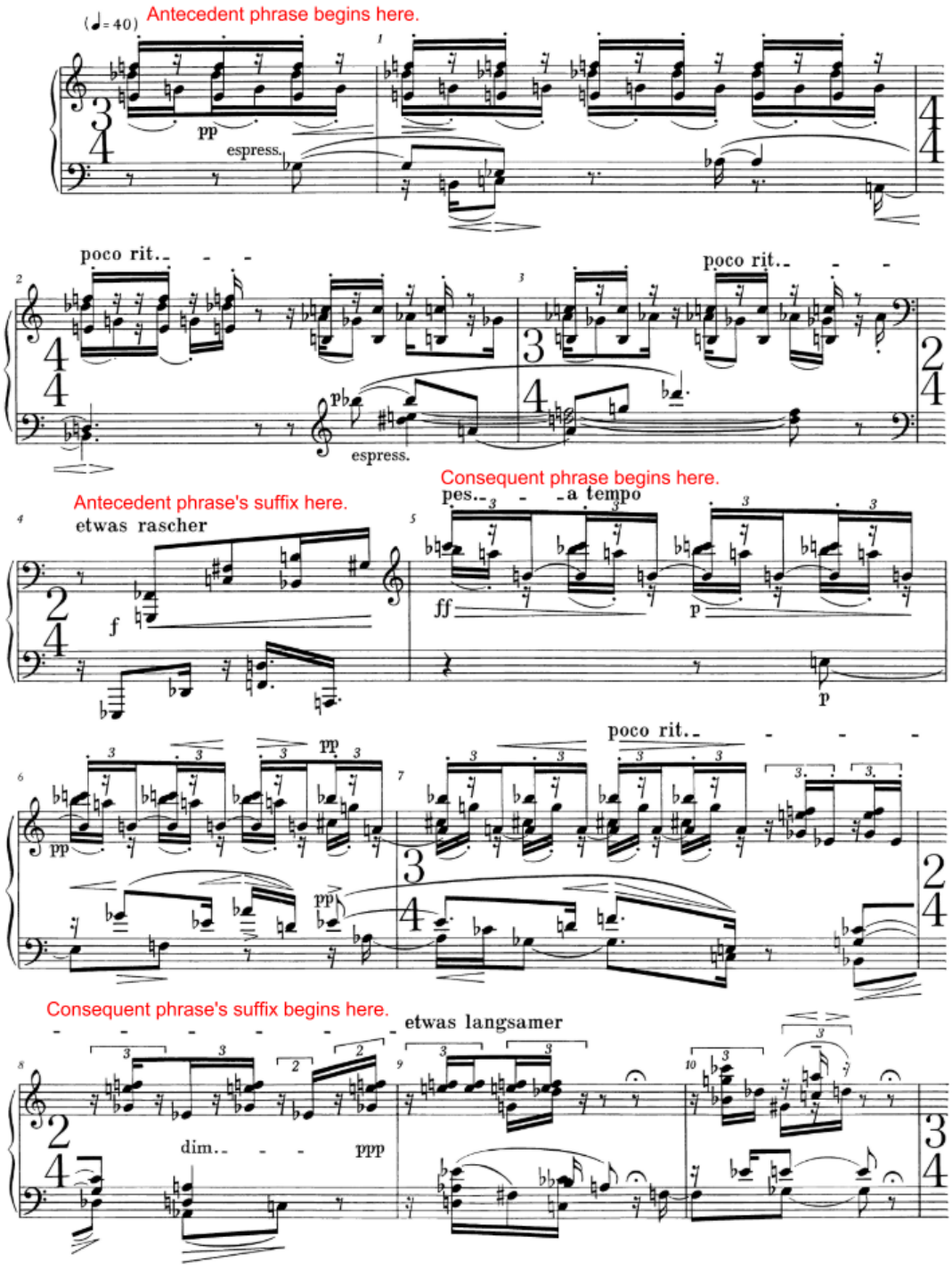
[59] Eason, "Cadence as Gesture", p. 286
[60] Eason, "Cadence as Gesture", p. 267
[61] Johannes Brahms, "Andante Moderato", *Drei Intermezzi*, Ed. C. G. Röder (Berlin: Simrock, 1892) bb. 1-20, 21-37, and 38-57 for an example of the three-part intermezzo structure.
[62] See here Schoenberg, "Intermezzo" bb. 43 – 44, which are given in Figure 2.1.6.

coincide with the rest of this preliminary analysis is the falling quality in the vocal line.[63] In a hypothetical case, where this is a tonal piece of music, the vocal line appears to function in quite a Schenkerian manner; it falls from a G♭, which a Schenkerian might choose to read as a structural F♯, to a D♮ from bar 1 to bar 16. This takes place over the course of two separate statements, so one might even go as far as to envision a two-part structure here. This is not a Schenkerian analysis of the piece, but this is to highlight the songlike quality at work. This falling itself coincides with other events, such as the textural signal as the conclusion of the vocal line. What follows in bb. 17-18 is a quasi-accompaniment gesture which serves as a suffix to the A section and also contains a gesture which is prefixal to the B section. The preceding evidence considered, the analyst may use moments of falling to support further and more refined reading elsewhere in the work. The falling between the already audibly and visually antecedent and consequent statements of bb. 1-4, and 5-10 is evidence which supports such a reading.

Yet, in Easonian terms, one can say that the "Intermezzo" begins its first section with an antecedent and consequent couplet, bb. 1-4 and 5-10 respectively as is shown in Figure 2.2.1 with the antecedent and consequent phrase annotated. Within the initial antecedent phrase, there is a finer sectional division. A tenor line sings underneath a twinkling and gliding accompaniment figure. Within the antecedent phrase, a small soprano response expands and colours the initial tenor statement, and at the end of the first phrase, in bar 4, there is a small, punctuational caesura. The reason for referring to this musical moment as antecedent and consequent is easily understandable. There is a clear figuring relationship between the first and second statement, as well as in the contour of the vocal lines. There is also a clear contrast in the pitch range of the first phrase and the second phrase, specifically in their general height. As has been established, this analysis will not go as far as to say that there is a functional or tonal relationship in these specific pitches, but neither does this analysis require this functional relationship. The simple existence of this pitch contrast is enough to inform the audience that there is a difference in the qualities between the two phrases.

[63] This is not to be confused with the falling quality of the tone row as already analysed. This refers to the songlike lines present in the "Intermezzo" itself, such as in Schoenberg, "Intermezzo" bb. 1-2.

Figure 2.2.1 Antecedent and consequent phrases in bb. 1-10



A slightly more challenging question remains as to the determination that the *first* phrase is antecedent, and the *second* phrase is consequent. The most obvious answer is chronology, although it is also the least persuasive. In music older than that of the present analysis, such a question is all too easy to answer. There exists an entire system of tonal language, cadences, and pitch hierarchies, by which we analysts may conclude that a statement is of an unfinished quality and therefore that the one which comes after it is of a consequent quality. In the piece at hand, this language is of no use to the analyst.

Although in a similar manner to which the problems already confronted were resolved, one may resolve this one.[64] One requires not the existence of the language itself, but only the reference to remain in its absence. This being one of Schoenberg's earliest serialist works, the reference is still there, in the same way as it is with other elements of the composition. The vocal quality of the melody and the lilting, falling nature of the first phrase to the second phrase echoes the lilting, falling quality found at the end of any nineteenth-century song. As such is the case, one may see that this musical element signifies a cadence; this energetic behaviour and a cadence are one in the same insofar as it fulfils the structural role of a cadence, a statement from the composer to the listener as to the location of the musical moment at hand within the greater musical work. This calls on the concept of hauntology, which will be exploited more fully in later analyses.

One further word as to how the statement closes, it winds down to a complete halt, a place of lower energy than the beginning. A "jump" is required if the piece is to continue on for any further duration, as indeed it does. This jump is provided straight away in the prefixal statement at the beginning of the following statement, there is an increase in the number of voices in the texture, in the overall dynamic, and the rhythmic quality of the music.[65] This has the same quality, in terms of what is promised and what is provided, as to an authentic cadence at the end of the P-space. Therefore, the analysis shows how a comprehensive reading of this phrase may be reached. Not once was an observation made based upon outmoded tonal-theory. It is possible to read this piece down to the quality of the phrase compared with that which precedes it. This analysis is made possible, entirely, through the interpretation of gestures, spectres of a music theory which once existed but does no longer.

An analysis of some kind has been made. As before, the path by which one may transfer these findings to a more formal analysis must be rediscovered. In the case of a tonal composition, the means are well understood by which criteria are discriminated so as to arrive at the heart of the composition, and at the understanding of its logic. This is possible in large part because there is a system, which was developed over centuries, that accounts for each discrete musical element. The present analysis may not use that system. As things are, the analysis says that the first phrase in the movement is antecedent, and the second is consequent; it cannot say, with any amount of precision, as to the discrete note upon which the first or second phrase cadences. At this moment, I go even further beyond the threshold reached by Eason. There is no theory of note function in operation. So, there is no mechanism by which an analyst could discriminate between, as an example, the tenor F or the following E♮ in bar 7 as to its function. A Schenkerian might be inclined to conclude that the E♮ marks a cadence point, offset and

[64] At this stage, my analysis proceeds to a structural stratum considered beyond reach by Eason. See Eason, "Cadence as gesture", 269-273 for a more detailed description of his approach here.
[65] Here, I use "voice", in the more abstract sense of parts sounding, simultaneously. Differing from my earlier use of voice as an abstract descriptive name for the melody line of the piece at hand.

decorated by the F which comes at the end of a higher-register, cover line. This might make intuitive sense for a number of reasons: 1) the close registral relationship between the G♭ at the beginning of the entire statement and the E♮; and 2) the aforementioned cover-line quality of the vocal line in bb. 6-7; 3) the accented minor ninth leap from the F to E♮. Once again, this observation is entirely meaningless in the present analysis. There is no system by which one may draw out a hierarchy amongst the pitches. The gestures communicate much of the information regarding pitch hierarchy without needing such a theory. The very existence of a covering line, which is what bb. 6-7 gestures, suggests the hierarchical relationship between the notes of this line and those which surround the gesture in the lower register. The first observation about pitch hierarchy is that those of the cover line in bb. 6-7 are of a more superficial formal significance than those of the lower register.

With this observation, one can continue to infer that the voice-like response to the antecedent phrase's initial tenor utterance in the soprano register is of a similar formal significance the cover line. One might imagine this moment as a kind of cover line itself, although one would expect few physical voices to cover this entire range. Further, the use of romantic syntax here has itself commented on the structurally significant moments of this statement. One may interpret bb. 1-2 and 7 as the most significant formal moments of the phrase, for the plain fact that these are the only remaining moments with tenor notes in the more structurally significant range.

The next issue is as to how one might discriminate between notes within the line. Here, one may look to the other musical elements for guidance. Taking the cadence point in bar 7 as a starting point, there is nothing to discriminate, as the E♮ is the only note in the significant range. Thus, this E♮ is the moment of cadence, there is no dispute. Note that it finds retroactively this cadential quality, it did not receive it from a pre-existing system. The initiation of the statement is more complex. The score indicates two utterances, the falling of a G♭ to E♭ and then a small consequent, at least in the purely temporal sense, A♭ falling to D♮. Here, the composer or analyst familiar with tonal music might be reminded of the characteristic expansion of a third to a tritone as the harmonic step progresses from the I to the V chord.[66] Naturally, this is not the case here, but the utterances are similarly relational. What is less obvious is as to which utterance is of greater structural significance; that is, whether the first utterance is prefixal or whether the second utterance is suffixal. Non-pitch elements run through the two utterances relatively straightforwardly, but there are two subtle gestures which provide a solution: 1) a brief dynamic flutter in the accompaniment upon the sounding of the G♭ in the first utterance; and 2) a slight diminishing in the tempo around the utterance of the second gesture, already associated with moments of a lower structural significance. Therefore,

[66] Here I refer to the the specific voice-leading event depicted in the first figure of Fux. Johann, *The Study of Counterpoint*, Tr. Alfred Mann, (London: WW. Norton, 1971), 136, between the soprano and tenor parts.

the analysis can conclude that the first utterance is of greater structural significance and the initiator of the action for the entire statement.

An issue remains as to how one is to make the still finer distinction between what would be harmony notes, and those which would decorate and colour them. Assuming that such a distinction is possible, one possible method might be to consider the relationship between notes and the other musical elements. Take for example the initial minor third utterance of the tenor voice between G♭ and E♭. Other musical elements offer little assistance in making a distinction. The crescendo which distinguishes this first utterance from the second in the brief opening phrase is repeated on both the sounding of the G♭ and E♭. Considering the logic of the statement in its entirety, and the pitch level of the later cadence, the G♭ would be "falling" to the E♮ while the E♭ would "rise", which makes little sense in the current paradigm which is echoed here by Schoenberg. With this key, one can then unlock a reading of the second utterance using the similar gesture and performance direction of Schoenberg to infer the same structural system at play.

The following three bars, 8-10 continue the first half of the A section, a suffixal codetta. The incidence of musical events spreads out across time, following the close, or quasi-close in bar 7. There are directions in the tempo to slow down and fermata markings on the music itself. All of these are long-established tropes of the coda and codetta. If this music were a song, this moment would be a little interlude played by the accompaniment. No vocal line sounds at this moment, despite the relatively expansive texture in terms of the number of voices in play at the once. Therefore, there is no structural event to be observed in the construction of the vocal melody. The music goes nowhere; it stays in one place. This in itself is an energetic statement, which coincides with the previous analysis's finding of a half cadence in bar 9. These two readings may thus reinforce each other.

The second subsection of Section A commences in bar 11. The music reignites itself with a brief flourishing and ascending gesture, that is bar 11^1.[67] This moment is accompanied by a rise in the dynamic, which then falls, although not to the depths of the preceding moment. The phrase proper begins in bar 11^2. As in the first subsection, the vocal line emerges in the tenor voice. Comparing the melody of the second subsection to the former, the vocal line is more tangible, immediately available to the ear. There is one continuous tenor line, unbroken by rests or pauses from bar 11 to bar 13^1 which is followed by some minor closing material akin to that of bb. 7^3-10. Despite the lines diverging shape from the first one, there is a similarity in the overall trajectories: they both end up travelling from the initial tone to a cadence on the tone below it. There is an ascending character in the line of bb. 11-13, as if it was striving upwards and away from the imminent closure of the phrase in bar 13. This cadence is emphasised by the

[67] Similar to the concept of Kopfton ascent in Allen Forte and Steven E. Gilbert *Introduction to Schenkerian Analysis,* (London: Norton, 1982).

structural expectation established by the first subsection, the dynamic accenting of strong beats in bar 12, and the simple temporal placement of the G♮ in bar 13. Similarly to the opening of A-one there is a consequent codetta in a higher register which does not carry the same weight as the preceding line. This moment in bb. 13-15 relaxes again to the point of requiring a further resuscitation, which arrives through another ascending gesture at the end of bar 15.

While the following phrase in bb. 16-18 does feature a small tenor gesture, specifically in the right hand of bar 16, there is no real song at play here. Instead, this vocal gesture feels more like a timbral echo than a phrase in itself. The overall character of this music is to build dynamically towards the onset of the following section in bar 19. The nature of this second subjection gives it the feel of a truncated repeat of the material exposited in the first. There is no two-part, antecedent or consequent phrase, only one phrase which closes itself, before an echo disguised as a consequent phrase but in actuality a building continuing phrase follows. This imbalanced form creates a dissatisfaction in the listener.[68] This dissatisfaction is the force which propels the music into a second section. One might go as far as to conclude that Schoenberg was aware of this and the need to propel the music into the second section, as he seems to propel the music with a dynamic and temporal increase. This increase continues to the end of bar 18 where the texture breaks and an accented caesura fill, as it would be described in tonal analyses, bridges sections A and B.

Section B is a recasting of the material in Section A. This section appears to begin with a recapitulation or a repurposing of material from the equivalent moment in Section A. After a brief moment where the dynamic returns from the boiling over at the end of Section A to the simmering calmness of the second section, the tenor line is reproduced in a very high register. It would be sung by a treble or soprano, although this is stretching the limits of these ranges. The effect of the piano music is a very sweet and otherworldly texture, floating above a relatively high accompaniment figure. The audible sweetness of this presentation of the melody contrasts with the darkness of the first presentation. This opening phrase concludes in the same way it does in Section A, that is, begging a consequent concluding statement. The similarity of figuration with Section A continues through to bar 24. At this point, the structural paths which had been running parallel diverge and a kind of developmental phase begins. This stretches the listener's expectation of a consequent phrase out through to bar 32, where the tenor material from the A section's makes a reappearance.

This "development", or bb. 25-32, consists of four repetitions with the character of a more contrapuntal piece. The vocal line is passed through three of the four main

[68] This is similar to Hepokoski and Darcy's concept of "success" and "failure". James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types and Deformations in the Eighteenth-Century Sonata*, (Oxford: Oxford University Press, 2006) pp. 306

voices. Any vocal line is absent from repetitions Two and Three. The character of developments and continuing phrases more generally is that of prolongation. The music does not go anywhere meaningful during this period; it is only *going*. Therefore, it holds little bearing on the analysis except for the fourth repetition in bar 31. This borrows from the figuring of the first melody. In fact, it is broadly the same. This links the music back up with the moment from which it departed into developmental space. This presentation of the two melodic lines is the clearest with the least temporal distance between them. One might note this moment as a third return of a recurring theme; indeed this is where the previous analysis marked the beginning of A‘ and there is no reason to disagree here.

When examining the end of the phrase in bar 33, one will notice no cadence at the end, as there was in Section A. The note sought, G♭ never arrives until the vocal quality of the music has passed, and the music itself has passed into a kind of accompaniment postlude. This lack of conclusion provokes a relatively expansive ending; it sounds more like a slow ebbing than a sudden conclusion. In the language of energetics, this communicates conclusion. The material of bb. 34-45, grows out of the continuing material bb. 8-10 and is repetitive and fragmented as in the development of section B. A notable G♭ sounds in the accompaniment at the end of bar 37, but whether some conclusion can be drawn from this moment as to its cadential quality seems unlikely to me. The interpretational apparatus of the vocal line is of no use at this point. Conclusions may be drawn from the other musical elements only. It is quite an open-ending then, although definitely concluded. There is a low tension although the pitch content provides a fuller understanding of this moment.

2.3 – Final summative analysis

Both pitch content and non-pitch content considered, there is now sufficient means to begin the graphing of the music. The point of this movement is the general lack of closure, or ‘failure’ of closure in its first half, that is sections A and B, and the successful closure in the second half, that is the A‘ section. This is perhaps most evident in the pitch-content analysis which reveals a system of cadence and half-cadence communicated through the construction of the tone row. As noted, previous analytical approaches have taken the view that this is in fact a binary movement, but I do not take this view for the reasons stated previously.[69] Despite this, the choice of either ternary or binary analysis does not impact upon the broader reading of the analysis. As the point is still the same in either case. The piece’s form is communicated both through the means of pitch and through the means of other musical elements including pitch range, figuring, and timbre. One element which remains fairly consistent throughout is texture, except for key suffixes which mark important structural moments. These textural changes are, primarily the breaking of the songlike melody and accompaniment texture into a more homophonic

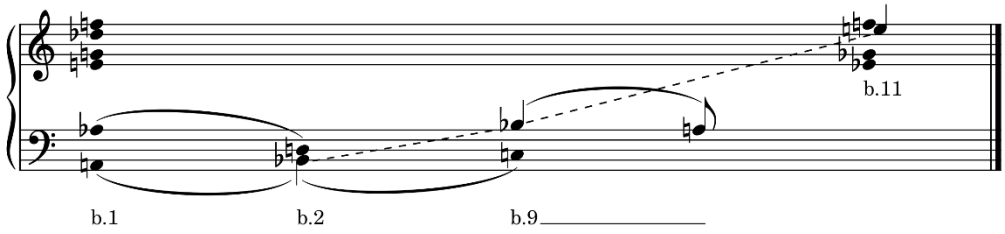
[69] Boss, “Presentation of “Musical Idea” through Tetrachord Exchanges and Rhythmic/Metric Correspondence”, pp. 4-5

mind of texture, the primary instances analysed being bb. 9-10 and bb. 44-45. These moments serve to communicate a sense of closure which allows for broader conclusions regarding form to be made.

In constructing the graphic analysis, I will consider each of the three sections in turn, beginning with the A section. In terms of important structural nodes, there are a few to note. First, there is the highlighted strong cadence in bb. 1-2 and that of bar 9, which is identified by its pitch content and its textural shift as well as the energetic diminishing of the rhythm. The difference between the first and second of these two cadences being that the first is strong and the second is weak, leaving room for the piece to develop. When the song reinitiates in bb. 11-12, there is a weak quality in the music because the closing material is placed in the accompanying figuring. As stated in the analysis of the pitch content, the end of the A section meanders without a strong cadence until the B section makes its arrival clear with the transposed statement of the melody from bb. 1-2 in bb. 20-22.

With all this information the A section can be graphed, which is presented in Figure 2.3.1. In this graph, the reader can see which voice at any one time has the structural importance, based on which voice bears the stem. I have shown the hierarchy in cadential action via the use of crotchet and quaver stems. This leaves room for the use of minims to denote notes of deeper structural significance in the construction of the final graph. The graph shows the prolongation of a B♭ through the first half of the A section which is first established by cadential action in bb. 1-2 and prolonged by half cadence in bar 9. When constructing the graph, I had to consider which of the notes in bar 11 was the structural one. When considering the order of the transposition, the E♮ in the transposition corresponds to the B♭ in the original melody and so this is the continuation of the same structural event. This is supported by later evidence which arises when considering the analysis of the B section.

Figure 2.3.1 Graph of the A Section[70]



The B section has less substance than that of either the A section or the A‘ section, being both the shortest section in duration and the section with the least cadential content. This action in the B section serves to reinforce the high E♮ via the same cadence which establishes the B♭ in bb. 1-2, which gives this E♮ a higher status within the structural

[70] In these figures “b. 1” refers to bar 1 of the Intermezzo, “b. 2” refers to bar 2, and so on.

hierarchy of the piece, indicating some kind of structural pitch shift. In other language, one might suggest that this is another "chord" which is being composed out. Depending on where one draws the line, one may suggest that either the E♮ of bar 11 or the E♮ of bar 22 is the structural tone while the other is either a prefixal or suffixal prolongation. I have shown the first option in Figure 2.4.2b, but either option is viable. In the construction of Figure 2.3.2b, there is a clear picture of the prolongation of first a B♭ tone and then an E♮ tone.

Figure 2.3.2a – Graph of the B section

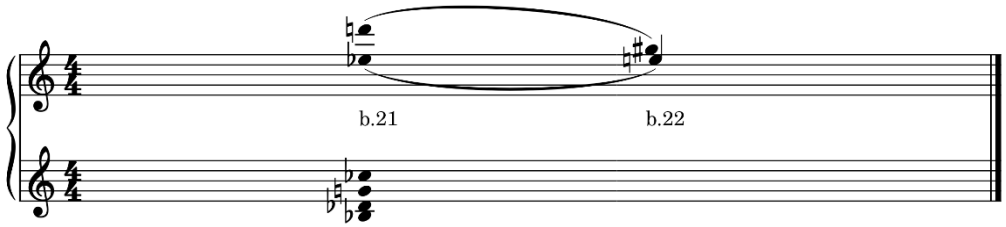
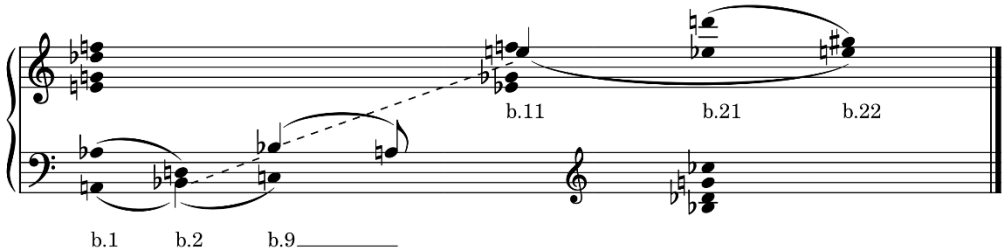


Figure 2.3.2b – Graph of the A and B Sections



The A' section is the antithesis of the A and B sections. In terms of the cadential quality, there is a lack of strong cadence at the beginning, which in turn begs the strong cadential ending. This strong ending is eventually delivered by the end of the piece, as shown in Figure 2.3.3 which graphs these essential moments of the A' section. In the beginning the graph shows the playing of the B♭ to C♮ and back again in the upper accompaniment from bb. 30-31. In the same manner as was analysed earlier in the piece, this syntax diminishes the play of the Bb and Cn. Instead, I present that the important structural note here is the B♮, which lies in the same octave as the B♮ of bar 44.[71] This then leads into the final cadential action of the piece which is centred around the B♮-C♮-A♮-B♭ in bb. 44-45. With the analysis of the three sections, I am able to construct my summary graphic analysis, which is provided in Figure 2.3.4.

[71] This B♮ is a C♭ in the musical foreground, but I refer to it as a B♮ mainly because of its role in the name 'BACH' from the tone row.

Figure 2.3.3 – Graph of the A‘ Section

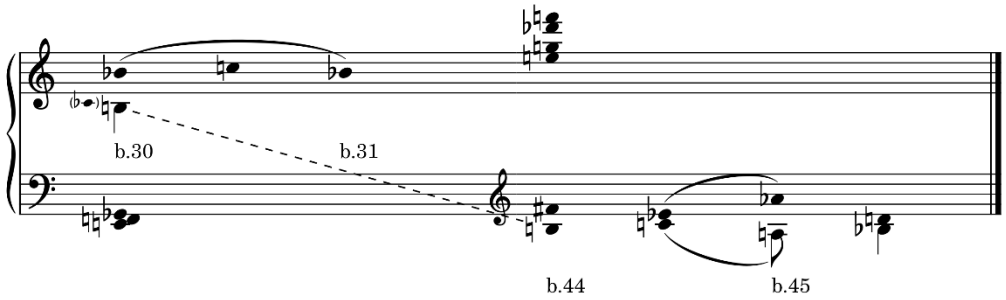
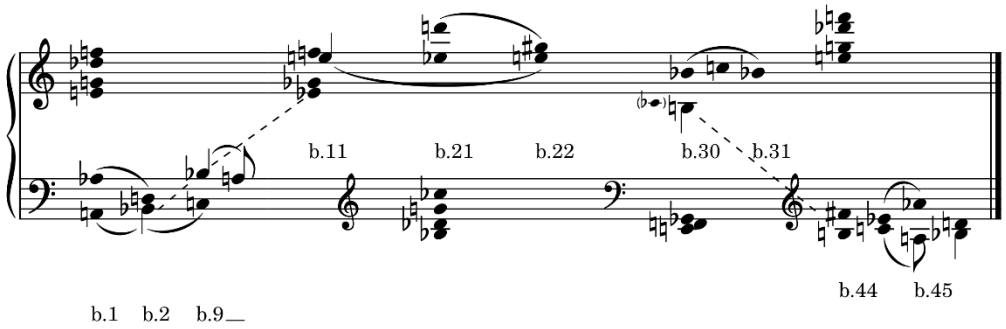


Figure 2.3.4 – Graph of Schoenberg’s “Intermezzo” from the *Suite for Piano*, Op. 25



In this analysis, I have shown how Eason’s Schoenbergian cadence concept may be adapted slightly to include the dimension of pitch. In doing so this allows for a description and consequent analysis of the pitch-content in Schoenberg’s music using fundamentally energetic means. This allows for a broader analysis of the music. I have used this analysis in combination with a more Easonian analysis of the music’s non-pitch content in order to arrive at sufficient analysis to construct a series of graphs. The graphs demonstrate the way in which this piece can be conceptualised as a composing out of a number of key cadential events and how these key cadential events interact with each other. Further analysis of other serialist Schoenbergian pieces might even be able to reveal further tonal systems like the “chords” of the kind shown in the graphs.

Analysis 2: Brahms, Piano Sonata No. 3, I

3 – Introduction

An analysis of tonal music using a Easonian approach demonstrates what this approach offers compared with other analytical modes. As Schoenberg was familiar with Brahm's repertoire, this study takes the first movement of the latter's third piano sonata as a subject to demonstrate the way in which a gestural analysis looks when applied to tonal music. For the purposes of this analysis, the focus is the exposition. Being a mid-nineteenth-century sonata form, even the form of the exposition departs quite significantly from the norms described by Hepokoski and Darcy. In brief, there is a P-space in bb. 1-22 in F minor. The T-space occurs in bb. 23-35 before the dominant lock and medial caesura in bb. 36-38. As a consequence of the nineteenth-century composition, it is a strange kind of dominant lock which features both the dominants of the P-space tonality and of the S-space tonality. The S-space commences in bar 39 and continues through to bar 55, after which the C-space reorients the music back towards the beginning of the P-space, and the development upon the obligatory repeat. Table 3.1 gives a brief summary of this exposition's events.

Table 3 – Summary of Brahms's exposition

Duration in Bars	*Action Space*	*Module*	*Tonality*
1-22	Exposition	P-space	F minor
23-35		TR-space	Modulating
36-38		MC	HC in A♭ major
39-54		S-space	A♭ major
55		EEC	AC in A♭ major
56-72		C-space	Modulating

3.1 – Analysis of Exposition

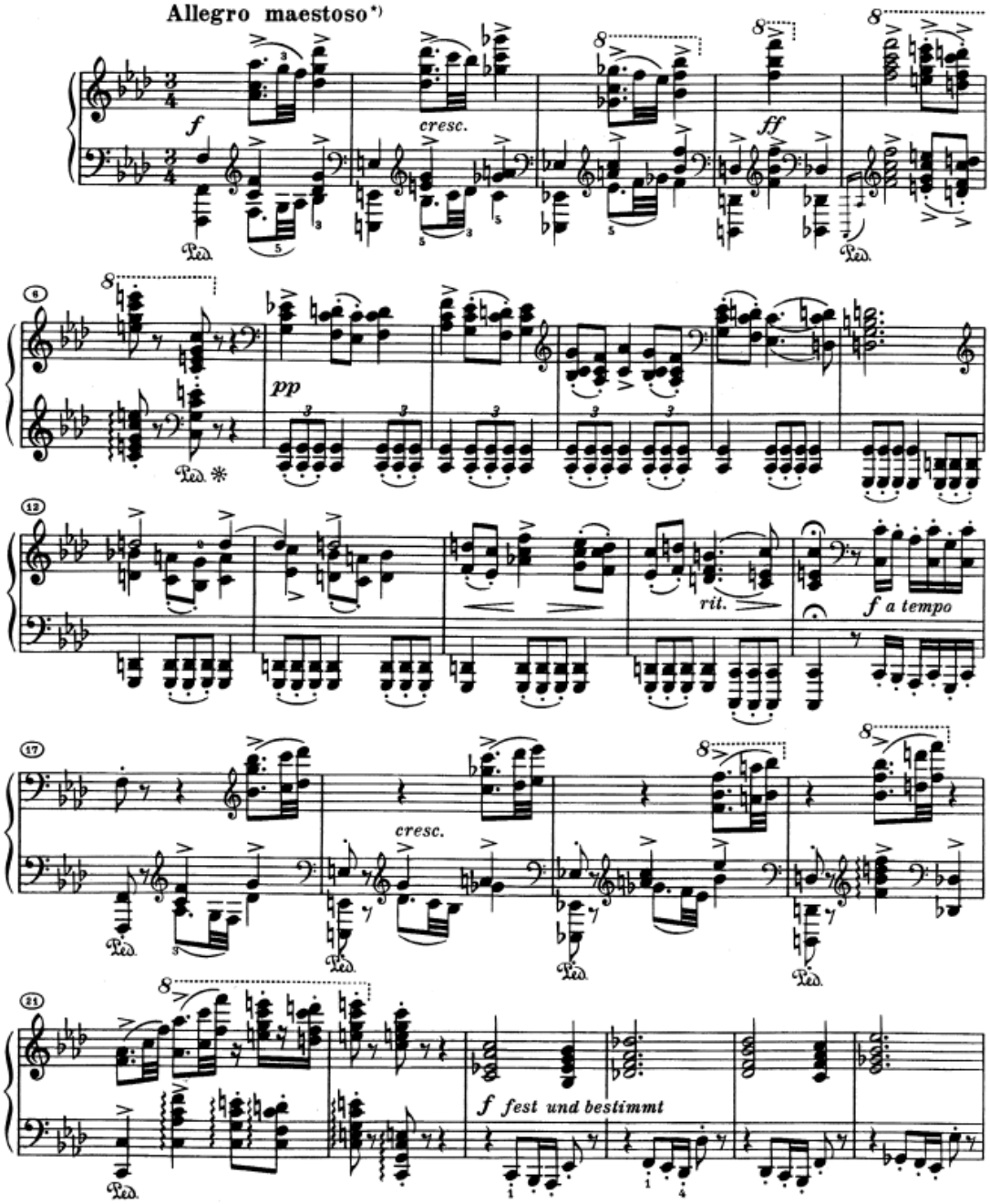
The P-space consists of a three-part, ternary structure. This structure is easily observable by the pattern of figuring with an initial section in bb. 1-6, then a contrasting "Beethovenian" figure in bb. 7-16, and a third section of material which is clearly related to but not identical with the first in bb. 17-22. These passages are presented in Figure 3.1.1 for reference. Pitch plays a more obvious structural role in this piece than in others which are to follow later in this study. As such, other elements including dynamic do not follow such obvious structural arcs and serve secondary structural functions when compared with their roles in the later pieces in this study. The A section of the P-space consists of an ascent to a pitch climax in the first four bars which falls slightly into bb. 5-6. This marks a clear cadential gesture. Note that this conclusion can be reached without

the obvious tonal context of the moment, which is to say that it depends not on any theory of tonality which might ordinarily be applied to this music. The significance of this moment is highlighted by the simultaneous increase of the initial forte dynamic to fortissimo. This moment actually serves as the climax of the entire exposition there is no moment in the following material which increases upon the strength of this climax. This moment occurs very early within the form of the sonata exposition. This frames the rest of the exposition as less dramatic than these opening bars. One could say that the effect is one of two normal expositions being smashed together with the result being the first six bars of one exposition and the rest of another. Figure 3.1.2 provides a graphic analysis of this moment in the opening six bars.

The B section of the P-space ternary serves as its own structural unit, but also as the initiation of the build towards the eventual moment of closure in the exposition. The dynamic is reduced right down to a pianissimo with a lilting melody that falls to rise back up and fall again. By contrast with the A section, this is the lowest amount of tension in the piece, and it allows for an ascent in tension back towards the moment of the EEC. The A' section has much the same dramatic curve as the A section, but with the key difference that the dynamic does not arrive at the climax of the earlier one. When consulting Figure 3.1.2, there is a forte dynamic reached before the climax which is ascended beyond slightly but not as far as a fortissimo before returning to the forte at the beginning of the P-space. This creates a sense of closure, but one which is not as definite as the one in the A-section. The ternary structure of the P-space may be understood as a means for expanding upon the figuring of the opening bars, but in terms of the dramatic curve, the purpose of the P-space is achieved by bar 6.

The figured TR-space, bb. 23-35, continues to escalate the upwards dramatic curve which initiated in the B section of the P-space. Again, this is shown through a diminution in note value and a diamonding in texture. The dynamic actually decreases towards the onset of the MC and S-space in preparation for the more delicate figuring which signifies the S-space material. This T-space, including the brief MC is only 16 bars in length and it makes more sense to understand this as part of a greater dramatic arc beginning in the P-space B section. Figure 3.1.3 shows this dramatic arc in its annotations.

Figure 3.1.1 – P-Space of Brahms's Exposition in bb. 1-22[72]



[72] This excerpt is taken from Johannes Brahms, *Sonaten, Scherzo und Balladen*, Ed. Walter Georgii (München: G. Henle Verlag, 1956) p. 74

Figure 3.1.2 – Graph of the energetics of the opening cadence in bb. 1-6

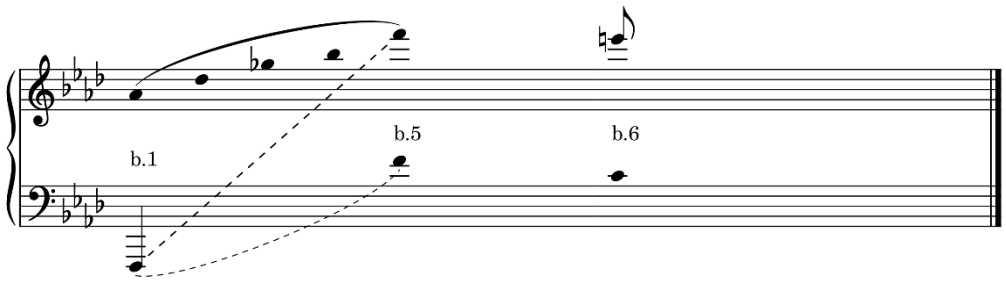


Figure 3.1.3a – Annotations showing the dramatic arc of from bar 7 to the medial caesura

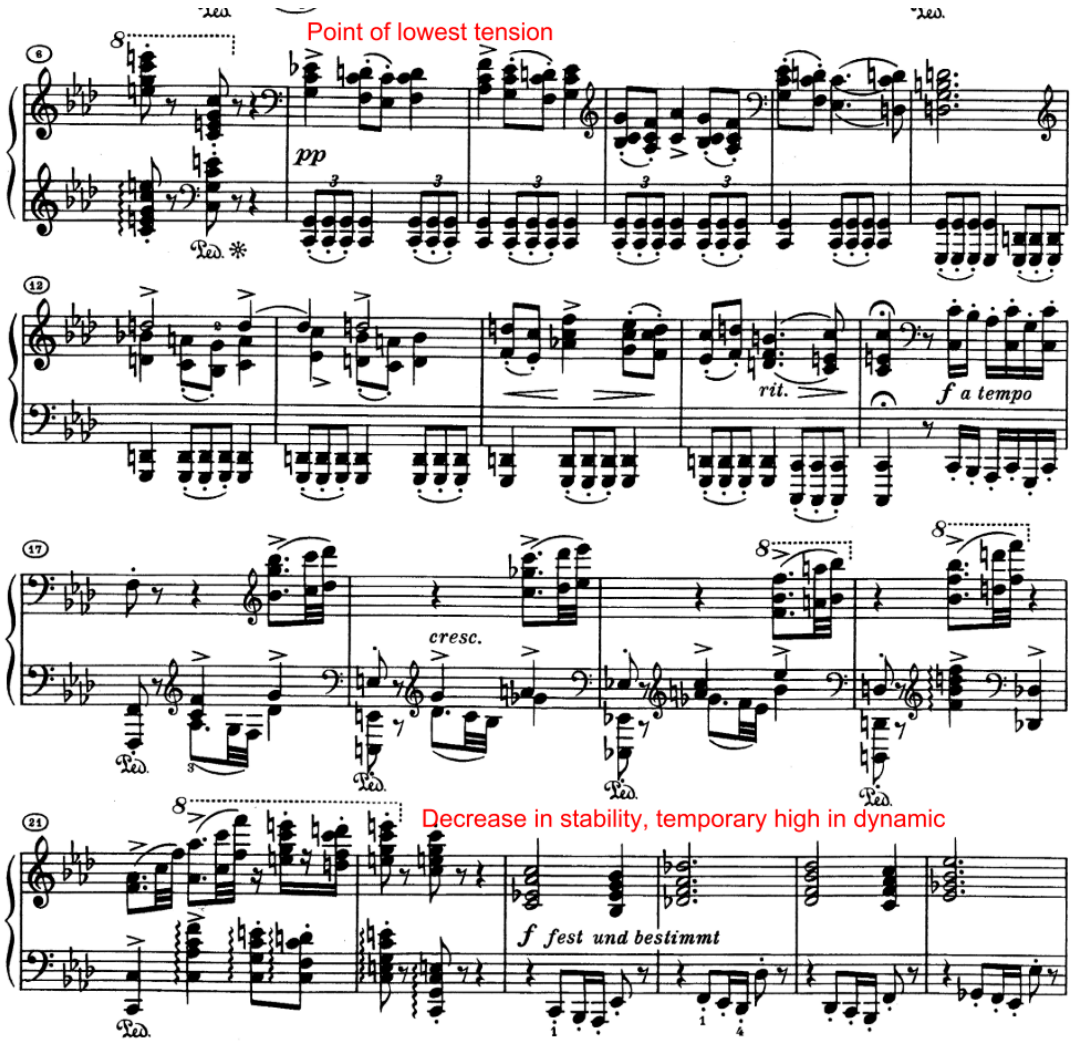
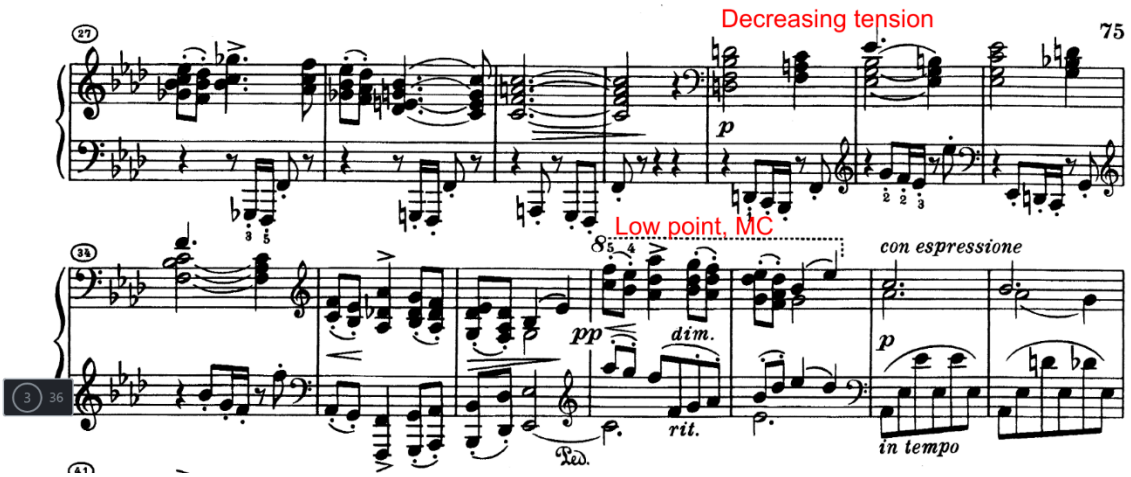


Figure 3.1.3b – Annotations continued



Since the goal of an expositional S-space is to achieve an EEC, the EEC is the first thing to identify. The S-space in this sonata form never reaches a moment which fulfils Hepkoski and Darcy's tonal definition of an EEC.[73] There is a moment wherein there would be an EEC but it has been tonally avoided. This moment is the quasi-plagal tonal action between the IV and I in A♭ major in bar 55. There is still a dramatic climax in this moment, but it is measurably not as great of a climax as that which unfolds in the opening bars of the exposition. Yet, it is the greatest climax in this "second exposition" identified in the opening bars, shown in Figure 3.1.4 for reference.

Figure 3.1.5 is the energetics graph of the expositional activity which can be constructed from the prior analysis. There are three features to be highlighted. Most trivially, this second analysis appears to read in a much more archaically constructed way. This is what one would expect given the different subject material of this analysis, although worth attention because there is a clear convergence between the points presented in Figure 3.1.5 and a hypothetical Schenkerian graph. Perhaps, this graph is less detailed than one might expect a Schenkerian reading to be, but this is only an issue of space and scale. The importance of this analysis is that these, Schenkerian-affect observations have been arrived at through energetic approaches which are entirely non-Schenkerian. This analysis shows that there is an established F minor tonality which continues throughout the first half of the exposition. In this first half, the F minor of bar 5 is the most structurally significant. The music which follows in the MC and S-space is subordinate in nature, and over a larger scale, will turn out to be a less structurally significant space than the P-space.

[73] Hepokosky and Darcy require a perfect authentic cadence, see Hepokoski and Darcy, *Elements of Sonata Theory*, p. 117

Figure 3.1.4 – S-Space including bb. 39-55

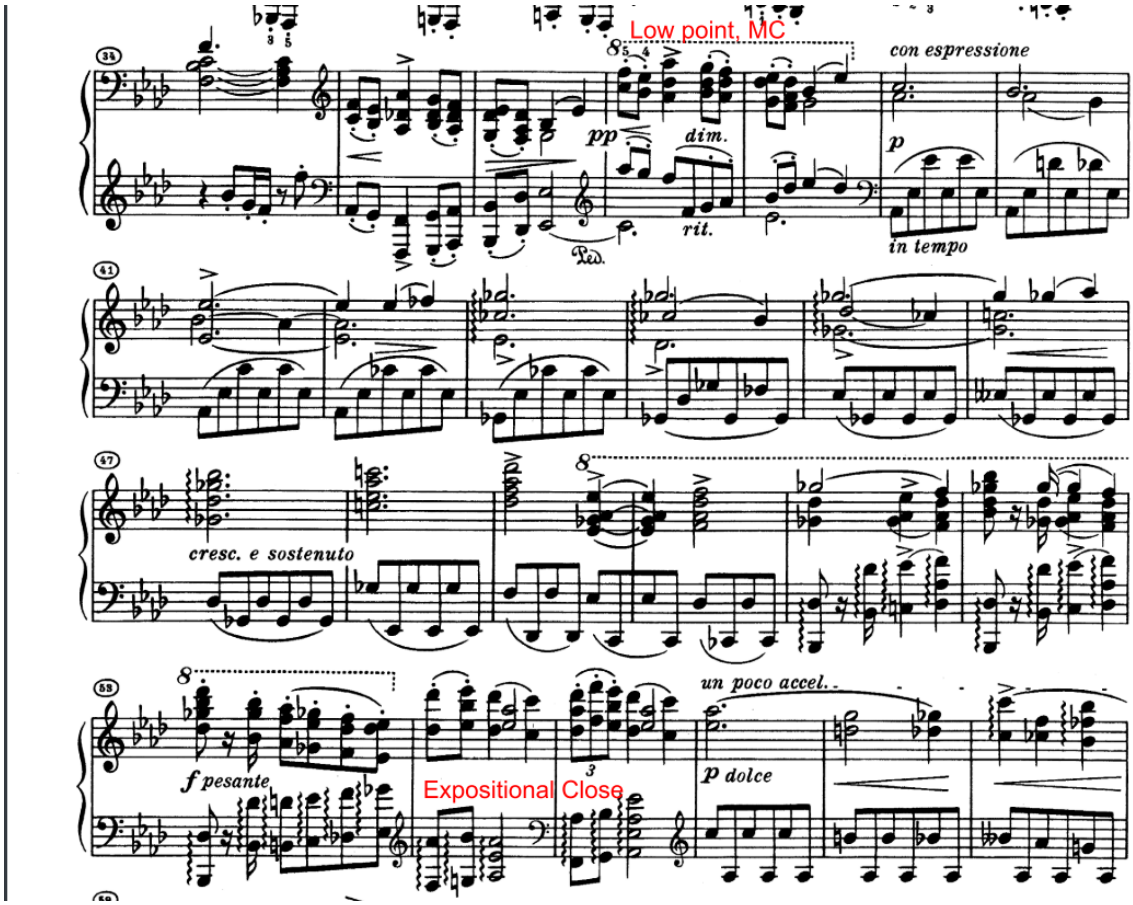
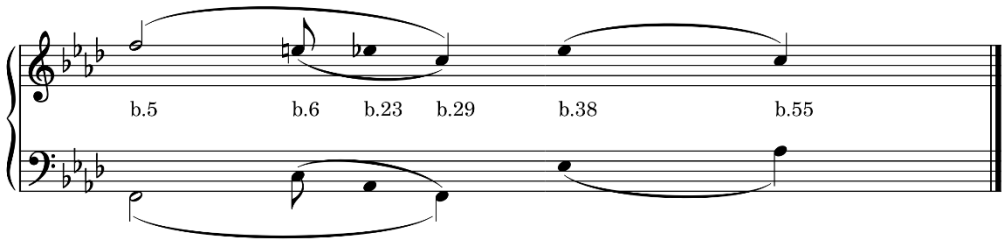


Figure 3.1.5 – Graph of the Exposition



Analysis 3: Boulez, Piano Sonata 2, I

4 – Introduction

There is some discussion of what Boulez's intention was when designing the music of his second piano sonata. The piece bears the name 'Sonata' but the question remains as to whether it is worth considering the movement under analysis as a sonata with all of the attached formal meaning of that word or as some other kind of term. From a compositional perspective, the piece has something to do with sonata form at least. In *Conversations with Célestin Deliège*, it is written that Boulez claims that the goal of the work, meaning the whole sonata, is to destroy traditional forms.[74] I note at the beginning of this analysis that composers have been destroying sonata form for centuries. I argue that there is something essential to the nature of the process through which a given sonata form is written that it destroys what has come before it. Further, there are easily observable sonata elements which unfold in this piece, namely the contrasting of two themes, and a goal-oriented quality observable in the two dramatic arcs, or rotations in this piece. By Hepokoski and Darcy's definition of the sonata form in the eighteenth century, sonata form is '…a field of enabling and constraining guidelines applied in the production and interpretation of a familiar compositional shape', and while this definition applies to the eighteenth century sonata form which they studied, it is nonetheless the foundation of what developed into the nineteenth century and the thing to which Boulez is responding in his Second Piano Sonata.[75] The importance of Hepokoski and Darcy's definition is that it considers the position of listeners within the creation of a form. Their theory understands that 'familiarity' is an essential part of the process of interpretation and that listeners will understand the music through a lens which is familiar to them.

There is a methodological concern regarding the use of the terminology of Hepokoski and Darcy. The methodology of *Elements of Sonata Theory* has an explicitly Schenkerian element in its influences.[76] This is not to say that this one is any kind of harmonically Schenkerian reading. There is no way to circumvent Schenkerian foundations of the terminology and yet one is confronted with the fact that the form in this piece clearly engages with the elements of sonata theory. It is at this point where gestural analysis is uniquely suited to cast light on the sonata form at play. Other

[74] Pierre Boulez and Célestin Deliège, *Pierre Boulez, Conversations with Célestin Deliège* (London: Eulenburg, 1976) p. 14

[75] James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (Online: Oxford University Press, 2011) pp. 14-22.

[76] For the specific references to Schenkerian analysis, see Hepokoski and Darcy, *Elements of Sonata Theory,* pp. 3, 5, 14, 21, 112, and 120

elements of the music fulfil the goal of communicating audible signals which tonality does not.

This analysis treats this movement as a sonata form and proceeds with an analysis which uses the sonata theory terminology of Hepokoski and Darcy. The focus is to provide a complete analysis of the movement and to demonstrate the use of the adapted gestural analysis on this kind of music. To this end, a summary of the form of the exposition follows in Table 4.1. The sonata unfolds in the manner of a Type 3 sonata, with a straightforward expositional rotation, a tense development and a brief recapitulatory rotation before a period of coda at the end of the piece.[77] The expositional rotation is complicated by the structure of its P-space which serves to increase the tension but otherwise the sonata has the character of directness. There is such directness of purpose that the recapitulation is little more than an S-space, even one particular part of the S-space. But it is nonetheless clear that it is an S-space. Upon analysis, the "goal" of the S-space is less extreme. It achieves a lower peak in tension and the swift return of material from the P-space undermines it which distracts from the already weaker impact of the moment. If the two themes were competing for dominion over the other, the material of the P-space clearly wins in this instance.

Table 4.1 – Summary of the sonata form

Duration	*Action S.*	*Rotation*	*Period*	*Cadence*
1-19	P-space			Full Close
19-38	T-space			
38-40	MC	R^1	Exposition	Half Close
41-67	S-space			
68	EEC			Full Close
69-	Pre-core			
	Core		Develop.	
-	Activation			
158-160	P-space*	R^2		
161-167	S-space		Recap.	
168	ESC			Full Close
168-197	Coda		Coda	

4.1 – Analysis of Boulez's Sonata

The process by which an exposition unfolds, generally, can be described in the terms of Agawu's beginning-middle-ending paradigm.[78] First an initial P-space serves a beginning function, the P-space takes listeners from the pre-musical state of stability into

[77] Hepokoski and Darcy, *Elements of Sonata Theory*, pp. 344-5
[78] Kofi V. Agawu, *Playing with Signs: A Semiotic Interpretation of Classic Music* (Online: Princeton University Press, 2014) p. 20.

a state of tension and then increasing tension. This notion agrees with the beginning character of musical moments generally. This created tension is built upon by the following TR-space which starts nothing and often does not have definitive starting material but begins, instead, in a sequence. Harmonic sequence of a pre-twentieth century kind is not possible in this piece, but simple repetition with increasing tension through gestural language is used as a replacement. This tension continues even into the onset of the S-space and only reaches a climax in the EEC; the exposition form must reach this moment before it can begin to end; the EEC is the goal of an exposition. Upon reaching the EEC, the musical material becomes more stable, although not entirely. There is room left for the rest of the form to take place. It is only much later in the form, at the ESC wherein the piece reaches its final and most stable point. This thinking may be extended to the scale of the entire movement.

The two sonata elements which are easiest to identify in this movement are 1) the beginning of the P-space and 2) the beginning of the S-space. This easiness is the consequence of Boulez's use of stereotypical figurings of the P-space and, in particular, the S-space to signal their location. *There are* figurings in this piece which are of the same kind as signal structural events in older sonata forms, the trills and the lengthening of note durations during the caesura for example. These can be located through external means, simply going chronologically backwards from the onset of S-space to see the place where a caesura must be. Yet, *there is no* general system of topical figurings at play which is in any kind of evidence. In a way, these structural figurings both are present and absent in the manner which Derrida describes.[79] This fact is useful for the analysis as it allows for the figurings to be used as a means of structural interpretation, that is, if these figurings are observable then they mean something.

Similarly, the P-space is easily identifiable by its temporal location; it sits at the beginning of the piece. One might ask the question as to how the distinction is made between the P-space and an extra-formal element, or an introduction. In this case, there is no music in this movement which corresponds to Hepokoski and Darcy's concept of the introduction. In their own terms, the introduction is a 'parageneric' space; it is the nature of the introduction that its musical material frames the movement in some way, but it exists outside of 'sonata-space', or the period in which sonata behaviours take place.[80] The music from the opening bars of the movement has a relationship with music that exists far deeper within the form and so it appears that this music is a P-space and is not an introduction and may be treated as such within the formal analysis.

Having established the nature of the music in the opening bars and its formal quality, the next issue of form is the structure and point of conclusion of the P-space.

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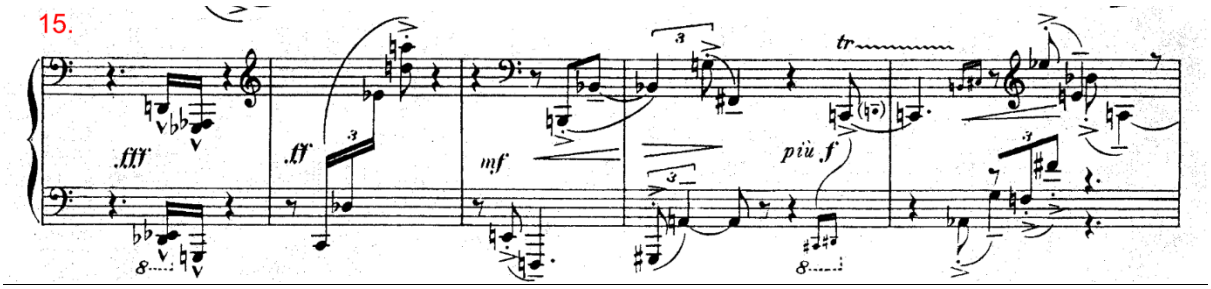
[79] Jacques Derrida, Bernd Magnus, and Stephen Cullenberg, *Specters of Marx: The State of Debt, The Work of Mourning and The New International* (Online: Routledge, 2012) p. 202

[80] Hepokoski and Darcy, *Elements of Sonata Theory*, pp. 281-305

Beginning with the conclusion so as to define a perimeter of the P-space, there are several points of potential evidence to consider when looking. The first is to identify a cadence of some substance, there are several motivic pieces which make up the opening bars, each of which comes down to one kind of cadence or another. It happens that one of these pieces has the strongest claim to being a conclusion; the clear choice for the moment of cadence sounds in bar 15. Two musical elements contribute to this closing quality. First, the music of bar 15 is a clear and homophonic gesture in an environment which is otherwise pianistically linear and contrapuntal. There is a definite story told by the dynamics of the opening bar, which culminate in a triple forte during the grand expanding gesture of bar 14 which itself serves as a prefix to this particular cadence. Second, there is Hepokoski and Darcy's definition of the TR-space to consider; they write that, 'TR-zones are characterized mostly by dispositional location within a system of generic expectation (where they occur in the exposition; their functional drive to the MC) and by texture (energy-gain).[81] As the analysis of the TR-space to follow reveals, there is a marked energy increase, or tension increase in the terms of this study, in the gestural language of the TR-space. Thus, this moment of music in bar 15 is clearly an end to the story of the P-space, but the bars which follow are a continuation of the process of stabilisation associated with the moment of the cadence before the music reignites in bb. 19-20. The material which follows is developmental, almost sequential, and building upon motives which were exposited in the first 19 bars. Hence this material is not of the P-space. Figure 4.1.1 shows the music of bar 15 for reference.

Figure 4.1.1 – Close of the P-space

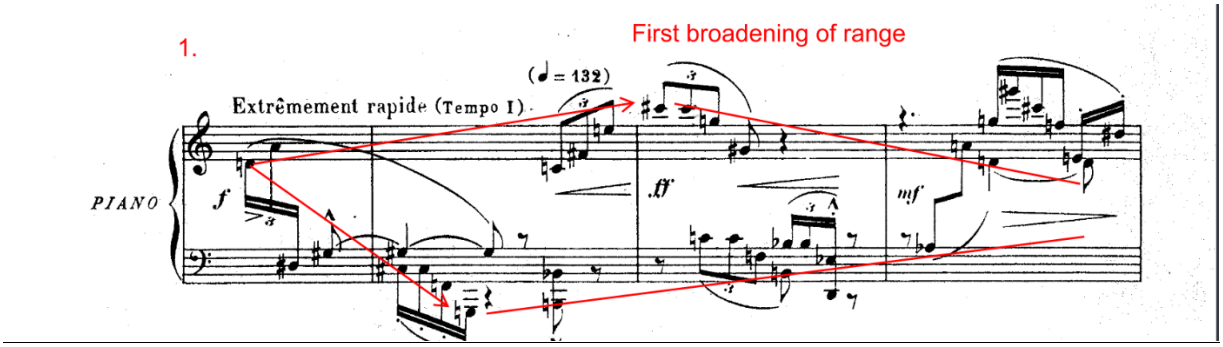


There is then the case of the substantiating musical material which exists within the established perimeter. In terms of the obvious content of the musical figures, there are four quite distinct gestural sections which contrast from each other, each one ending with a cadence of greater or lesser quality. These sections are bb. 1-5, 5-9, 10-15, and 15-19, or sections Pa, Pb, Pc, and Pd for the purposes of analysis. There is a similarity in the figuring which sounds during the unfolding of sections Pa and Pb, with a contrast in the figuring of Pc and a further difference again in the unfolding of Pd, which is the aforementioned post close material.

[81] Hepokoski and Darcy, *Elements of Sonata Theory*, p. 93

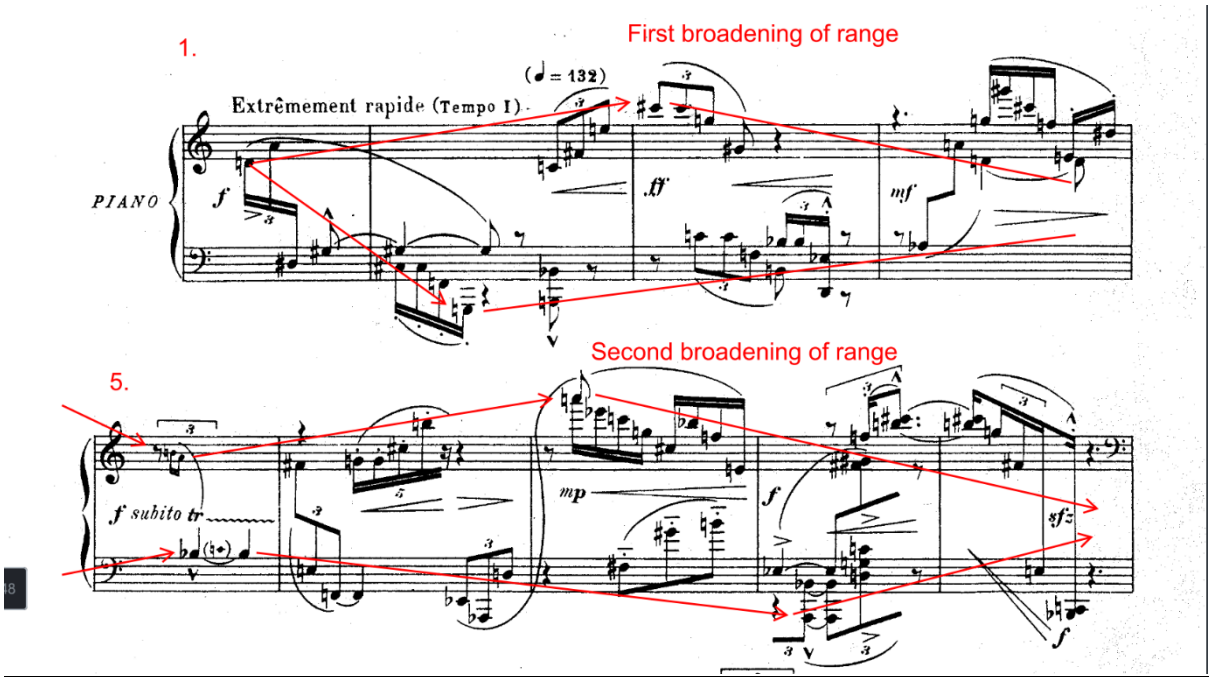
There seems to be little to analyse beyond these observations, but the contrasting material shares some gestural behaviours which begin to make the P-space appear something more like an antecedent and consequent phrase structure. The salient gestural elements under manipulation in this passage are range, dynamic, and texture, with range being the most dramatic element, audibly and visibly. Section Pa sounds from bb. 1-5. This event produces an observable arc in stability starting from a forte dynamic but increasing to a fortissimo and beyond in the opening two bars with an eventual return down towards the forte dynamic in bar 4. This ignores the ascent from mezzo forte in bar 3 towards the subito forte of bar 4, but I say that this is a dramatic device, and the moments of structural significance are those as described in the arc. Clearly, the arrival of the fortissimo in bar 2 is the climax of the motive which is supported by the convergence of the increases of other elements on this moment. The pitch range reaches its widest span between the left hand in bar 1 and the right hand in bar two. Texturally, the motive goes from one voice to two and back to one again by the time of the trill in bar 5. This particular dramatic arc has a kind of "diamonding" effect or a bi-directional opening and consequent closing. Diamonding is the way in which structural units are defined throughout this piece. Figure 4.1.2 provides the annotated music of bb. 1-4 for reference.

Figure 4.1.2 – Annotations of Section Pa of the P-space



Section Pb proceeds from bb. 5-8. In terms of the stability arc, it rises from the low of bar 4, accelerated into, and initiated by the trill. This motive feels of subordinate character to the first one. There is a similar arching trend throughout, which is similar to the music of the first motive. Similarly, the texture expands from one voice to two voices and back to one again. I say that this motive is 'subordinate' to the first, because the dramatic arc does not push as far as that of the first motive. There is a quasi-increase to a forte in bar 7 but this does not go beyond the initial dynamic of the motive. In fact, the dynamic curve is more of a straight line in terms of its overall trend. There is a more definitive close at the end of this motive, but not as definitive as the one in the motive which follows. I conclude that motives one and two may be considered as part of a single structural unit, which constitutes the first half of the P-space, structurally speaking. The annotations of these two moments combined is shown in Figure 4.1.3.

Figure 4.1.3 – Antecedent Phrase of the P-space, Pa and Pb



Section Pc takes place in bb. 9-15 and is the consequence of the antecedent which is motives one and two. In terms of its gestural content, it has many commonalities with the first two motives, including the arc like shape of the pitch. Other elements, including the diamonding of the range and the dynamic arc contrast with the antecedent, ascending to and sticking at the highest points reached in the entire P-space rather than arcing. The culmination of this is the moment in bb. 15 at the end of motive three. This is the clearest cadence in the entire P-space and seems like the climax and focus of the entire exposition before the arrival of the EEC itself. This moment is the equivalent of an authentic cadence responding to the half cadence at the end of the antecedent. I argue this because of the definition in texture functioning as punctuation and the fact that something looks like another thing is not evidence in itself that a thing is another thing which it looks like, but one can nonetheless accompany the above analysis with the observation that this moment, while clearly extrapolated from the preceding material in motive three, resembles a traditional cadential figuring in a homophonic piano texture.

The motive four which follows in bb. 15-18 is not itself a part of the main consequent, antecedent structure, but serves to obfuscate some of the strength and finality with which the moment in bar 14 is reached. This serves to keep the form moving forward and reinvigorate the music towards its new focus of transitioning between the P-space and the development. This is significant in terms of the reading of the later EEC, which has no such obfuscation. Thus, the entire P-space may be graphed in the form of an antecedent-consequent phrase as seen in the expositional graph of Figure 4.2.1. This analysis observes the gestural relationships between what are considered in other writing to be a series of unrelated and destructive motives. I note at this point in the

analysis that this analysis's purpose seems to be cutting against Boulez's own words on the matter which I address with two points. First, the revelation of the composer's intent is not the focus of this study. Second, the destruction of a form necessarily involves an interaction with the form. Third and most importantly to the purposes of the present study, once one attempts to engage with the music on Boulez's own terms and through his own theoretical process as others have done, one finds oneself funnelled into a perspective which is necessarily aligned with his own on the piece.

Unlike the P-space, the TR-space is inferred backwards from the location of the S-space and the caesura which immediately precedes it. Clearly, the S-space begins at bar 41 and is preceded by a clear caesural figuring in bb. 38-40 as shown in Figure 4.1.5. Therefore, it is necessary that the TR-space falls between this caesura and the end of the P-space; one can know this before analysing the content of this period of music. Having said as much, the music of this period has a clear continuing, or developmental quality. For one thing, the material is derived from the motives of bb. 1-19 after this point. There is no such thing as harmonic sequence in the pre-twentieth-century sense at play in this music, but instead single elements such as the semiquaver figure in bb. 20, 22, and 25. I call this developmental, but not true sequence.

Figure 4.1.5a – Transition and Medial Caesura, First part beginning at bar 20

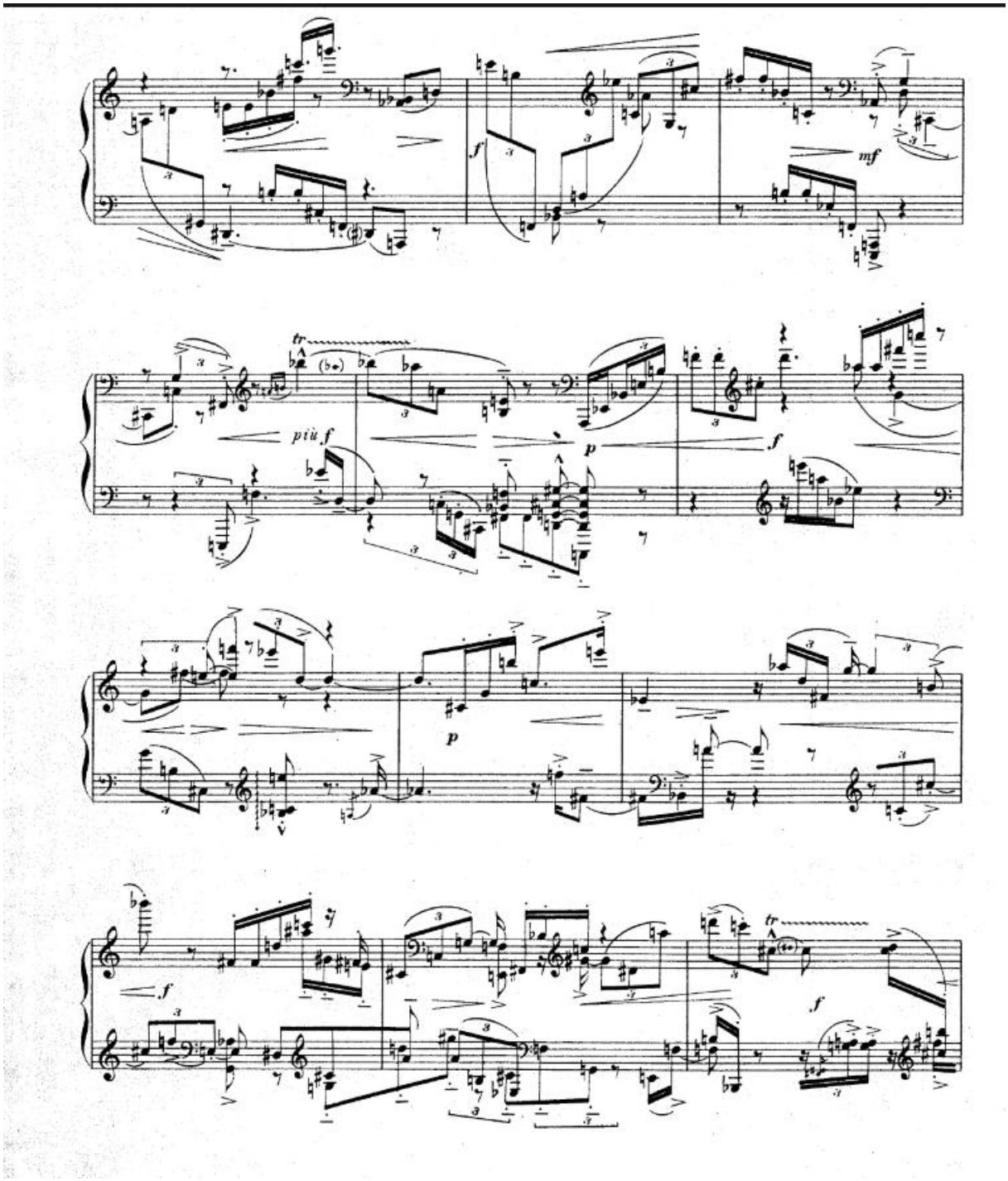
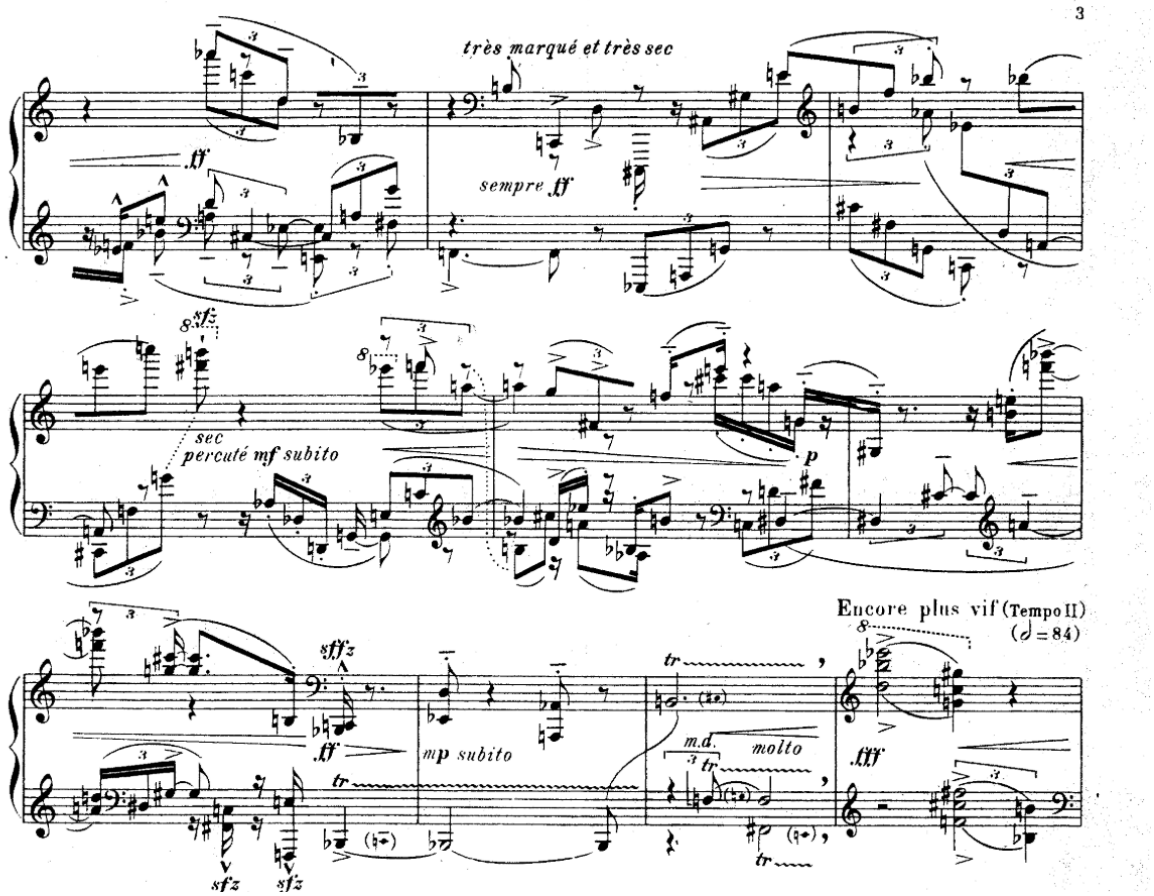


Figure 4.1.5b – Transition and Medial Caesura, Second part finishing at bar 41

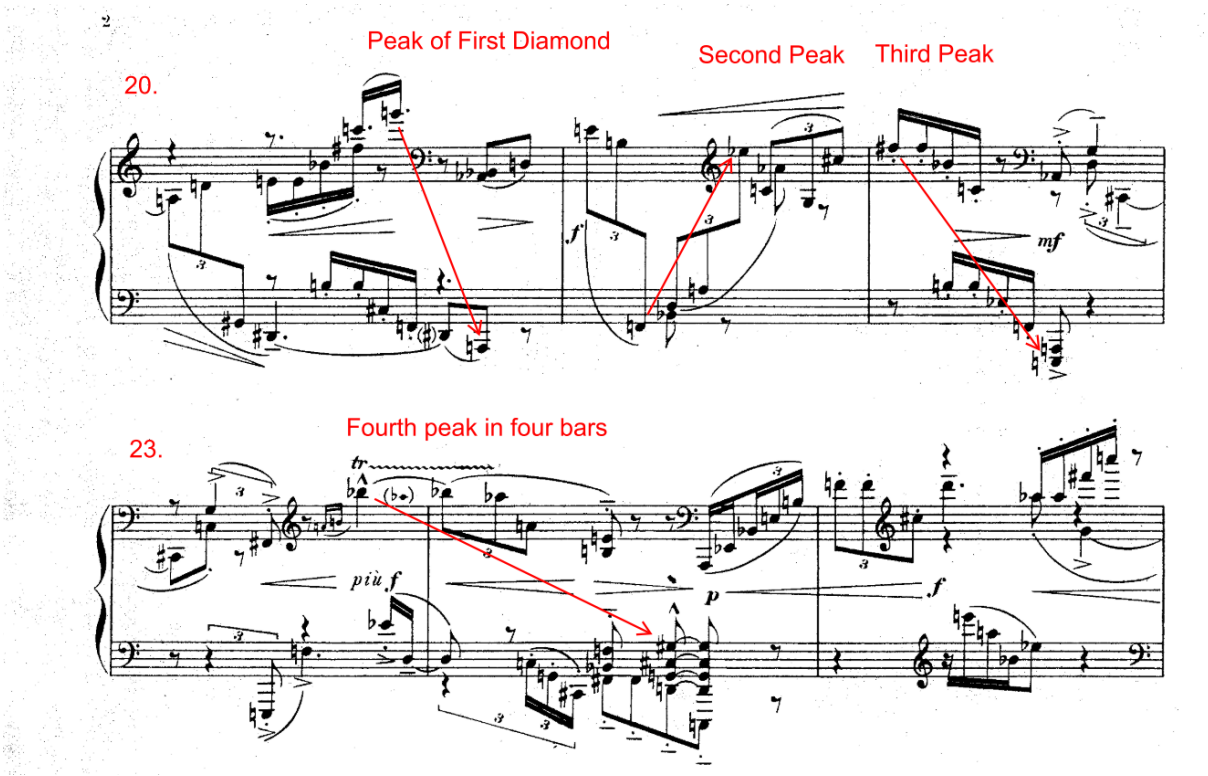


An energetics reading yields further results as to the character of the music. With no means to subdivide the structure of the TR-space, it exists as a whole element. Indeed, the TR-space is a single period of energy gain which prefixes the event of the MC. The gestural behaviour which most clearly communicates the energy increase is the diamonding of the pitch range. The rate of diamonding diminishes from three diamonds through the first 15 bars of the P-space to something like one diamond per bar or every other bar in the TR-space. This is shown in the annotations of the TR-space's first bars in Figure 4.1.6. In dynamic terms, the arc of the TR-space has a very slow ascent until the second half. In the first half, bb. 19-32, there is a steady hold around forte, with some slips and bumps, but nothing which will disrupt the overall trend. In bar 32, the music reaches a fortissimo which is sustained over quite a long period of the following three bars. This is the general trend until just before the caesura in bb. 38-40. The caesura itself diminishes dramatically and feels rather weak compared to other examples, although it is clear that this moment in bb. 38-40 is a caesura as it features figuring of one with a prolonged and trilled, pitch which is the remnant of what Hepokoski and Darcy name a 'dominant lock'.[82] This dynamic journey culminates in the arrival of the S-space and a triple forte dynamic. This is in line with the reading that a TR-space serves to further increase the musical

[82] Hepokoski and Darcy, *Elements of Sonata Theory*, p. 11

tension from that first level which was established in the P-space. In line as it may be, the quality of the energy gain is somewhat diminished or obfuscated by the sum of the gestural elements. The diminished rate of diamonding communicates an increase in tension. This diamonding-caused increase characterises the body of the TR-space, but the increase only to a fortissimo during the TR-space creates a sense of disappointment in the ear of listeners given the dynamic landscape which was established in the P-space.

Figure 4.1.6 – Diamonding in the TR-space, bb. 20-25



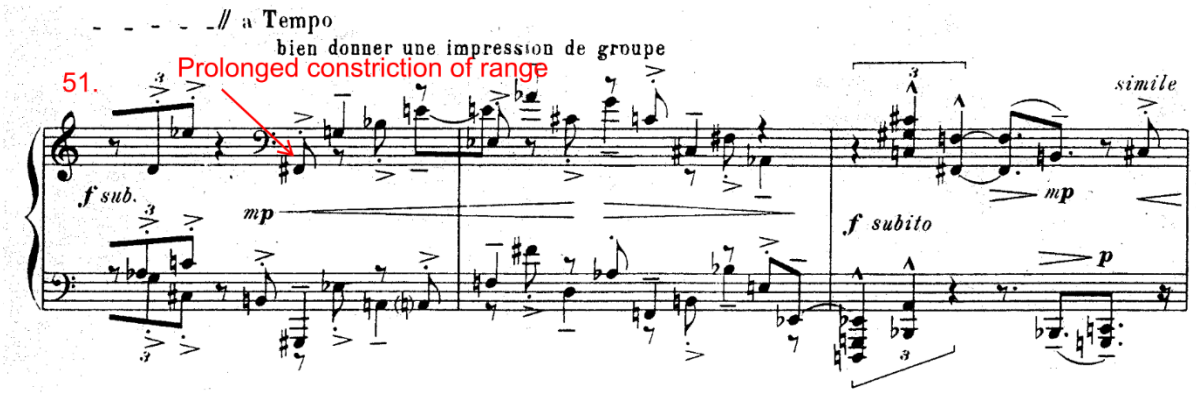
The two most important parts of the S-space are easily identified, they are signalled by the same kind of quasi-topical figuring which haunts this exposition and by which the MC was signalled. As a pre-analytical observation, the music of the S-space has a different appearance on the page when compared with the preceding music. The arrival of S-space is marked 'Encore plus vif' which suggests an acceleration, although the feeling to the listener is one of slowing and reduction given that the average note duration is clearly reduced. There is a consistent three-part texture throughout the S-space, with notes at certain stages that particular group textures are being imitated. This group texture contrasts with what is a much more keyboard-sonata texture in the opening action spaces of this sonata. This allows one to isolate the S-space and isolate the beginning of the S-space. In Hepokoski and Darcy's eighteenth-century sonata theory, there is a tonal quality to the S-space which allows one to distinguish between the moments of the S-space and the earlier P-space.[83] No such tonality exists in this piece.

[83] Hepokoski and Darcy, *Elements of Sonata Theory*, pp. 117-149

To be sure, Boulez was employing harmonic based structures when he wrote this piece, but the necessity of an understanding of these devices is reduced. In fact, given the hauntological character of the writing, one may make sonata-theory readings without any harmonic context. The location of the EEC is also quite simple. The exposition comes to a clearly figured cadence in bar 68. There is a clear moment of closure reached in this moment and there is no prolongation of the exposition afterwards through a C-space. Instead, the form progresses directly into R^2 in the following bar 69.

Given this information there is now a perimeter of the expositional S-space which may be analysed now. The general behaviour of the eighteenth-century S-space given by Hepokoski and Darcy is that 'To S alone is assigned the task of laying down the planks of musical space that lead directly to the EEC'.[84] Notably, the writers do not use the term 'energy gain' in their definition of the S-space; most of their writing on the subject concerns what qualifies as an EEC and what does not. It might be that this change in language is a consequence of the unfortunate, and inaccurate, association of the S-space with subordination and with being lesser, which Hepokoski and Darcy note.[85] In any case, the present sonata form does not increase in energy towards the eventual EEC. The change in texture brings upon the music a change in the manipulation of pitch range. The relatively broad texture is maintained throughout the S-space until bar 51, as shown in Figure 4.1.7, wherein the range contracts for a significant portion of the remainder of the pre-EEC S-space. The high dynamic reached at the beginning of the S-space immediately after the MC is equalled only by the EEC and never overtaken at any other point. The combination of gestural elements here communicates a waning in tension and a journey towards stability which is reinforced by the sense of strength and finality about the EEC.

Figure 4.1.7 – Range-Constriction of the S-space's Latter Half



The role of hauntology in this movement's analysis diminishes during the development because the development of a sonata does not have the figuring norms of

[84] Hepokoski and Darcy, *Elements of Sonata Theory*, p. 117
[85] Hepokoski and Darcy, *Elements of Sonata Theory*, p. 117

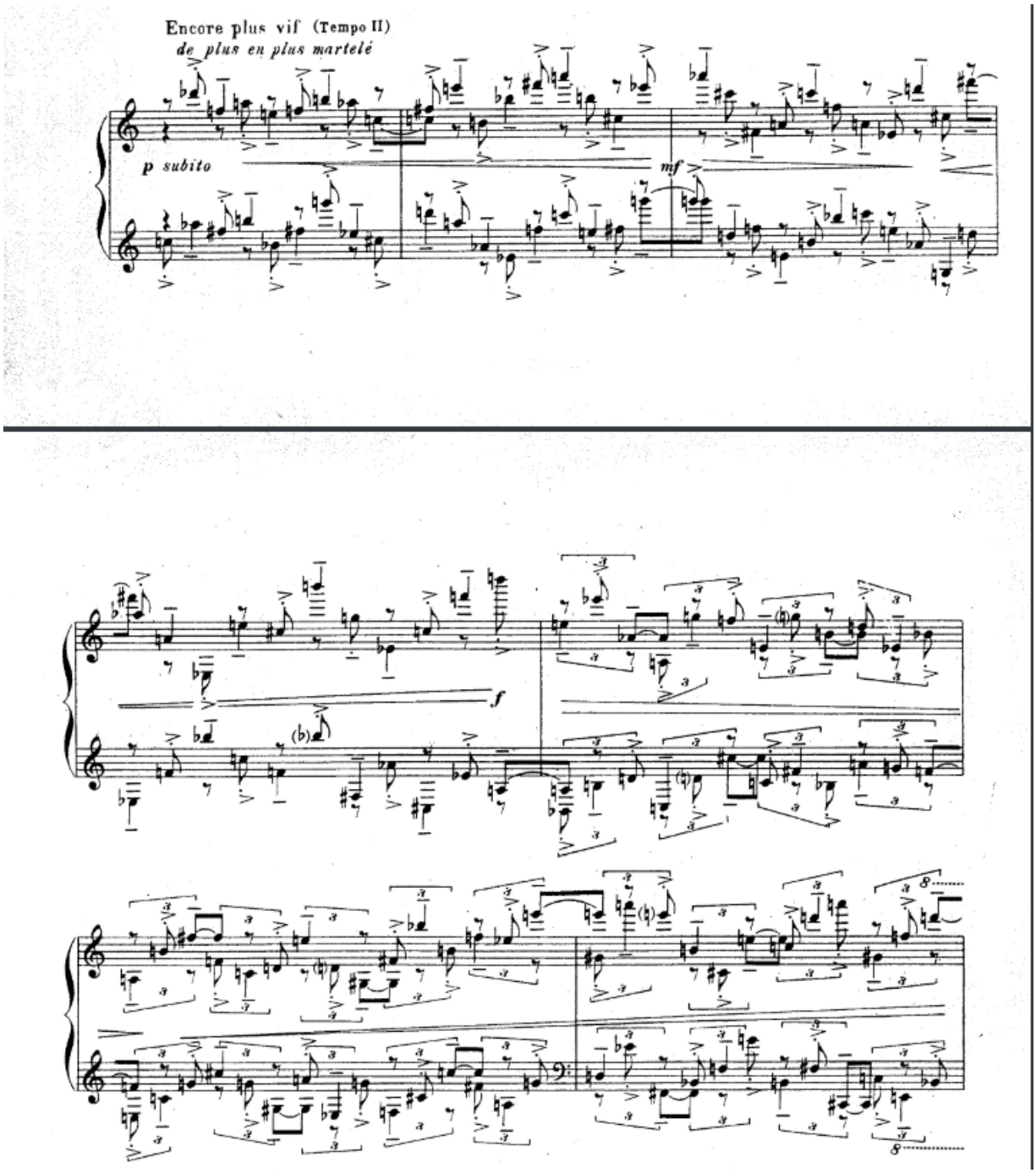
a sonata exposition, the stretching and trilling of an MC for example. Here one must change approach slightly. This is where one must rely upon the powers of gestural analysis. It is through the dramatic quality of the music, which is the goal of a sonata form, that one may decide whether a given reading is effective or not and which is the subject of gestural analysis. Similarly, there is no clear recapitulation which one can tell by the figuring, even though there *are* two contrasting thematic materials, from the exposition, throughout the remainder of the piece.

To begin with the development, it begins with the bars immediately following the close of the exposition, that is in bar 69. In order to define the dramatic function of the development section, one must understand the application of the term 'point of furthest remove'.[86] While tonal, this term is the one used across several sonata form analysts including Hepokoski and Darcy, and Ratner. It suggests that the goal of a development is to reach this furthest point from the tonic, initiated before the development begins. In the present case, the term can be adapted to the non-tonal purpose, where the "tonality" is the behaviour of gestural elements began in the exposition and the P-space in particular. As Caplin notes in *Sonata Forms* one can trust to see sequences through a number of keys before arriving at a sticking point, that is the journey through the 'pre-core' to the 'core' in his own words.[87] After this moment one may expect to find a dominant lock which will set the form for the initiation of the recapitulation, in sonatas which have a recapitulation, with the return of the P-space in the tonic key. In this movement and in all such, post-nineteenth-century cases, one can trust no such tonal system is in place. But their dramatic function may still remain.

With the definition of its form established, the analysis may proceed. There is a substantial developmental space in which Boulez plays with the tension making for listeners a long period of anxious waiting on a promised arrival. This developmental space runs between bb. 69 and 157 before arriving at the beginning of a brief recapitulation. In fact, this developmental space is the largest of the three dramatic periods of the sonata form, which echoes Boulez' destructive will as the composer. The development sub-divides into two groups in the same manner as Caplin's pre-core and core model. The "pre-core", wherein tension escalates from the end of the exposition proceeds from bb. 69-150; the "core" wherein the tension stabilises for a moment takes place in bb. 151-157; and there is a moment wherein the sonata creates a dip in tension. For reference, this core is presented in Figure 4.1.8.

[86] Hepokoski and Darcy, *Elements of Sonata Theory*, pp. 195-230
[87] William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (Oxford Scholarship Online, 2023) pp. 139-160

Figure 4.1.8 – Pre Core beginning at bar 151



The pre-core particular to this movement may be identified by the following behaviour: 1) constant dynamic change, 2) non-sequitur motives, 3) a focus on the pianistic figuring of the expositional P-space. All of these elements combine to create an effect of wandering, seeking, and increase in tension. After this period, the core is marked by a period of exchange between the first and second material groups. I suggest that this

is the “working out” which Caplin describes in his work on developments.[88] The form remains in a fixed behaviour and increases in tension.

The recapitulation is perhaps the most significant space within the sonata, even above the exposition. Hepokoski and Darcy write that the *telos* of a sonata lies within this space.[89] That is to say that everything else within the form of the sonata was some kind of journey towards or diversion from the path of reaching this moment. This goal is defined quite clearly in harmonic terms with respect to the sonatas of the eighteenth century, but such tonal definitions bear no influence over this piece. In general terms, such as are not supplied by Hepokoski and Darcy and must be imagined here, this telos is the climax wherein all of the dramatic action culminates, according to the rules which were defined at the beginning of the form. In other words, the composer establishes expectation throughout the piece, and this is the moment in which the consequences of this expectation play out. In this movement there is a clear candidate for this moment. Since, there are no harmonic markers of this moment one must use other elements to justify a location. The material in which the close takes place is a texture taken from or in some way otherwise derived from the second theme of the exposition. There is only one moment of this kind after the end of the exposition.

4.2 – Summative Analysis

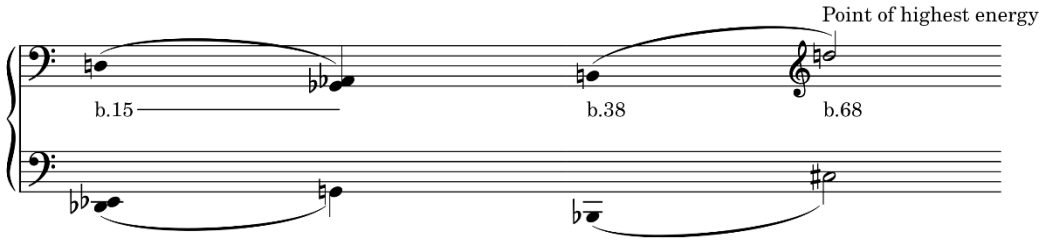
Having made a number of annotations of the foreground in this piece. There is the information to construct three middleground graphs, one of the Exposition, one of the Development, and one of the Recapitulation. There are Figures 4.2.1, 4.2.2, and 4.2.3. Figure 4.2.1 shows the analysis of the Exposition, 4.2.2 the Development, and 4.2.3 the Recapitulation. In the analysis of the movement, one can observe a clear trend in terms of the playing of stability. After the conclusion of the P-space, marked on the graph. There is a clear increase in tension towards the moment of close at the end of the exposition. The decrease in stability seems to come in two waves. The ascent towards the start of the S-space and the ascent during the S-space to the moment of essential close at its conclusion. This coincides remarkably closely with the unfolding of a sonata form exposition as theorists have described it. It coincides in many ways with the unfolding of the Brahms exposition from earlier within this present study. Without doubt, there is dramatic language in this sonata exposition of a kind which has its origins in pre-twentieth-century music. I note that the dramatic action follows this arc with relative closeness. There is little in the way of action which deviates from this arc, serving to prolong the action of the exposition. There are none of the accoutrements herein which decorate the expositional period of Brahm’s exposition. Boulez’ exposition is a still of the

[88] Caplin, *Classical Form*, p. 139-160
[89] Hepokoski and Darcy, *Elements of Sonata Theory*, pp. 231-254

sonata principle as described by Hepokoski and Darcy. The graph shows an essentially idealised sonata exposition.

My considerations for the construction of the expositional gestural graph are threefold. First, the structurally-significant musical elements are identified. These elements are pitch-range, texture, and dynamic. The slurring on the graph therefore indicates structural gestures in terms of pitch range. It is not a commentary upon any kind on pitch-based voice-leading. Then, the structural behaviour of the exposition is identified. This is the behaviour of the present movement in particular. In contrast to an approach like that of Schenkerian analysis, there is no presupposed fundamental structure which exists outside of the movement's own logic. This claim is not to say that no such structure exists, but it does say that the study which might identify such a structure has not yet been undertaken. Instead, the presupposition is that the composer creates expectation in the mind of listeners through the compositional logic which they establish at the beginning of the piece. In the case of this movement, that structure will be communicated foremost through the manipulation of pitch range. Finally, in the creation of the graph itself, the elements which are included are those which communicate the significant structural events within their own local spaces. As such, smaller continuations or "voice-leading" for the present lack of a better term is omitted. With these considerations made, Figure 4.2.1 shows this graphic analysis.

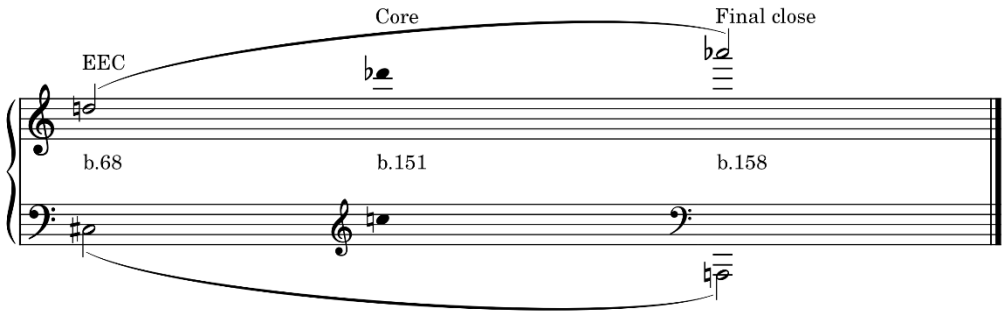
Figure 4.2.1 – Exposition's Graph



To summarise the analysis illustrated by the graph, the expositional form builds in tension from the beginning of the sonata. With striking likeness to the first analysis of Brahms, the drama climaxes before the later S-space. The P-space is the most complicated dramatic substructure of the exposition. It unfolds the dramatic arc of the exposition in a smaller expositional scale. There is an initial dramatic moment with high energy communicated by the gestural language of the pitch range and then there is a second moment of a higher dramatic peak but less tense in its use of gestural language. A process of close likeness unfolds throughout the rest of the exposition. Between the P-space and the TR-space there is an initial moment of ever-increasing tension using the established musical language. There is then a cadence of a kind at the end of the TR-space which has a certain ending effect but is by no means conclusive. There is an initial, non-cadential peak in dynamic noted at the commencement of the S-space which is mitigated by a fall in tension with a final return upwards towards the EEC at its very end.

Figure 4.2.2 shows the remaining structural nodes of the piece, with a development which has a clear three-part structure, in the afore-discussed manner of Caplin's description. There is, first, a clear increase in tension from the essential close of the exposition to the onset of the developmental core, which is initiated by the EEC of bar 68. This is wandering and explorative in the quality of a sonata form development. The graph shows a clear increase in this tension up until it reaches its holding point, at which point the form stagnates in tension. This is the moment of the sonata form which might be best considered 'destroyed'. Although, it is located in the moment of the sonata which is most commonly associated with turbulence. So, this is hardly a very dramatic deviation in rhetoric. This period of turbulence reaches a reignition of the form in the recapitulation with a prolonged core period.[90] This too must be some kind of commentary on sonata form or tonal composition. In my view, the recapitulation serves one primary function which is the close, as is graphed in Figure 4.2.2. From the two graphs, one can see that the piece may be understood of the development of two structural nodes in bb. 68 and 158. There is a significant period prior to the EEC, that is the exposition which serves as a prefix to the first prime structural node.

Figure 4.2.2 – Development and Recapitulation's Graph



So, one may ask, 'Does this analysis show the sonata form as Boulez saw it, with its paradigm destroying quality?' The answer to that question is definitely 'No', although I take this moment to state again that to provide light on Boulez's view was not the goal. Instead, this analysis provides an alternative framework with which the analyst may interpret the work. As far as this analyst is concerned, Boulez fails to achieve his goal in this work because there is a clear sonata form reading of the work which one may read through its playing of tension. This is the kind of qualitative reading of which this analytical mode is capable. In fact, the point of this particular sonata form is a radical focus on goals, or to put it differently, a radical distillation of sonata principles. A kind of elementally pure sonata form, without any of the discursive or obfuscating characteristics which sonata form has accrued over its history. There is a question to answer regarding the composer. Does it matter that the reading does not fit in line with

[90] I am using core and activation in similar senses because of the non-tonal context of the music. Their rhetorical functions align.

the composer's intention. I find in my experience that it is a common failing of musical analysis that the composer's intent is not questioned. Instead, there is a strange kind of reverence held for the word of the composer which I do not consider to always be earned. I will name this criticism of mine the dogma of analysis. It seems nearly baked into the methodology of all musical analysis that the presupposition of the composer's intent is necessary in order to ground a reading. In certain compositional paradigms, theorists employ the use of success and failure; they employ it with respect to the piece.[91] They do not employ it with respect to the composer. In this way, the piece is a kind of proxy for the intent of the Composer, existing in a different way to that of the Composer's will and in a different way.

To the eyes of the Reader and the Listener, the music of this movement engages with sonata principles and there is a clear sonata form at play. An objector might raise the objection of reader bias; that one reads into the music a form which there is not, outside of the mind of the reader. Such a claim seems to so aggressively violate what Boulez and others claim to be happening in this piece. As is said, to make such an argument is to read the image of a chicken into an abstract painting. To be clear, if this analysis were to be an analysis with the aim of revealing the mind of Boulez, the analyst would have greater difficulty in the circumnavigation of such an objection. But this does not matter because of the different aims of this study. This study reveals not the mind of the composer to the analyst, but instead a kind of analyst's mind to the composer. This is not a universal analyst, as there is no such thing. This analyst is the educated student of eighteenth-century sonata form, polyphony, and other common-practice compositional theory.[92] Therefore, this is a perspective which matters to the composers of modern music, and which is severely neglected. Therefore, there is a chicken in this movement. It might not be a chicken which the composer wrote into the piece, but one which the analyst can hear clucking.

Separately, I believe that the findings of this particular analysis raise questions as to what Boulez' mind might be with the sonata at hand, as figuring suggests often a closer interaction with sonata form principles than the discussion surrounding this music might suggest. This observation is not a direct product of the gestural analysis as this is more of a semiotic argument than a gestural one. Yet, this observation reinforces the reading of much of the greater body of the gestural analysis. The conclusion is something like, 'Boulez employs semiotic musical technique in order to communicate the form to the Listener in the absence of other tonal form-markers.' This is much the same conclusion as was observed in the analysis of Schoenberg's music. As such, there is a potential theme beginning to emerge in these musics. This is the hauntological element of this strand of musical repertoire. It is clear that formal thinking derived from pre-twentieth

[91] Hepokoski and Darcy, *Elements of Sonata Theory*, p. 18

[92] I note that this description includes *most* analysts to some degree or another. It is not a minority of students.

century common-practice composition can be used as a device to interpret the music under analysis. It does not necessarily follow that the composers were actively using such compositional logic during the process of composition, in the same way that Beethoven was not considering a Schenkerian Ursatz when he wrote his symphonies. Yet having said as much, I suspect that there may be merit to a proposition or other similar ones and, if I may take this moment to suspect slightly further, I suspect that this is not a very new intuition in terms of the course of greater musical scholarship, although it may well be a poorly articulated one. Energetic analysis is not the means to make such a revelation and indeed it is not clear what relevance such a question would have to educationally concerned scholarship. All that matters in the current study, is that such compositional logic may be a tool which students can use to unlock this music and as such a tool, this logic is quite effective at unlocking large scale forms, rendering them increasingly translucent to the eyes of the analyst.

This analysis shows that sonata principles are a useful lens through which one can read this movement's form. It is shown that Boulez establishes, clearly, two contrasting thematic elements, these being the keyboard texture and the ensemble texture. These moments are signified by Boulez' employment of 'haunting' sonata elements through the medium of figuring in the absence of the medium of tonality. These techniques amount to a clear expositional space starting from the beginning of the movement. Again, there is a clear dramatic period of increased tension which is communicated by the gestural language and further communicated by the figuring. This drama grows through the constant increasing of musical elements and in the case of dynamic constant increasing and decreasing before increasing again. Eventually, the development uses its sonata rhetoric to enter the core-phase wherein there is some degree of standing on the level of dramatic tension reached. This then subsides at the moment of activation, or the signalling of the beginning of the ending before the reignition of the P-space as it was heard in the beginning of the sonata form. A relatively brief recapitulatory period follows through to the end of the piece. Continuing the behaviour of the movement's recapitulation, there is no extended developmental space or dramatic increase in tension within the recapitulation. The course of the music proceeds, very clearly, through a P-space which is both turbulent and truncated. To characterise, this is not where the music wants to be. The music of the recapitulation is ever aspiring towards the close which is achieved in the final bars of the piece. In very much the same way as the analyst hears not the essential expositional close until the very final bar of the exposition. I summarise that the very point of this piece is the fulfilment of sonata norms. Perhaps Boulez' vision is realised in some way, as the penmanship subverts the exploratory and destructive side of sonata form to its end of distilling sonata form down to its most basic elements.

Analysis 4: Cage, *One* for Piano Solo

5 – Introduction

Ontologically speaking, John Cage's *One* and his "number pieces" are different from the works analysed hitherto. The most important defining feature of John Cage's last creative period are the time brackets. The way in which these time brackets are used changes from piece to piece but, as a general rule, a time bracket is a definition of the time it takes to perform a given period of music. In one sense, this is no different to the definition of a tempo marking at the beginning of a piece or section of music, except in terms of scale. It is this difference in the scale of definition that begins to have an effect on the composition. In the case of *One* for piano, the piece under analysis in this study, the time-bracket concept is taken further. Being a piece for piano, *One* is written across two independent staffs. These staffs feature, what is for the purposes of the performer, relatively straightforward music. Like any piece of music written in staff notation before it, the music of a given staff must be prepared and played in the order it is written. To put it otherwise, a note which is written to the right of another note on the page must sound after that note which is to its left. What is not standard of staff notation is Cage's direction that the music written on a given staff may be performed in any order relative to the other one.[93] This produces a compositional product which is effectively infinite in its number of potential realisations. In a smaller and less fascinating sense, it is true of any notated composition that there are infinitely many potential realisations. But this one is an infinity of greater magnitude than that of the potential realisations of a Brahms sonata, for example. The consequence of this compositional innovation is a change in the ontology of the compositional object itself. I call this a kind of "meta-composition" which is a term in line with Cage's partial refocus towards presence of the composer as is evident in the increased manipulation of compositional materials.[94] If the musical object is a world, then Cage is composing at a different level of reality in this piece than that of a standard composition. In my own terms, he is writing music at the level of a musical god, in such a way that his composition, *One*, is a being which exists both within and beyond the world of a single musical "piece".

One is still a piece of music which is composed, and the perspective of this study is that a composition of this kind can be analysed using form-functional analysis. I propose an approach wherein one considers the time brackets as Schoenbergian objects. Differences in the relative durations of the time brackets will give an indication as to their structural significance. Then, one must consider that the deployment of musical materials is different to the deployments of the other analysed pieces. As such,

[93] John Cage, *One for piano solo* (Paris: CNS De Musique et de Danse de Paris, 1987) p. 2
[94] James Pritchett, "John Cage: Imitations/Transformations" in *Writings on John Cage (and others)*

the Schoenbergian cadence as defined by Eason no longer works to the intended purpose. Instead, the analysis requires a new definition of cadence upon which to base a reading. The methods for arriving at such a definition are available to us in Eason's work. Eason himself begins with the work of Johnson and Larson and is interested in their premise of motion as a metaphor for musical events.[95] At the start of Larson's *Musical Forces* he puts this metaphor in useful terms, using the simple example of the question "How does that melody *go*?"[96] The use of the verb 'To Go' in this exemplar question forces the use of a phrase of motion: 'upwards', 'back down', or 'onwards' to name a few examples. In the paragraphs following this introduction, Eason goes on to explain the difficulties with particular premises of Larson's work, and he presents his own reformulation of these premises for his own work.

I will now do the same, using Larson's original premises and Eason's adapted premises to arrive at my own. The first problematic premise is that stability is a quality of pitch procedures. This is something which both Eason and I must provide alternative definition for. Hitherto, Eason's redefinition has suited my own purpose, and this definition is 'a comparative energetic quality which we attribute to groupings of notes.'[97] This definition holds less water when applied to Cage's case because the primary units of currency are no longer notes, but time brackets. At the level of the individual manifestation of a given performance of *One*, this is unobservable, and an analyst would have to conclude upon an isolated listening that pitch is the currency. Thus, the analyst has a decision to make. They can make an analysis of a given manifestation; or attempt the greater analytical challenge. An analysis of a given manifestation is not really an analysis of *One* and is interesting in only a more trivial sense. This does not mean that the notes have no role to play in the analysis of *One*, but there is a unit of more significant currency, the time brackets. Therefore, my own definition must account for the currency of the time brackets. As such, my definition is that stability is the consistency in duration of the time bracket. From this definition I derive that instability, or tension, is caused by the change in the time bracket's consistency of duration. Using the model of cadence as Eason describes it, one may take the new definitions of stability and instability and use them to define cadence in terms of time brackets.[98]

5.1 – Analysis of structure beyond the time brackets

The analysis of the time brackets is a more straightforward process than one might anticipate. There is but a single deviation in duration throughout the piece. Each of the

[95] Eason, "Cadence as Gesture" p. 269

[96] Steve Larson, *Musical Forces: Motion, Metaphor, and Meaning in Music* (2012) p. 19

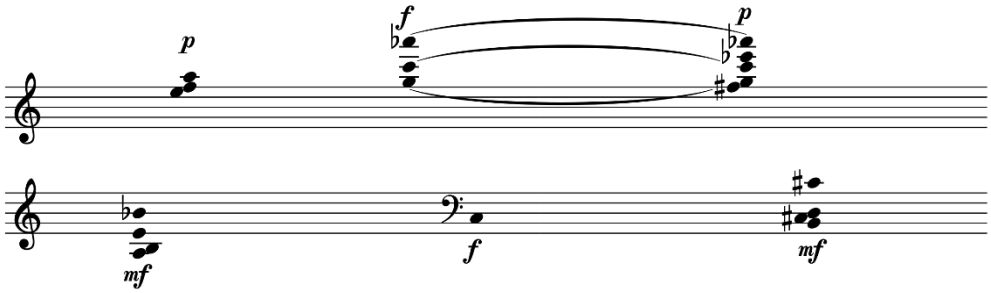
[97] Eason is applying this to twelve note harmonic language, but it has been applied to this, and tonal language until this point in the study. See Eason, "Cadence as Gesture" p. 270

[98] For the purposes of clarity and to avoid confusion, I am going to stop using the term 'Schoenbergian cadence' for the remainder of this study. I do not want to construe this new definition of cadence, which I have invented for this analysis, with Eason's own concept. My concept is "time-bracket cadence".

piece's nine ordinary time brackets have a maximum duration of one minute and fifteen seconds. Each of these nine brackets is defined in two sections of 30-45 seconds with a 15-second overlap. There is some flexibility in the potential realisations of each time bracket. There is nothing to say that any of the time brackets will manifest in performance with the same duration, but their potential durations are defined by the composer in the same fashion.

The exception to this is the ninth time bracket, which is reproduced in Figure 5.1.1 for reference. It is defined on the score as '8'15" – 8'45"'[99] Two important things to note about this time bracket is that the duration is specific to within a second, and it takes place between 8'30" and 8'45" of the piece's duration. This is, first of all, much more determined than the other time brackets and it is also guaranteed to be shorter than all of the other time brackets. This shortness, highlighted by the time bracket's unique quality amongst the others is the key information needed to form an analysis of the material. In energetic terms, the shortness of the time bracket, relative to the others indicates a moment of cadence. So, the analyst can say with confidence that the moment in the ninth time-bracket is a time-bracket cadence. This reveals the form of the entire piece to be one singular phrase, as unfolds over the course of ten minutes. The contents of the ninth time bracket may then be understood as the chief cadential content. Then, the contents of the music before the ninth time bracket is initiating material and the tenth time bracket is post cadential finishing material.

Figure 5.1.1 – Reproduction of the Ninth Time Bracket



5.2 – Analysis of time-bracket contents

Being a pioneering work in terms of compositional practice, there is not yet an established way to conceptualise the logic of the piece. Unlike the previous cases in this study, there is no element of a previously existing theory of composition like the sonata form and figuring of the previous piece which will assist in making a structural analysis. I suggest that *One* is the product of *two* acts of composition. Simultaneously, *One* is a single piece of music. Conversely, I suggest that the pieces which were analysed hitherto

[99] Cage, *One for piano solo* p. 4

were one act of composition and one piece of music. As such, this analysis is the biggest test of gestural analysis's structure-reading powers. Therefore, there are two structures to provide a reading of, based upon the assumption that there are two fundamentally separate acts of composition. Table 5.1 shows a summary of the structure to the high staff and Table 5.2 shows a summary of the structure to the low one. When referring to each table, one will note that the structure revealed by this finer analysis aligns with the analysis of the time brackets themselves, but has expanded upon the form somewhat.

Table 5.1 – Summary of the High Staff's Structure

Duration / Bracket	Formal Unit	Cadence
1	A	
2		
3		
4	B	Half Cadence
5		
6		
7		
8		
9		Full Cadence
10	Post-Close	

Table 5.2 – Summary of the Low Staff's Structure

Duration / Bracket	Formal Unit	Cadence
1	A	
2		
3		
4	B	Half Cadence
5		
6		
7		
8		
9		Full Cadence
10	Post-Close	

There are three primary elements of gestural language at play in this piece which are used the same way in the high staff and the low staff. These elements are dynamic, texture, and pitch. Further, the gestural elements seem to group into two subgroups. First, there is a play between the manipulation of dynamic and the manipulation of texture. Secondly, the harmony follows its own path until there is a coming together of elements which communicates the most significant structural events. One notes that there is a much clearer sense of harmony which resembles a tonality of the Schoenbergian kind. For this reason, in companionship with the energetic analysis, I present an adapted Schenkerian analysis to show the form-generating quality of these pitches. It is my belief

that a Schenkerian reading of pitch is sufficient, given the tonal nature of the harmonies presented.

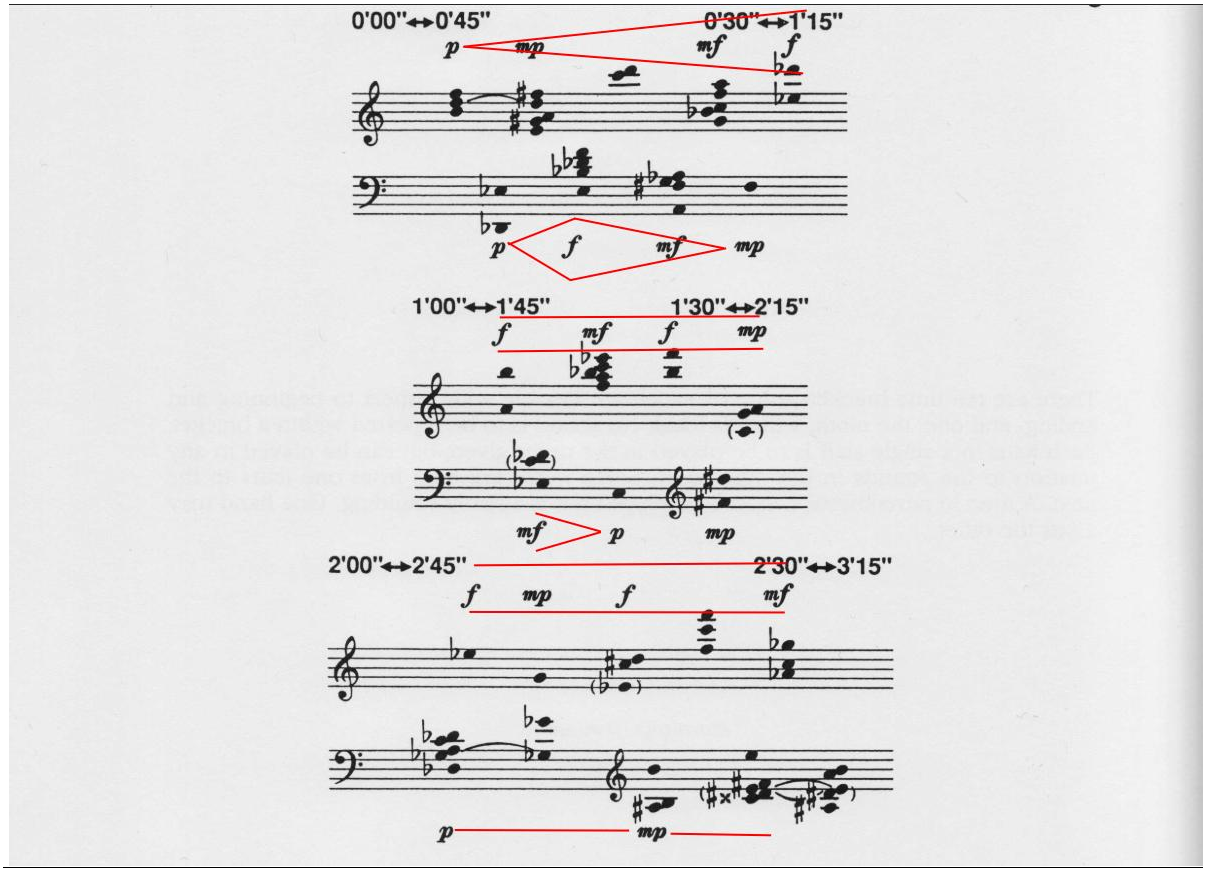
In such unconventional uses of Schenkerian analysis, it is important to qualify the reasons for use. As Philip Ewell says, there is a risk of reducing the music and the compositional features particular to it to conform to the Schenkerian perspective on music.[100] To understand if this is happening, one should consider the following: 1) the function and purpose of Schenkerian analysis; and 2) elements of composition which might be diminished by the usage of Schenkerian techniques. As David Beach puts it in his textbook *Advanced Schenkerian Analysis*, Schenker's theory is about structure and voice leading; specifically, Beach says that 'Basic to Schenker's conception of musical structure is the idea that voice leading is multi-dimensional, consisting of three structural levels: *background, middleground, and foreground*.'[101] Earlier in this study, I have described the manner in which the background, middleground, and foreground model is not particular to Schenker and so not necessarily Schenkerian. Thus, I do not agree with the statement in its totality, but significantly Schenkerian analysis is a theory of structure and voice-leading. The "voice-leading" of Schenker and the "harmony" of this essay are to the present end synonymous or at least overlapping. Furthermore, the harmony communicates qualities of the structure, so the first consideration is settled. If the study were purely Schenkerian, then the second consideration would not be settled, but given that the Schenkerian element is only a supporting part of the broader gestural reading, this consideration is settled as well.

This first composition is in a binary form with two clear moments of cadence. There is relatively little music compared with other movements of similar duration. The performance lasts for something like the same time as the Boulez movement previously analysed. The first section of this binary form is characterised by its clear dramatic arc, or diamond as is most easily observable in the manipulation of the dynamic. The arc begins with an increase from piano to forte in the first time bracket which is maintained throughout time brackets two and three. The dynamic falls back to piano from time brackets three to four. This is a clear and straightforward beginning, middle, and end process and indeed, the analysis in its totality reveals that there is a cadence at the point of return to piano in time bracket four. Note here that there are several intervening mezzo-dynamics, both mf and mp, but as the smaller and more foregrounded elements of voice leading do not disturb the large-scale forces at work, the moderating dynamics only serve to enhance the effect of the observable arc. To borrow a Schenkerian term, these intervening dynamics are small scale diminutions. Furthermore, the dynamic range of the

[100] For a detailed ethical discussion of Schenkerian analysis, see Philip Ewell, "Music Theory and the White Racial Frame" in *Music Theory Online*, 26, 2 (2020)
[101] David Beach, *Advanced Schenkerian Analysis: Perspectives on Phrase Rhythm, Motive, and Form* (New York: Routledge, 2019) p. 132

entire piece is from piano to forte.[102] Instances of piano dynamic and forte dynamic in the piece are realised with clear difference from each other both in between performances and in between instances within a single performance. Yet, this is not prescribed anywhere on the score. It is a matter of lesser importance. Figure 5.2.1 shows the time brackets of the A-section for reference.

Figure 5.2.1 – A-Section with Dynamic Annotations



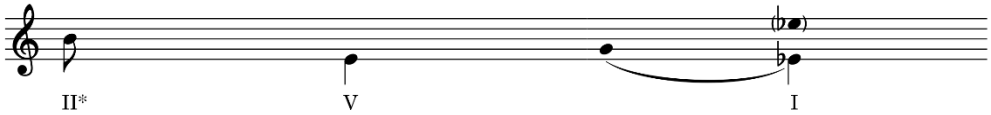
There is, then, the arc of the textural gestures which tells its own, complimentary narrative. Most immediately, one notices that the instances of increase and peak in dynamic do not coincide with the instances of increase and peak in texture. In the first time bracket, the peak in dynamic occurs on the fifth ictus, whereas the textural peaks occur on the second and fourth ictuses. Here, ictus means the discrete sonic event, several of which occurs within the time bracket. This behaviour results in the partial diminishing of the effects created by the dramatic arc. Instead of gentle ascent, prolonged holding, and gentle descent of the dynamic arc. One sees the process of increasing and decreasing between one and two times within the time bracket. In the first time bracket, this happens to coincide with the weaker mp on the second ictus and the mf on the fourth ictus.

[102] This range is one of those elements of the score which seems to be treated as vaguely indeterminate in its boundaries during performance.

The reading of the harmony casts further light on the picture. To be clear, this harmony has a very dissonant character. The chords which are the ictuses of the first time bracket are characterised by tritone, minor second, and minor seventh intervals amongst others. Nonetheless, there is a clear tonal design to the chords in both their individual constructions and their collective construction. There is a kind of dominant-tonic paradigm at play. First, look at the opening bar. Using the assumption that the composer establishes his energetic language at the beginning of a piece of music, consider the procession from the first ictus to the second one. There could not be a clearer dominant-to-tonic bass progression. So, there is a procession from V-I in some kind of E tonality between ictuses 1 and 2. The larger bar tells a broader story. I propose that the music proceeds to an E♭ "major" tonality, but to use the terms major and minor in this piece is slightly unreflective of the scale of the dissonance in the harmony. More broadly, the E♭ tonality will proceed to establish dominance within the A-section and throughout the entire composition.

This said, there is a question as to what the E tonality does within the broader structure of the A-section. Happily, this is a question which broader Schenkerian theory is entirely equipped to resolve. In their work on Schenkerian applications to Richard Wagner, Paul Harper-Scott and Oliver Chandler have developed Schenkerian theory into a system which can describe any procession of harmonies through their integration of Neo-Riemannian theory into Schenkerian notation. In this system, the E tonality is entirely understandable, and it has a secondary structural role. In this piece, the E tonality is the space of IV; it is often visually characterised by the presence of sharps on the score and the reduction of flats such as in time bracket 4. The reason for this is that there is a closeness between tones related by major third. The transformation from one chord to the other does not disrupt the other. In the words of Neo-Riemannian Richard Lawrence Cohn, chords which occupy a Weitzmann region 'can be cyclically ordered in several ways, but there is no ordering that is more natural than the others, from the standpoint of voice-leading.'[103] Therefore, this moment of E tonality at the beginning is a IV prefix to the initial I. I say that this moment is a IV prefix rather than an established tonic which the following E♭ displaces because of the cadential behaviour in which E♭ engages later in the form, which coincides with the cadential action of the other gestural elements. Figure 5.2.2 shows the resulting graph from this analysis of the first time bracket.

Figure 5.2.2 – Schenkerian Graphic Analysis of the First Time Bracket



[103] Richard Lawrence Cohn, *Audacious Euphony: Chromatic Harmony and The Triad's Second Nature* (Oxford Studies in Music Theory, 2012) p. 59.

The graph in Figure 5.2.2 shows the foregrounded nature of the progression from the first ictus to the second one. The first ictus is not structural in its own right; it only serves to prolong the IV-Stufe which is in itself a foregrounded prefix to the I-Stufe and this I-Stufe is the true beginning of the structural action. This action is the beginning of the composition in Agawu's sense, a notion which is corroborated by the action of the dynamics within this time bracket as was earlier observed. It is a matter of interpretation as to what the third ictus does, as there is so little information which it gives. Ultimately, whatever reading one selects it does not hold much weight over the reading of the structural course of the first time bracket. The A and B of the third ictus might be read as some kind of prolongation of the preceding second ictus. Equally, they might be read as a prefixial prolongation of the fourth ictus. Only because it requires fewer enharmonic reinterpretations, I consider this ictus to be a suffixial prolongation of the second ictus. The final two ictuses, the fourth and the fifth are the establishment of the I-Stufe. Based on the bass motion, which is simplified in the graph via the principle of octave equivalence, the fourth ictus is the prefixial prolongation of the fifth one because of the inversion which the fourth ictus bears and the root positioning of the fifth one.[104]

There is the matter of the structurally significant melodic tone which moves by step, Schenker's Kopfton. It is certainly not clear where such a tone might be located nor that it be necessary to a formal reading. It might be that over the course of the structural reading, one such tone might become apparent, but given the scale of the piece and the number of cadential procedures which take place within it, one may ignore the matter for the time being.

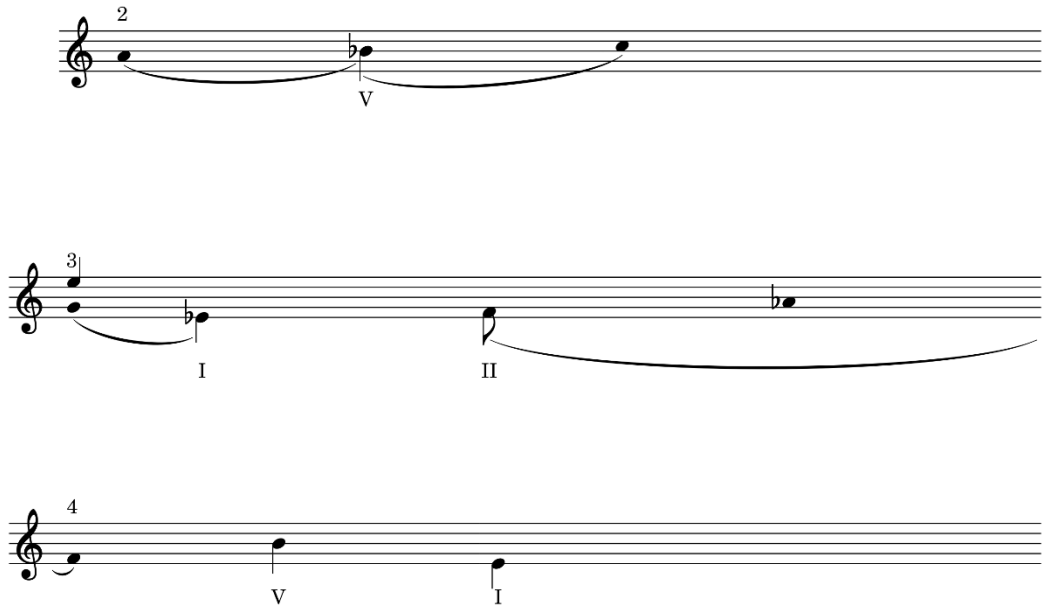
One point of note here is that the play in texture is ignored by the Schenkerian analysis. One might go further to say that the Schenkerian analysis actually diminishes the appearance of the texture's role in the music but there is no problem here because this matter is being delt with external to the Schenkerian analysis. There are several elements of the thick foreground voice-leading which my be interesting to explore for a composer in a more trivial manner, but they do not bear any effect on the structural voice-leading.

The following three time brackets which constitute the duration of the A-section may be read in the same Schenkerian manner. The second time bracket features a prolongation of a V-Stufe, B♭ of some kind. Again, the sounding of the structural material is in the second Stufe with surrounding material offering both prefixial and suffixial prolongations. There is a subsequent F-harmony in ii. 3 and 4 but this may be read as a 'back-related dominant' rather than a more structural V-Stufe. The I-Stufe reasserts itself in the third time bracket where one sees the emergence of a clear two-part voice-leading system. The first, second, and third ictuses are all various elements of a I-Stufe voice-

[104] Heinrich Schenker, *Free Composition: Volume III of 'New Musical Theories and Fantasies'* (London: Longman, 1979) p. 85

leading event. There is an upper voice which is revealed in the first ictus while the lower voice unfolds between the second and third ictuses. The second ictus is a prefixial prolongation of the third one wherein the bass tone is revealed. In the fourth and fifth ictuses one sees a II stufe emerge which is prolonged via the unfolding of a 5-6 process. The 5-stage is prolonged by a minor-third bass arpeggiation from the fourth the fifth ictus. Again, this assumes octave equivalence for the purposes of this Schenkerian analysis. Finally, the composition comes to its first close at the end of the fourth time bracket. There is a IV-Stufe prolonged from the fourth ictus of the fourth bracket to the fifth one. This is a weak manifestation particularly as the root only sounds in the foreground at the extreme register of the fourth ictus's top voice. Figure 5.2.3 follows and shows the Schenkerian graphic analysis.

Figure 5.2.3 – Schenkerian Graph of Time Brackets 2-4



This moment marks the halfway point of the form, this is marked in each of the elements under discussion. Most obviously, there is the diminishing of the dynamic. In collaboration with the dynamic the harmony projects a kind of close here. I propose this to be something like a full cadence in a non-tonic key, thus creating a kind of unfinished quality despite the gestural language of the close. Texture and pitch range, the other elements at play paint a different picture. Based upon the frequency of category II processes compared to category one processes; this analysis might suggest that there is a two-tiered system of structure at play in this piece, where category I processes project a broader, more middlegrounded structure and category II projects a more "in-the-moment" and immediately audible foreground structure. With the sum of these elements considered, this moment in time bracket 4 is a definitive halfway marker within the course of the form.

During this analysis, one must remember that perception is not so closely linked to individual time brackets in this piece. One will feel, differently, the processes of a time bracket wherein six distinct events take between a minute and 75 seconds to complete compared with a bar wherein more distinct events may unfold within the duration of a few seconds. At the scale of these time brackets the projection of smaller formal units through gestural language is necessary for the listener to interpret the music. Without structural language at this scale, this would cease to be music as theory is equipped to describe it and the composition would become something else.

The second formal half which follows the structural half cadence is longer in physical duration, six time brackets to the four time brackets of the first section which amounts to ca. six minutes of the ten-minutes total duration of the piece. To begin with the manipulation of gestural parameters, there is a greater degree of tension in this second section of dynamics. The fifth time bracket holds around a piano register which is prolonged in the sixth. Each of the time brackets which follow is unfolds some manner of arc from piano to forte through mediating mezzo dynamics before concluding at the piano at the end of the tenth time bracket. In the same fashion as the Boulez sonata, this diminishing in duration or increase in frequency communicates senses of seeking, continuing, tension, and development. If one thinks of the pre-Schoenbergian analogue of this binary form. This time, especially at the beginning of the B-section is where one would expect to see developmental behaviour. I suggest that this dynamic behaviour first signals a seeking of the ending and the continuation after the ending is a continuation behaviour, which allows the music to continue on from the final structural cadence.

In terms of category II gestures which communicate structural behaviour within discreet time brackets, the fifth time bracket follows a kind of “bow” structure with the range and texture narrowing down through the first, second, and third ictuses before ballooning back outwards in quite a dramatic fashion with the fourth and fifth ictuses. The sixth time bracket, which has only three ictuses to the same period of 60-75 seconds, features a contraction from the previous time bracket on the first ictus and then a reopening on the following to ictuses. The arcs of these two time brackets serve to keep the form motivated on the foreground scale while the larger scale process is at a generally low point. The seventh ictus follows a two-part shrinking and reopening, first in ii. 1-3 and second in ii. 4-5. In the following eighth time bracket, there is a longer hold on the open state with a slight diminishing during the third ictus on its way towards the ninth time bracket.

This ninth time bracket is special within the form for a number of reasons. The sum of the gestural behaviour points towards this bar being the focus of the structural behaviour, but there is also another element which points in this direction. To refer back towards the writing offered by Cage on the piece, he points out that ‘There are ten time brackets, nine of which are flexible with respect to beginning and ending and one, *the*

ninth, which is fixed. Indeed, when looking at the score, one sees that the duration of the ninth time bracket lasts from 8'15" to 8'45, or thirty seconds. There is clearly a significance to this bar of some kind or another which was consciously worked into the form of the piece by Cage.

4.3 – Second Analysis

The second composition, or the composition of the lower staff is different in structure to the composition of the upper staff. The dynamic character of the work is different as the period of ascent to forte from piano and the return back is much shorter as a general rule, usually occurring once per time bracket with two main exceptions. In contrast, the texture generally stays at a thickness greater than that of the first composition, although there is a similar period of increase and reduction. Finally, the harmony tells the most important and elucidating story of the three primary modes of composition. In the same tonality as the first composition, the music traces a path away from the beginning I to a long-term V over the duration of the piece. I suggest that this path may be read as the A-section of an imagined overall binary section, wherein the music undergoes the process of stability decrease without ever delivering the stability increase which is the general goal of the ending-phase of a piece of music. The most thought-provoking effect of this structure is that by the end of the piece's duration, the two compositional events end at different stages within Agawu's beginning-middle-ending paradigm.

In order to structure the analysis of this second composition, the A-section of the imagined binary form will subdivide into a period of tonic prolongation and a period of dominant prolongation. That is, a period of beginning and a period of continuing or "progressing away" from the beginning. Naturally, the first time bracket is the location of the "beginning of the beginning". There is a generally piano dynamic, with a quick ascent from piano to forte during the first and second ictuses. This moment of forte does not hold any structural significance as it does not converge with any significant structural events, in fact it coincides with an ictus which projects a foreground diminution of the I Stufe. After the first two ictuses, the dynamic trends downwards towards the return to piano in the second time bracket. With the exception of the fourth ictus, the pitch ranges begins at the distance of a ninth before diminishing to a seventh in the third ictus. In the end, this is not a very substantial decrease. There is an extreme decrease in texture between the third and fourth ictuses, but this does not amount to anything structural again. The notes of the third ictus amount to even more foregrounded suffixial diminutions of the second ictus which is in itself a diminution of the first ictus. Thus, the harmonic character of the first time bracket is entirely of the I Stufe. The second ictus might project a V stufe, but given the withering content of the surrounding this moment,

it is perhaps more tempting to read this as a simple prolongation of the events in the first ictus of the first time bracket and the first ictus of the second time bracket.[105]

The second time bracket is sparser in musical content. There is a prevailing piano dynamic. There are only three ictuses sounding during this period, two of which have only a single voice. Bearing in mind that the time brackets may last 75 seconds at the longest, this is an extremely small amount of material for the listener to interpret. Harmonically, the first two ictuses project the I Stufe. To be more specific, they project a six-step of the broader opening I Stufe, the five-step of which can now be confirmed as the contents of the first time bracket. Returning to the second time bracket, the third ictus is a IV Stufe by the Neo-Riemannian means set out during the analysis of the first composition, although only one which leads back into the prevailing I Stufe. This second time bracket has the appearance of lower tension, which puts an appearance of quasi-introduction on the first time bracket. Ultimately, that is a detail of lesser importance and consequence for the success of the broader analysis, but worth noting here. There is also a development in that the music of the third ictus progresses into the range of the first composition during this third time bracket. This is something which will be discussed during the post-analysis and so I will save its discussion thence.

As mentioned, the music returns to the broader I Stufe at the onset of the third time bracket. This I Stufe might not be immediately observable, but Figure 4.7 shows a small piece of foreground analysis demonstrating this fact. Once again, a piano dynamic prevails from which the composition does not meaningfully depart until the fourth time bracket. In terms of texture, this third time bracket has the densest one yet seen in the second composition. With the exception of the second and third ictuses, there is a close five-part texture, which is contained with the range of a tenth at its broadest. In terms of pitch range, there is a minimum of a seventh maintained throughout the time bracket. The final three ictuses of this time bracket project a V Stufe, now better articulated than the brief example of the second time bracket. This is the first assertion of the V Stufe towards which the form of the music progresses, although it is not the final manifestation of the I Stufe. Overall, this time bracket projects the end of the beginning, that is the first signs of decrease in stability and the progression away from the state of beginning.

The fourth time bracket is a prolongation of this contrasting material. There is a dynamic ascent to forte at the third ictus which coincides with the strongest articulation of the prevailing IV Stufe. This IV Stufe is the main contrast to the I Stufe throughout this beginning period and it embodies a part of smaller continuation during the pieces overall beginning space. Of note in this time bracket is a kind of “lurching” which is present in the music of the previous time brackets. By lurching, I mean in this instance a dramatic ascent of an octave or beyond over the span of a single ictus at which the music stays for the duration of the bar. One can see this manifest clearly in the fourth time bracket, but

[105] Refer to Figure 4.2.1 for these details.

also in those surrounding ones as far back as the second time bracket and as far forwards as the sixth time bracket. This ascent or dramatic pitch increase creates a sense of increase tension in combination with the regularity of the occurrence of the event itself across the five-time-bracket span which begins at the second time bracket. This Stufe does not change in the fifth time bracket. It is prolonged all the way throughout the fifth time bracket and the sixth until the final two ictuses of the sixth, at which point, there is a return to the I Stufe. There is little other material of unique character to distinguish these time brackets. The fifth time bracket preserves a forte dynamic which settles to a piano by the final two ictuses of the sixth. Clearly, it is worth considering the reading that these lurching time brackets are some kind of structural event themselves. I present this idea, that within the beginning space of the composition, there is a subordinate, foregrounded beginning-middle-end event which gives form to the broad beginning event. The beginning of this foreground event unfolds through the first time bracket; the middle unfolds through the second time bracket to the fifth time bracket and the first three ictuses of the sixth time bracket; the ending is made up of the remaining part of the sixth time bracket and the first three ictuses of the seventh time bracket.

Already, the form of this second composition is obviously different from the form of the first composition. They flow and climax at different points within the duration of the form. Yet, one can make these claims because the forms are measurable. This claim flies in the face of others which say that it is necessarily nonsensical to try and produce an analytical reading of this composition. What this means for the perception of the piece as it reaches the ears of the listener is difficult to define, but there is a analysable form at work which is composed.

The tail end of the seventh time bracket marks the beginning of the broad continuing phase of this composition. The analytical annotations of Figure 4.x mark the Stufe in the fourth ictus as II although it might be considered as V in the harmonic context of this broad continuing section. Given the Schenkerian context of the use of these roman numerals, I have decided to represent this as a II Stufe. In making such a decision, there is a reflection of the fact that the form is not concluded by the end of the piece's duration. This structural shift is marked by another gestural element, the lurching down from a high at the beginning of a time bracket to the low at the end of one is a clear statement of inversion from the opposite process of the beginning section. Through an Easonian lens, one may read this as a contrasting material which serves to contribute to the sense of increasing tension.

The analysis shows that there is a clear structure in both the first and second compositions of this piece. What is more, the behaviours of the beginning-middle-ending paradigm are easily observable. Where this method of analysis is stretched is within the periods wherein the music of the second composition is likely to stray into the music of the first. Examples of such straying include the third ictus of the second time bracket, the

third ictus to the fifth ictus of the third time bracket and other such instances which are annotated in Figure 4.x. At this point it seems important and honest to observe that the sound worlds of the first composition and the second composition are likely to come into contact with each other. To be clear, the word "likely" is used in this context other than any word which indicates necessity because there are interpretations of the score in which the ranges will not come into conflict with each other. For example, an interpretation is not forbidden wherein the entire contents of the first composition sounds and then the entire contents of the second one sounds. Returning to the performance instructions of Cage, he says that 'Each ictus in a single staff is to be played in the order given but can be played in any relation to the sounds in the other staff'.[106]

In this example of potential, but unnecessary part crossing, the crux of the issue is highlighted which this analysis seeks to explore. There is nothing in the analysis that requires the parts to cross. The structure of the two individual parts may be described without consideration of this detail. Nonetheless, it may happen in performance and the listener might experience an entirely different sonic product to one in which the parts do not cross at all. But does it follow that these two performances and their respective sonic products had different forms? I suggest that it does not. If such a claim were accepted, it would break the music theory and analysis of western European music wide open. A "polytonal" piece wherein there are two competing tonalities in between two parts may be understood in the light of being two separate compositional events with different diminishing and climaxing behaviour observable between the two parts. This might be taken further back, or forward, into discussions of contrapuntal music, somewhere within there is reason to suspect that there is an analysis of separate parts may lead to a deeper understanding of the music than was available through the use of previous theory.

[106] Cage, *One* p. 2

Conclusion

The analytical approach which this study has used is a synthesis of existing approaches and theoretical apparatuses; it uses Eason's Schoenbergian cadence to reframe the axioms of Schenkerian analysis, through a graphic syntax which is derivative of Schenkerian analysis. These axioms are more fundamental beings than the Schoenbergian tonality with which Schenkerian analysis was originally concerned. This approach shows the behaviours of individual musical elements within a particular section; it shows whether they have beginning, continuing, or ending function. This information allows one to build up a system of cadences for a music in which the pre-twentieth-century theories of cadence are not useful, and so the approach provides a summary of the sections of a piece of music, informed by the cadential information of the constituent musical elements. Then, the approach may present this information graphically, using the syntax of the Schenkerian graphic system. This graphic approach allows the analysis to be presented in a way which makes intuitive and musical sense to students of composition with an education in formal European music. One needs no training in mathematics or other disciplines to interpret that. *This is an exclusive approach, like* Fux's *Gradus ad Parnassum*; it is not universally applicable nor universally useful. It replaces no other approaches, but it offers a new and intuitive approach into music which may help composers and students of composition who are done a disservice by existing compositional education.

If I may take a small space within the body of this thesis for personal reflection, I will do so here. During my work on this thesis, supervisors and colleagues asked me the question, "Why are you working on another approach to this music when others exist?" or some variant thereupon. This question troubles me as a scholar of music. It seems to me that at the end of such a project, we would have something useful to composers, and broader scholarship, which we currently have not, and this observation is a sufficient reason in itself. I suspect that this question would not be asked, nor occur to be asked, should I be working on a more accessible or less controversial approach to musical analysis. If this is the case, and I do not have evidence for that claim beyond my own tacit knowledge and intuition, I suggest that this question is a symptom of a blind-spot in the focus of musical scholarship; it indicates to me that this area of musical scholarship is one where scholars must focus their study.

The analysis of Schoenberg's serialist music functions as a recapitulation of Eason's article as a starting point and an opportunity to demonstrate the function of graphic analysis in this approach. The analysis begins by defining the formal parts of the piece, using Eason's approach to identify cadences. With these formal parts, the analysis provides a summary of the form and shows how the parts interact with each other in a

hierarchical model. This hierarchical model is illustrated in the graphic analysis at the end.

The analysis of Brahms's sonata demonstrates that the analytical approach taken in this study, provides analysis which is, at least approximately, analogous to the analysis provided by a tonal means of analysis. Also, the analysis of Brahms's sonata provides for the reader and potential adopters of this approach a methodological illustration of what the theory does and what it aims to do. This is the fulfilment of Eason's conclusion that 'energetics is a powerful tool to describe our musical experiences in a grounded and shared language.'[107] Therefore, the Boulez sonata form is comparable to the Brahms sonata form, a claim which might be disputed otherwise. About the Boulez sonata, the approach allows for the description of an entire, and at some points quite conventional, sonata-form idea. In combination with Derrida's concept of hauntology, the analysis shows certain specific elements of sonata theory, including, what is perhaps most strikingly, a medial caesura event in the expositional space. The evidence for this case is compelling, which prompts further criticism. Are there other elements like this one in Boulez's own music which this approach can reveal with the correct focus. Can this approach be applied to other examples of non-tonal sonata form to reveal their, hitherto unrevealed, sonata-theory elements? Furthermore, does this approach open avenues of comparative analysis between tonal and non-tonal works? I believe that the answer to all of these questions is, "Yes".

The reader may decide for themselves whether the analysis of Cage's music is successful. It is clear to me in my writing of the analysis that this is the most controversial part of the study. The premise risks the "flattening out", or plain obfuscation of the compositional material of which pure-Schenkerian analysis is accused. I present that what I do in the analysis of Cage's *One* is not the same thing. Where the approach of analysts like Baker flattens Schoenberg's music to ensure that it fits the harmonic paradigm which they want, I offer a humble supplement to the work which existed before mine regarding Cage's number pieces. Where the other approach would seek to materially reshape the object itself, I require the musical object to be, only, as it is, and offer a new lens through which one may see it. If one accepts this, then the analysis of Cage shows that the time-bracket system which Cage invents may be analysed through energetics as a form-communicating element of the piece's composition. Through the information regarding the form, the approach allows for a description of the other musical materials of the composition in a more trivial sense. One cannot undertake this

[107] Eason, "Cadence as Gesture", p. 287

dimension of the analysis without the time-bracket dimension because the time-bracket is the controlling force over the way in which this music is perceived.[108]

This thesis is the initial groundwork which explores the usefulness of this new approach. At the end of this study, it is my opinion that the approach may be taken further and applied to today's repertoire as a tool for the composer to understand structure. The next part of this project will involve the construction of a stricter system, which will involve the surveying of a broader range of repertoire. In doing so, Eason's vision will be one step closer to realisation.

[108] This observation does not require any particular theory of musical perception, it is simply evident upon the process of listening to *One* and then to another piece of music written using a more normative staff notation.

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