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**Understanding Pierre Boulez's *Anthèmes* [1991]:  
'Creating a Labyrinth out of Another Labyrinth'**

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## PREFACE

The main body of this essay involves a detailed analysis of a recent composition by one of the most important figures in twentieth-century music, Pierre Boulez. This work, entitled *Anthèmes*, was composed for violin solo in 1992, and is of approximately ten minutes duration. This piece can be heard in its entirety here, in a new version prepared specially for this site, recorded February 1, 2001, by Ensemble Intercontemporain violinist Jeanne-Marie Conquer, under the supervision of Pierre Boulez himself. The lecture which Boulez gave on the occasion of the Parisian première of a newer version of the same work, *Anthèmes 2* [1997] (recorded in 2000 by Hae-Sun Kang on Deutsche Gramophon 463 475-2) will serve as one of the principle sources of information upon which this study shall be based. A transcription of this lecture both in English translation and the French original, forms Appendix A and B respectively of this study. However, the analysis that follows is far from being a ‘formal’ analysis of, for example, serial procedures in the work. It is rather a reflection on certain musical concepts as they emerge, on the one hand, from a study of the score of *Anthèmes*, and on the other, a study of conferences and articles written by Boulez at more or less the same time.

In fact, only a single chapter (the fourth) is devoted to the serial, or permutational aspects of the work. This surprising fact is explained both by a change of orientation that Boulez’s works have undergone, and a parallel change in the recent analyses of his works, including those by Célestin Deliège [1988], Jean-Jacques Nattiez [1987a; 1993] and Antoine Bonnet [1988]. The principal issues that shall be dealt here are then as follows:

a) Boulez has often been unenthusiastic about the fruits of analytical research; moreover, the question of the utility of analysis has been the subject of lively debate in recent years in musicological departments, centred on an article on the subject by Joseph Kerman [1980]. I therefore considered it advisable, in Chapter 1, to discuss

Boulez's position on analysis, as well as my own, in order to arrive at an answer to the two questions 'why analyze?' and 'why analyze Boulez?'

b) In Chapter 2, after a description of the macrostructure of *Anthèmes*, I introduce a paradigmatic analysis of the piece, an analytical method that has its origins in musical semiotics. I then go on to present Boulez's own analytical concepts. In an essay entitled "Le système et l'idée," Boulez introduces a whole series of terms (including *satellites*, *signals*, *envelopes*, etc.) of his own devising, which attempt to describe a musical work according to the way in which it is *perceived* rather than how it is constructed. In the last section of this second chapter, I propose to study these terms systematically, and find examples of their use in *Anthèmes*.

c) Since *Anthèmes* represents a return to a thematic style of writing, I discuss, in Chapter 3, Boulez's thoughts on the theme and its use in music. This can be found in the anthology of Boulez's writings entitled *Jalons (pour une décennie)* [1989], which includes the abovementioned article "Le système et l'idée". In addition, I offer a detailed list of thematic material in *Anthèmes* and an explanation of its use.

d) Chapter 4 is devoted to an analysis of serial/permutational structures which can be inferred from the study of the score, and which is consistent with Boulezian techniques used in earlier works. It is then claimed that what could be termed 'palindromic' pitch classes play a primordial role in the work's genesis.

Throughout, I use the semiotic system of Jean-Jacques Nattiez [1987b] and Jean Molino [1975] to structure my analysis. This system, which is introduced in Chapter 1, serves to give coherence to the various arguments, as well as suggesting the method for at least one of the ways in which I study the piece's immanent properties, viz., paradigmatic analysis (Chapter 2 and Appendix C.) For example, when I use Boulez's writings to elucidate his concept of theme, and then apply this to an immanent analysis of *Anthèmes*, I move from the *poietic* (i.e. the work as fabricated object) to the neutral level of the work — which constitutes "*analyse poiétique externe*" in Nattiez's parlance. When, elsewhere (Chapter 4) I propose quasi-serial structures based on the notion of a 'palindromic' series, discovered from an immanent study of the work alone, and then propose that this system belongs to the compositional matrix

of the piece, I move in the opposite direction, i.e. from the work to its fabrication, which is what Nattiez terms '*analyse poïétique inductive*'. In contrast, the discussion of Boulez's new 'auditive' categories, and their use in the segmentation of musical objects in *Anthèmes* (Chapter 2,) might seem at first glance to be a hybrid of the poietic, the esthetic (work as perceived object) and the neutral — a hybrid which is itself typical of later Boulez. In the final analysis, however, this approach, because it pertains to the poietic strategies of the composer, and is obtained from sources external to the work, can be classified as '*analyse poïétique externe*'.

Since I am approaching the work through various angles – paradigmatic analysis, Boulezian terminology, thematic analysis and quasi serial analysis, the question of the consistency of these independent methods arises. I conclude that to a large degree there is a coincidence between analyses undertaken by each these methods, and that the analytical process is enriched by this pluralistic approach.

Please note that all of the English translations of French passages from Boulez's and other author's writings are my own free (and sometimes slightly maladroit, since I attempt to keep them as literal as possible) translations. The French original is always included as a footnote.

I wish to acknowledge my gratitude to Jean-Jacques Nattiez for giving me the inspiration for the subject, offering countless pertinent criticisms and for procuring me source material that I could not have acquired on my own. In addition, I wish to thank Pierre Boulez and Astrid Schirmer for kindly supplying me with a recording of the lecture on *Anthèmes*, which is transcribed and translated in Appendix A and B. I am grateful to my parents and to Andrew Bulman-Fleming for hours of editing, scanning and printing.

Finally, I am especially grateful to Alain Coblenz who has given me the honor of inaugurating the Pierre Boulez site on Andante.com with this monograph.



# CHAPTER 1

## Introduction

### Why Analyze Boulez, and for that Matter, Why Analyze at all?

To attempt yet another analysis of a work by Pierre Boulez might seem a somewhat foolhardy; this is not only because of the exceptional difficulty of the scores, or because of the by-now weighty corpus of analytical work devoted to Boulez. What is off-putting is rather the less-than-flattering epithets which Boulez reserves for analysts and their analyses. Although somewhat attenuated in his most recent writings, i.e., the *Collège de France* lectures of the nineteen-eighties that are published in the collection *Jalons(pour une décennie)* [1989], Boulez's position on analysis seems to have oscillated for well-nigh 35 years between supercilious indifference and downright scorn. Typical in the scorn department (and as usual with Boulez, not without wit) are Boulez's remarks in the opening of his *Penser la musique aujourd'hui*:

In the last little while, we have been subjected to an abundant flourishing of more or less absurd analyses, inspired by various pretexts — phenomenology, statistics, etc. — that have resulted in the degradation of analysis into a deplorable caricature of itself. We have reached the saturation point with these immense charts, with their derisory symbols — reflections of nothingness, fictional train schedules for stalled trains!<sup>2</sup>

These scornful words, however, which could be placed alongside countless others, must be understood in their context: they are the opening of a book in which

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<sup>2</sup> « Nous avons, ça et là, assisté à une abondante floraison d'analyses plus ou moins absurdes qui, sous divers prétextes – phénoménologie, statistique... – ont abouti à une dégradation, à une caricature déplorable. [...] Nous sommes saturés de ces immenses tableaux aux symboles dérisoires, miroirs de néant, horaires fictifs de trains qui ne partiront point! » (1963: 12)

Boulez goes on to repertory his compositional tools, to write a ‘*techniques de mon langage musical*’ in the manner of his teacher Olivier Messiaen. In other words, despite the abstract, universalizing plane in which Boulez writes about these techniques, and despite the axiomatic, quasi-scientific tone that he adopts, the book which follows this introduction is essentially a work of self-analysis. The absence of references for the musical examples does nothing to diminish this, and neither does the fact that Boulez calls his most analytical chapter “technique musicale” and not the more modest (not to say Messiaenic) “*ma technique musicale*.” Hence into Boulez’s unflattering words must be read a will to apologize for the self-analyses which follow.

The scathing *ad hominem* tone of the passage quoted above betrays its true meaning – i.e. that far from being a critique of analysis in general, it is a critique of Boulez’s analysis teacher, and adversary in the race for title of “Disseminator General of the Doctrine of Dodecaphony” to Post-War France, René Leibowitz. It is well-known that Boulez fiercely opposed Leibowitz’s style of analysis of dodecaphonic music, as outlined in the latter’s magnum opus, *Introduction à la musique de douze sons* [1949]. Boulez considers Leibowitz’s analyses of the works of the Second Vienna School to be shallow in that they consider the discovery of *the* twelve-tone row upon which a piece is based to be more or less equivalent to having analyzed it. Analysis is thus reduced to its most hypostasized state, viz., mere counting, or ‘*chiffrage*’: hence the resemblance to train timetables!

This anti-Leibowitzian stance continues to inform his writings – even those collected in *Jalons (pour une décennie)* [1989], written some thirty years after receiving Leibowitz’s tutelage. In general the portrait that these writings paint of Leibowitz is

exaggerated: his work on twelve-tone music, and especially his text *Schoenberg et son école* [1947] are still considered standard reference books on the subject. Moreover they exude an awareness of the cultural background of Schoenberg's Vienna and an almost puritanically historicistic approach (beginning his study with a discussion of Gregorian Chants!) that are the furthest thing from the fastidious note-counter portrayed by Boulez.

This straw-man characterization of Leibowitz permits Boulez, nevertheless, to lay out a highly original program for the music analyst. This program is described in *Jalons*, now unencumbered by the gratuitous anti-Leibowitz scorn that colored earlier essays. Boulez explains, in the first essay, "*Idée, réalisation, métier*" (1989: 33-69) what is false in the '*chiffage*' approach to serial analysis. The analyst searching merely to find the degree to which the piece adheres to a twelve-tone 'rule',

...seeks the forms which will allow him to inscribe the work, or what is left of it, into the carcass of an arithmetizable, pre-existent body of knowledge. However, behind these constructions, sometimes impeccable in themselves, the work itself has disappeared, or at least its inner meaning. The *how* of the work has been *legislated* rather than explored. (Boulez's emphasis)<sup>3</sup>

It is finding the '*comment*' of the work that corresponds to a Boulezian analysis: the problematic of a work, or to put it another way, the *dialectic* of the work. This is how analysis can hope to transcend the purely positivistic – as exemplified in Leibowitz's putative note-counting. Boulez uses the term dialectic since again and again, he treats of a subject, be it a work or a composer, in terms of an opposition of two poles or categories. The unstable reconciliation, or encounter of these two opposites becomes the

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<sup>3</sup> « ...recherche les formes qui permettront d'enserrer l'œuvre, ou ce qu'il en reste, dans la carcasse d'une connaissance primaire et chiffable. Mais derrière ces constructions, quelquefois impeccables, l'œuvre a disparu, ou du moins son sens profond. Le *comment* [Boulez's emphasis] a été non pas exploré mais plutôt réglementé. » (1989: 34)

locus of the artistic work. Whether it be the pairs of opposites strict composition/free composition, verticality (harmony)/horizontality (counterpoint) or *sons bruts/ sons travaillés*, this familiar literary trope, perhaps a legacy of another much derided (by Boulez himself, of course) ‘teacher’ of Boulez, the Hegelian philosopher Theodor W. Adorno, spans the entirety of the Boulezian corpus. We find it already in *Penser la musique aujourd’hui*, in which Boulez makes the famous distinction between *temps strié* and *temps lisse* (1963: 98-99), elsewhere between “*tempo mobile-tempo fixe*” (1963: 54-55) and between *homophonie* and *hétérophonie* (1963: 138), to name but a few. However the most lucid exposition of the role of dialectics in Boulezian analysis can be found in a transcription of an interview with Maryvonne Kendergi in 1970, entitled, “Question d’héritage”. Here Boulez succinctly outlines his distaste for purely empiricistic analyses. What *is* worthwhile however,

...is to see the dialectic of the events, to extend one’s view to the general process, to see how a composer chose to formulate his thought through the intermediary of a system. It is that which is much richer in consequences.<sup>4</sup>

It is not the place here to outline the meanings that Boulez attributes to all of these terms; let it suffice to note that it is by means of these antitheses that Boulez transcends a purely note-counting approach to analysis. We see this in Boulez’s sustained interest in Webern: in articles on Webern in *Points de repère* and *Jalons* as well as in his lectures on Webern’s Cantatas given in Basel (Galaise 1991). Boulez repeatedly describes Webern’s work in terms of a tension between verticality and horizontality. In the above-cited interview, as well as earlier in *Penser*, he articulates this very clearly, describing

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<sup>4</sup>« ...c’est de voir la dialectique des événements, de se hausser au procédé général, de voir comment un compositeur est arrivé à formuler sa pensée par l’intermédiaire d’un système; cela, c’est beaucoup plus riche de conséquences. » (1981: 114)

homophony, in the Webernian problematic, as the '*temps zéro*', i.e., a limiting case of a more fundamental linearity, in which melodic lines are staggered contrapuntally (1963: 26; 1985: 115). The vertical parameter then becomes a kind of collapsed counterpoint. A few things are evident in Boulez's treatment of this example. Firstly, we have the emphasis on antitheses, as outlined above; in this case, the horizontal is contrasted with the vertical. But secondly, the way in which the horizontal and the vertical parameters are identified in relation to each other paves the way for the 'new' musical dimension, dear to the hearts of the post-War generation, i.e., the *diagonal*. It is his analysis of Webern's work, particularly the *Symphonie*, op. 21, that allows Boulez to elaborate a theory of the diagonal – that would go on to inform all of Boulez's works, especially those for orchestra. As such, his analysis 'opens up a new space' – a quality shared by all analyses according to Boulez, as we shall see.

It seems that the dialectical approach to music discussed above, although present in Boulez's writings since the beginning, becomes more and more apparent in Boulez's *music* in the latter half of his career. This is not to say that his later compositions are more 'dialectical' but only that he wishes this dialectic to be perceptible to the listener. We can formulate this concisely by referring to two categories of Jean-Jacques Nattiez's semiological model, viz., *poiesis* and *esthesis* (Nattiez 1975: 51-52 and 1987b:177). If *poiesis* corresponds to the work as considered from its conception to its realization, and *esthesis* to the work from realization to perception or contemplation, then it could be said that this play of opposites, of contrasts, always the key to Boulezian *poiesis*, begins to organize *esthetic* space also. So then, in *Répons*, just as in *Anthèmes*, the juxtaposition of

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passages having radically different tempi, dynamics, attack, density, etc. Sometimes (as in the middle part of the seventh section of *Anthèmes*) this play of opposites literally changes from measure to measure, an increase in ‘dialectic pace’ which is vividly registered by the listener. The good analyst, then, says Boulez (cf. 1989: 34-41), must incorporate this dialectical approach to the work by discovering the contradictory forces that launch the work into a state of perpetual becoming (“un univers en perpétuel devenir” (1989: 249). This type of approach to Boulez is curiously hinted at by the orthodox Schoenbergian H. H. Stuckenschmidt, clearly not one of Boulez’s greatest admirers. He captures, however, something of the spirit of Boulez in writing about *Le marteau sans maître* in the following terms:

The chirping, knocking, porcelain-like sounds of *Le Marteau*, as always in Boulez, have an aura of inspired unpredictability that is strangely at odds with the mathematical determinism of the work’s serial construction (1969: 214)

What better inspiration for the analyst than an anti-Boulezian analyzing Boulez in a Boulezian manner?

Another reason for the Boulez analyst to have a bad conscience is found in the allusions Boulez makes, starting in *Penser* and right up to the present, to analysis being only possible, or only fruitful, when undertaken by a composer. The following aperçu appears in *Penser*:

I have often noted that an analysis was only of real interest if it was active, and can only be fruitful in terms of the deductions and consequences which it provides for the future.<sup>5</sup>

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<sup>5</sup> « J’ai plusieurs fois déjà, fait remarquer qu’une analyse n’avait d’intérêt véritable que dans la mesure où elle était active et ne saurait être fructueuse qu’en fonction des déductions et conséquences pour le futur. » (1963:12)

In an interview at Bayreuth, Boulez tells his interlocutor Jean-Jacques Nattiez that he feels that sometimes it is the erroneous analyses which are the most interesting, in that they open up new spaces. He goes on to cite Stockhausen's analyses of Webern in terms of density — a category foreign to Webern's field of preoccupations (Nattiez 1983: 239-240). He goes so far as to state, "je voudrais que [l'analyste] voie quelque chose dans l'œuvre — même si c'est faux par rapport à l'original." <sup>6</sup>(ibid.) Only the composer, it seems, can render an analysis interesting, can have this power to 'open up a new space'. And indeed, a survey of the relatively few analyses of Boulez's works available in published form reveals an unusually high proportion of composers' writings, rather than those of pure analysts. This tradition begins with Ligeti's analysis of *Structure 1a*. And indeed, Boulez remains in some sense a composer's composer, just as Henry James and Flaubert are in some sense writers' writers. This is partly due to the kind words Boulez has for composer-analysts, and the less-than-kind ones that he reserves for pure analysts. The composers, it would seem, are more likely to heed Boulez's advice:

Before passing effectively from the pair Idea-Realisation in one's own domain, the composer must first apprehend this pair in the work of others – although he can never be sure that he grasps it in its meaningful entirety, or even with any degree of exactitude.<sup>7</sup>

The professional analyst, however, is given fewer encouraging words.

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<sup>6</sup> "I would like the analyst to see something in the work – even if it is false with respect to the original."

<sup>7</sup> « Avant de passer effectivement au couple idée-réalisation dans son propre domaine, le compositeur doit d'abord appréhender, saisir ce couple chez les autres - quoi qu'il ne soit jamais sûr de le saisir dans son entière signification, ni même avec exactitude. » (1989: 33)

Boulez's *positive* portion on analysis, as inferred from an examination of his *negative* (i.e., critical) views of the analytical work of others, boils down to the following two points:

- 1) The Analyst's work must grasp the dialectical forces which are the basis of the work, and which form its problematic.
- 2) Analysts work is only useful if it opens up a new space, allows for more inquiry in the future or enlarges commonly used compositional categories.

These two points merge into one, if taken from a Hegelian perspective, according to which historical eras advance *via* dialectics – and betray Boulez's sharply Hegelian outlook, as filtered through Adorno. These points also present themselves as two useful guidelines for approaching Boulez's work. If one is not scared away.

Despite this positive doctrine, extracted from all of Boulez's anti-analytical fervor, we are still left with a dense thicket of objections to Boulez analysis, and all advanced by Boulez himself. Boulez declares sardonically, and on the very first page of *Penser* no less, that “no circus would ever hire these pale clowns” (1963:11, my translation.) The discouraged Boulez analyst could perhaps seek comfort in Derrida's comment, “Il faut analyser le ‘il faut’ du désir analytique comme désir de défaire une composition” (quoted in Sadaï 1993: 34)<sup>8</sup>. In this light the wariness of Boulez towards analysis arises from a primordial fear of analytical dismemberment. But this skirts the embarrassing question which we, given the Boulez analysis to follow, are forced to pose, viz., “Why (another) Boulez analysis?” Here are six reasons.

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<sup>8</sup> “It is imperative to analyze the imperative of analysis as a desire to dismantle the composition.”



### 1) Boulez the Systematic

If Boulez's works are interesting to the analyst, it is because no other composer has made such a compelling case, through his works and his writings, of 'the system', as a strong category. This is represented symbolically by the title he gives to an extremely important essay which is almost certainly meant as a response to, or a replacement of Schoenberg's couple "Style and Idea", that is, "System and Idea". At the same time, Boulez has remained characteristically silent on the subject of the elaboration or extrication of this 'system' that in principle underlies his works.

In fact, it is quite simple to enumerate all extant Boulez publications (printed or recorded) that could be considered analyses, whether of his works or the works of others, in chronological order:

i) The letter to John Cage (Boulez 1991:129-143), dated December 30, 1950. In it, he outlines the serial mechanisms (generalized series, applied to durations, attacks, etc.) of his later withdrawn work *Polyphonie X*, very similar to those outlined in Ligeti's article [1957] on *Structure Ia*;

ii) The analysis of the *Sacre du printemps*, written in 1951 (cf. Boulez 1995:17) entitled "Stravinsky demeure" (1995:81-144). Here, Boulez emphasizes the rhythmic transformations, especially on the invention of the purely rhythmic theme in the *Danse sacrale*;

iii) The two years of analysis courses in Basel (Galaise 1991) circa 1960. A central theme of these courses is the explication of morphological aspects of Webern's music, including analyses of his two Cantatas;

iv) A lecture on *Mémoriale* at McGill University in Montreal, held October 23, 1991.<sup>9</sup> Here, the emphasis is on the perceptibility of recurring themes, such as the motif marked *lent* and featuring trilled flute over sustained notes in accompanying parts. The focus of this lecture is on training future performers of the piece to recognize the recurring motives and their transformations (cf. de Médicis 1992);

v) The lecture on *Anthèmes 2*, Oct. 21, 1997, the transcript of which can be found in Appendix A and B of this study. In it there is no formal analysis as such, but rather an explanation of title, thematic writing, sectional structure and general categories explored (e.g., spatial versus temporal counterpoint.) This lecture is discussed in detail in Chapters 2 and 3;

vi) A conference on *Dérives*, June 30, 1998 during the *Festival international d'art lyrique* at Aix-en-Provence<sup>10</sup>. Similar to the McGill lecture on *Mémoriale*, Boulez stresses the central ideas or material (*noyau*) of the work, and the perceptibility of its transformations.

vii) A conversational *atelier* given at the première of Boulez's latest piece, *Sur Incises*, for three pianos, three harps and three percussionists, on November 10, 1999 at the Cité de la Musique in Paris. Boulez discusses the antecedents to multiple-piano writing, demonstrates the different themes, contrasts passages of velocity with those emphasizing resonance, and elaborates the game of "surprise and recognition" similar to his remarks on *Anthèmes*, cf. p.106.

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<sup>9</sup> Cassette recording of lecture available in Boulez Archives of the Université de Montréal.

<sup>10</sup> This information was kindly supplied to me by Gilles Rico, who was present at the conference.

This list, more or less exhaustive, perhaps neglecting certain other minor speaking engagements, confirms the amazing paucity of material available — considering how prolix Boulez has been on other musical subjects. The reason for this is apparently quite simply a disinclination towards the activity of analysis. Boulez once expressed in private his dread of having to give the lecture on *Mémoriale*, and, at the when speaking about *Anthèmes*, referring to his two years of analysis teaching in Basel as having been enough analysis for a lifetime (cf. Appendix A, p.108) This reticence cries out for the analyst, always interested in systems. Another famous anecdote illustrating the same tendency is related in Joan Peyser's highly anecdotal book *Boulez: Composer, Conductor, Enigma*. Pianist Claude Helffer, the celebrated interpreter of Boulez's Piano Sonatas, is speaking:

In Boulez there is always the aspect of a sphinx. One assumes there is always structure although he will not talk about it. Once I noted the structure of the tempos in “*Constellation-Miroir*” [in the Third Piano Sonata.] Boulez was not pleased at all. He feels that what's important are the periods at the end of the sentences, not the grammar itself. (1976: 254)

In a private exchange with Jean-Jacques Nattiez, Helffer explained that the series of metronome markings corresponded to the series of prime numbers – and that the remark was extremely coolly received by Boulez.

## 2) *Boulez the Analyst*

Although Boulez has not devoted much of his career to the teaching of analysis, he has, like a striking number of twentieth century composers, learned his *métier* largely through analysis: we must remember that Messiaen's famous class was essentially a class of analysis. Two recent publications have underscored a) the importance of analysis to Messiaen's class and b) the importance of Messiaen's approach to Boulez's own

development. In Jean Boivin's book *La Classe de Messiaen* [1995], the important role conferred upon analysis in Messiaen's class is apparent. This is also made clear from the posthumous publication of the second volume of Messiaen's *Traité de rythme, de couleur et d'ornithologie* [1995], in which he includes an analysis of the *Danse sacrée*, from Stravinsky's *Sacre du printemps*, in terms of Messiaen's familiar concept of "personnages rythmiques." This analysis has all of the features of Boulez's analysis of the same movement, in his aforementioned "Stravinsky demeure". Boulez's analysis is clearly 'inspired' by (if not plagiarized from) Messiaen's, which is anterior to it, although until recently, unpublished. This clearly shows the important role analysis, and Messiaen's particular style of analysis, played in Boulez's own musical development.

### 3) Boulez the Rigorous

Boulez has a reputation for great rigor in the elaboration of his musical gestures; this flows through his musical works as well as his writings. This fundamental seriousness with respect to musical writing is not dissimilar, despite many other differences, to that of Schoenberg. It is a seriousness which precludes the possibility in his writing of mere game playing, nor of mere gratuitousness, let alone of "*épater les bourgeois*", three of the most common criticisms launched against contemporary music. If Boulez praises the aleatory and lately the "indiscipline locale," his writing remains one which has a coherence and a rationale which the analyst has the potential to extract.

In fact, as has already been mentioned, the dialectic of antithetical notions plays an essential role in Boulez's work – literary as well as musical. One of the most persistent pairs of dialectical opposites to figure in Boulez's works is that of

determinism/indeterminism<sup>11</sup>. If Boulez has displayed a fascination with the aleatory and the ‘open work,’ it is never used as an end in itself, but rather in relation or in contrast to a more primary determinism. Boulezian style indeterminism (like probability theory in general) tends to raise the determinism to a higher level, allowing ‘local’ events to occur at random, but these events being chosen from a field of possibilities which is itself restricted. It is this higher-level rationality which can be discovered by the analyst – the field of action of the event. This is exemplified in *Anthèmes* in the fixed registration of different sections – an extremely constraining compositional condition, wherein the writing limits itself in some places to a mere eight pitches (Section V, mm. 72-79.) And yet, within this determined field of action, the choice of notes is either left to the whim of the composer or is guided by the ‘themes’ that are used to structure the work.

#### 4) Boulez the Writer

Since Boulez, in addition to being a composer and a conductor, is also an *homme de lettres*, he has produced a prodigious literary corpus available for comparison with the musical one. Boulez offers an opportunity to trace correspondences and contrasts between the content of his musical works and the content of his essays - perfect material for today’s musicologists and their interest in the study of compositional process. This, too, constitutes a kind of analysis, and one that is too rarely attempted. Indeed one would be hard pressed to find another twentieth-century composer (we say *twentieth-century* in

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<sup>11</sup> For the most recent mention of this, see the appended transcription of the Boulez lecture on *Anthèmes 2*, in which he describes the electronic devices used to create a kind of ‘ordered disorder’.

order to exclude Wagner!) with as many extant publications — and corresponding to so many different stages in his musical development.

Boulez's book-length publications include *Penser la musique aujourd'hui* [1964], *Relevés d'apprenti* [1966], *Points de repère* [1981; 1985; 1995], *Jalons (pour une décennie)* [1989], *Le pays fertile — Paul Klee* [1989] and *Correspondance Pierre Boulez — John Cage* [1991]<sup>12</sup>. Even if these works contain very few analyses as such, they do provide an abundance of material that can prove useful to the analyst — particularly on the level of the conceptual frameworks from which his works originate.

##### 5) Analyst as Creator

Even if we accept Boulez's refreshingly non-positivistic view that the point of analysis is to be “active,” to open up a new space, why should only composers be capable of this? Why need the analyses undertaken by analysts be necessarily “*analyses comptables*?” It is the conviction that analyses can be innovative, can open up new spaces and should only concentrate on the salient features of the work that motivates the analysis which follows. The task of the analyst is then twofold according to this view: to mediate between the work and its perception on the one hand, and between the work and the network of intentions and values instilled in it by its creator on the other. There is room for ‘territorial expansion’ in the Boulezian sense, on both sides of these: an analysis can open up new vistas of perceptive categories — e.g., analyses which expand the bounds of “structural listening”. In addition to this, an analysis can enlarge the scope of what is commonly considered the “intention” of the composer.

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<sup>12</sup> In the Boulez-Cage correspondance, two letters are of particular analytic interest. The first is dated December 30, 1950 and the second is from an unspecified day in August, 1951.

### 6) Boulez and the Didactic Work

It has often been noted and widely lamented that perhaps the most impressive figure on the musical scene in the second half of this century has devoted so little time to teaching. It could be said without exaggeration Boulez, along with Stravinsky, are the two twentieth century composers who, more than any others, have shunned the vocation of the pedagogue. Far from being absent however, a didactic impulse infuses Boulez's works, literary and musical. Boulez resembles Webern more than Stravinsky, in that both perfected the genre of the 'didactic work', a term which, by the way, is used by Boulez himself:

It is moreover curious to note that the works which are analyzed the most, which are *gazed at* the most, are those which we could term "didactic" works, in which the schemas are the simplest to establish. And Webern, the Webern of the series, is first among these.<sup>13</sup>

It is the later Boulez who has perfected this didactic purpose in his works: works which train the listener, other composers and finally, the analyst. This didactic goal, like all didacticism, is not without an element of pedantry. Thus Boulez has a tendency in these later works to "announce" a privileged series of notes in the first measure, in a most obvious manner: think of the solo oboe enunciating the twelve-tone row upon which *Rituel* is based in the very first measure; of the solo 'cello part in *Messagesquisse*, which beats out the six note series in harmonics, 'prolonged' by the accompanying six 'cello parts; and once again, this typical opening is indeed employed in *Anthèmes*, in the which the very short first section (approximately 14 seconds of a ten minute piece) built on two

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<sup>13</sup> « Il est d'ailleurs curieux de constater combien les œuvres les plus analysées, les plus *regardées* [Boulez's emphasis,] sont ce qu'on pourrait appeler les œuvres « didactiques » où les schémas sont les plus simples à établir. Et Webern, le Webern de la série, vient au premier rang. » (1989: 34-35)

permutations of the same seven notes, announces the series like the subject of an exercise in public speaking.

And if still in need of more justification, one can take comfort in the later Boulez - the Boulez of *Jalons*, particularly of the essay “Idée, réalisation, métier” - who has much altered his position on analysis. Thus Boulez makes the following statement, echoing Nattiez’s concept of “*poiétique inductive*”:

The only possibility, when faced with a work, is to analyze it, that is, try to reconstitute, in reverse order, the path which joins realization to idea.<sup>14</sup>

Or this, with more than a hint of the musical semiology of Nattiez:

This is why analysis is the pursuit, no doubt vain, in the Absolute, of the labyrinth which joins the idea to its realization.<sup>15</sup>

Boulez reminds us elsewhere that “this mutilating analysis is indispensable in order to establish panoramas, global views.”<sup>16</sup> Most important to this study, however, are the following inspiring words for the tentative analyst:

The most tempting situation is to *create a labyrinth from another labyrinth*, to superimpose one’s own labyrinth onto the labyrinth of the composer, rather than the futile attempt to reconstitute the composer’s own process. To create, from the uncertain image one has, one’s own process.<sup>17</sup> (my emphasis)

<sup>14</sup> « Tout ce que nous pouvons vis-à-vis [de l’œuvre], c’est l’analyser, essayer de reconstituer en sens inverse le chemin de la réalisation à l’idée... » (1989: 33)

<sup>15</sup> « C’est pourquoi l’analyse est la poursuite — vaine, sans doute, dans l’absolu — du labyrinthe qui joint l’idée à la réalisation. » (1989: 36)

<sup>16</sup> « Cette analyse mutilante est indispensable pour établir des panoramas, des vues d’ensemble. » (1989: 37)

<sup>17</sup> « La situation la plus séduisante est de *créer un labyrinthe à partir d’un autre labyrinthe*, de superposer son propre labyrinthe à celui du compositeur: non pas essayer en vain de reconstituer sa démarche, mais créer, à partir de l’image incertaine qu’on peut avoir, une autre démarche. » (1989: 37) [my emphasis]



These passages seem to suggest that Boulez sees the analyst as indispensable to musical culture in general. And in these passages, one observes an identification between analysis and analytical perception. All true musical perception, many passages of the later Boulez seem to suggest, is a form of analysis. A fine promotion indeed, when analysis is elevated from a marginalized circus act to the paradigm of musical perception in general!

### Boulez and the Second Manner of Analyses

It is of course not the ambition of this modest study to survey analyses of Boulez throughout the last half-century. Its aim is simply to contextualize the analysis that follows in the body of this paper. It has been suggested that Boulez's œuvre can be roughly divided into two periods, each with its own "manner" and divided by a transitional phase that is in itself a kind of third manner. There are, on the one hand, the works of the late 1940s and 1950s, and on the other, the post-1970 works, divided by the 1960s, the decade in which he published his 'manifesto' — *Penser la musique aujourd'hui*. While the first period corresponds to the strong influence of Webern, total serialism and to Messiaen's tutelage, the later period corresponds roughly to the period in which Boulez became a conductor on the international scene.<sup>18</sup> If the first book of *Structures pour deux pianos*, [1952], *le Marteau sans maître* [1955] and the *Livre pour quatuor* [1948, first version] are 'typical' works of the first manner, then in the transitional period one finds the second book of *Structures* [1961] and *Éclat* [1964]. The post-1970 period begins with *Rituel* [1974-5] and *...explosante-fixe...* [1972-4, revised 1992] continues through *Répons* (1981-84), right up to the recent *Sur Incises* [1996-98].

Moreover, to this schema corresponds two broad categories of *analyses* of Boulez's works. The first "manner" is purely *poietic*, in the sense of Nattiez's semiology (more on this at the end of this chapter) of considering above all the manner in which the work is fabricated. It seeks to uncover the underlying motor of the piece, usually to be found in the series. This style of analysis is epitomized in György Ligeti's essay (1957) on *Structure Ia*. In this analysis, Ligeti uncovers the series, the permutation tables, and

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<sup>18</sup> It would be interesting to trace Boulez's later manner to an encounter with the music of Wagner.

“strongly” determines practically every symbol on the page of the score. Lev Kobliakov’s fastidious analysis of *Le Marteau, Pierre Boulez: a World of Harmony* (1990), is also a notable, and much later example of this style of analysis.

The second ‘manner’ of analyses incorporates aspects perception and reception of the works into the body of the analysis, considering these to belong to the works in their own right. Stylistic analysis is also employed. These analyses correspond to a much greater preoccupation in the later Boulez with the perception of his works, and with the incorporation of perceptive categories into the discussion and the *poietics* of his own works. This change of orientation is reflected in terms of Boulez’s own invention such as “signals,” “envelopes,” “strophes,” “memorization,” “directionality” etc. — terms which will be relied on throughout the course of this essay, particularly in the chapter devoted to paradigmatic analysis, in which they shall be defined (Chapter 2). Examples of this sort of analysis, reserved for the most part to the French-speaking world, can be found in Annie Labussière and Jean-Marc Chouvel’s (1997) analysis of *Mémoriale*, in Antoine Bonnet’s (1988) exemplary work on *Messagesquise*, and by articles by both Célestin Deliège (1988) and Jean-Jacques Nattiez (1987a) on *Répons*. These analyses are less global, less exhaustive and make less claim to “figuring out” the piece in its entirety. This does not mean that these analyses are less ambitious, or less rigorous, but rather that they are conscious of the plurality of analytical grids, of musical perception in general and of the inexhaustibility of interpretation. In the case of Bonnet’s analysis, the analyst truly lives up to the Boulezian goal of “créer un labyrinthe à partir d’un autre labyrinthe.”

Curiously, looking at the list of Boulez’s own analyses enumerated above, one finds that Boulez’s analyses undergo a transition from the ‘first manner’ of analyses to

the ‘second manner.’ If “Stravinsky demeure” is discounted as an exception — in the shadow of Messiaen more than Boulez’s own voice — one finds that his early analyses were mostly preoccupied with identifying serial structures and their transformations. The emphasis, then, is on *poiesis*, i.e., the fabrication of the piece. In the last three lectures, the emphasis is on the bringing out of those features that render different themes recognizable, and serve to articulate structure to the listener or to the performer. The approach is markedly *esthetic*, i.e., placing the emphasis on the manner in which the work is perceived. And this change of orientation can not seriously be explained away by stating that the lecture setting is less amenable to laying out series and permutations. Between these two manners of Boulez’s analyses, the course on Webern given at Basel constitutes a transitional phase in which serial concerns give way to more general questions about the dialectics of the work, as has been mentioned earlier.

It is in the tradition of these above cited Boulez analyses (those of Labussière, Chouvel, Nattiez, Deliège and Bonnet) that I wish to follow in the analysis of *Anthèmes* for solo violin. If structures are uncovered, no claim is made of exact correspondence with the intentions of the composer. This analysis will be fragmentary, and will skip back and forth from different perspectives, never claiming to arrive at an image of the whole at the end. In addition to the score and the above mentioned “second manner” of analyses, I will make reference to a number of other important sources: a lecture given by Boulez at IRCAM on the occasion of the premiere (actually a second performance) of *Anthèmes 2*, for solo violin and electronics, which can be heard here.<sup>19</sup> A revised version of *Anthèmes*, for solo violin, the latter being the piece which shall be analyzed in the body

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<sup>19</sup> The transcription and translation of this lecture can be found in the Appendix A and B of this paper.

of this paper, and Boulez's essays which are relevant and more or less contemporaneous with the work. Throughout the emphasis to will be placed on demonstrating correspondences between Boulez's *Collège de France* lectures of the 1980s (Boulez 1989) and the piece. Especially relevant to this study are the essays entitled "Idée, réalisation, métier", "L'écriture du musicien: le regard du sourd?", "Athématisme, identité et variation" and especially, "Le système et l'idée", which introduces perceptive categories which shall prove essential to the method used here.

Our analysis, like those on which it is modelled, strives to find rigorous structures within which the composer has free play. As such, they have neither the determinism of serial analyses à la Ligeti, nor do they interpret the resulting structures as aleatoric, as the products of pure chance. They represent a middle ground between the two, characteristic of Boulez's later style, and which in many respects could be considered "free composition."<sup>20</sup> This "middle ground" approach will be justified through an appeal to Boulez's texts; justification, first of all, in not treating the material of *Anthèmes* as the product of chance. Were this the case, it would clearly be a nightmare for the analyst; this explains why the music of the father of stochastic music, Iannis Xenakis, has remained largely unanalyzed.<sup>21</sup> In *Jalons*, Boulez states:

It seems to me that when we introduced aleatoric elements, and then pure chance, into the encounter between sounds, in their manipulation, when the material was no longer chosen, but rather accepted from the outside, we forgot the fundamental fact which is the responsibility of every element with respect to every other element in any coherent system.<sup>22</sup>

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<sup>20</sup> There is of course no connection here to the "middle-ground" of the Schenkerians.

<sup>21</sup> It is Prof. Michel Longtin, one of the few to attempt a verification of the stochastic properties of Xenakis's works, during a seminar in analysis at the Université de Montréal (1996-1997) who pointed this out to me.

<sup>22</sup> « Il me semble que lorsqu'on a introduit des éléments aléatoires, puis le pur hasard, dans la rencontre des sons eux-mêmes, dans leur manipulation, lorsque le matériau n'a

Justification obtained. Now, to show the other side, that is, that the writing in the later Boulez represents a kind of “composition libre” with respect to strict serialism, but remains related, albeit obliquely to the series, Boulez alludes to this earlier on in the essay (1989: 40). Here, Boulez plays his own biographer, and suggests a replacement of the trivial (not to say trite) habit of music critics to divide every composer’s output into ‘three styles’ (as I have guiltily done above!). In place of the usual three styles, Boulez advances the view of there being three ‘stages’ (*stades*) of composing, of which one may assume that *Anthèmes* corresponds to the third stage. In the first stage, which Boulez names “reducible,” the composer is inspired by his analyses of the works of the past. The ties between his own output and the works of the past are obvious (Boulez’s Webernian phase?). In the second phase, which he calls the “mémoire sporadique,” a kind of partial intuition refers from time to time to previous models. Finally, in the third stage, he writes:

Latent memory – underlying, of a permanent and autonomous analysis of one’s own thought, of the distances travelled by this thought to unknown and previously undreamt dimensions. Strictly speaking, there are no longer any influences. The language becomes supremely individual.<sup>23</sup>

It is passages like these that shall inform the analysis which follows. Boulez describes, here as everywhere, his own compositional process in the most general and impersonal of terms. But it seems clear that this third stage corresponds to a kind of free

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plus été choisi mais accepté de l’extérieur, on a oublié cette donnée fondamentale du langage qui est la responsabilité de tout élément par rapport à un autre dans un système cohérent. » (1989: 49)

<sup>23</sup> « ‘Mémoire latente’ — sous-jacente, d’une analyse permanente et autarcique de sa propre pensée, de l’écartement de cette pensée à des dimensions encore inconnues,

writing that was suggested above. If this is true, the analyst may not be able to find underlying series, permutation tables and the like as the basis of the work. Serialism becomes, in the later Boulez, a well-learned grammar, and as such, is flexible. This explains the new simplicity and transparency apparent in the later works: it is characteristic of works that have abandoned a strict formalism, in favor of intuition. Upon examining the scores of *Rituel*, *Mémoriale* or *Messagesquise*, one almost gets the impression that the piece was composed directly into full-score form, with all its parts, which is incidentally how Schoenberg proceeded, and with a minimum of pre-compositional sketches, with his serial opera *Moses und Aron*. In *Mémoriale*, for example, the “accompaniment” is clearly derived, through unsophisticated effects of echo, prolongation, repetition etc., from the solo flute part.

The analyst of later Boulez can expect both less strict adherence to rules and formulae as well as more transparency of writing. This is the ideal to which I aspire in this analysis: to find a kind of ‘repetition’ of various features, in both score and text, and by so doing, to arrive at something like what the Boulez of *Jalons* sees as the goal of analysis: to trace the path that leads from the idea to its realization. For just as Boulez’s writings contemporary with *Anthèmes* speak much less of series and inversions than they do of key concepts such as *enhancement*, *satellite*, *envelope*, *signal*, etc., so an analysis of this later Boulez must also reflect this change of orientation. As such, it must not get bogged down in the sort of fastidious note-counting which has characterized much of the extant work on Boulez until now, and which Boulez has always abhorred. At the same

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insoupçonnées au départ. Plus de source à proprement parler! Le langage devient hautement individuel. » (1989: 40)

time, a competent analysis must strive to replace this pretended “accountant’s” rigor, with a rigor of its own, better suited to its object.

### **Final Digression: on The Value of Analysis and the Kerman Debate**

After offering several possible answers to the question “*Why analyze Boulez*,” it is worthwhile to turn for a moment to the more general question, namely, “*Why analyze?*” The question of the relevance of musical analysis as it is practiced in the North American academy has been the subject of lively debate in the last two decades. Although undoubtedly a symptom of a musicological establishment undergoing a fundamental paradigm shift away from the positivism that characterized the Post-War years, the debate can largely be traced to a single paper attacking this establishment, and issuing from one of its brightest stars. The article is “How we got into analysis, and how to get out”, which first appeared in print in *Critical Inquiry* 7 [1980], and which is signed Joseph Kerman (1994: 12-31).

The crux of Kerman’s criticism is what he sees as a contradiction in present-day music-analytical practice. This practice issues from, and is colored by a tradition going back to late nineteenth-century Germany which sees the development of music as a teleological process, exhibiting a progress which extends from Bach and up to Brahms, but not much further on either side of these. This progressive chain of great musical works (the ‘canon’) also does not find fertile soil very far from German-speaking lands. Musical analysis, whether it is practiced by Hanslick, Schenker, Schoenberg or any of their predecessors, is then the extricating of the features which secure the greatness of these works. Kerman makes it clear, however, that this practice is grounded in the



ideology of Pan-Germanic greatness, whether stated or not - and without this, this practice becomes senseless. Kerman then calls for an overhaul of analytical practice in America, which, guided by this Pan-Germanic ideology which dares not place the greatness of, say, Bach's fugues, into question, effectively bans the discussion of the aesthetic value of a musical work or composer. This, according to Kerman, is the ideological basis of the scientistic positivism which characterizes American musicology.

In arguing for the return of aesthetic judgments into the discourse of analysts, Kerman cites literary criticism as a suitable model and assigns the name "music criticism" to the type of musical practice which he sees as fruitful. Kerman is careful to distinguish this incipient field from the journalistic practice which goes by the same name. To give an idea of what it is that this new Music Criticism would consist of, he analyzes Schumann's *Aus meinen Thränen spriessen*, relying heavily on a literary analysis of the text, without neglecting harmonic and rhythmic features of this relatively simple Lied. This is to serve, presumably, as a canonical example of what Music Criticism ought to resemble. Be this as it may, throughout the course of the 1980s and beyond, the names of Joseph Kerman and Leo Treitler, as well as those of Rose Subotnick and Lawrence Kramer, have been associated with this pro-criticism, anti-analytical stance.

In truth, much of this debate rests on a fruitless playing of words: What do we call "analysis", and what "criticism"? If analysis is identified with, say, Allen Forte's monograph on Beethoven's Opus 109, then there is much to attack: the complete avoidance of any question of the value of the piece, and in fact absence of any normative words (good, nice, etc.) open up a musical abyss, in which so much of what is important

in a piece is systematically excluded from the analytical discourse. If however, we identify analysis with, say, Charles Rosen's *The Classical Style*, a work which Kerman praises for its critical acuity, then Kerman *is* in fact a proponent of analysis. It is well and good that Kerman attempts to shake the ideological complacency of analysts, but the article which follows this provocative title, far from advocating that we 'get out of analysis', suggests little more than minor reforms of analysis departments. What has contributed to the proliferation of often artless rebuttals and futile responses to Kerman's article is this overly-provocative title: This is what leads one writer, Reed J. Hoyt [1985], to offer a defense of analysis in general, i.e., as a human activity — hardly a concept in need of defenders! Hoyt concludes thus:

Analysis on its highest level is more than just a legitimate enterprise: it is a normal human activity that is indispensable in dealing head-on with the aesthetics of artworks. (Hoyt 1985: 51)

Not much to take issue with here: the analysis debate is unfortunately riddled with unassailable statements just like this one. What Kerman is attacking is not analysis in general, but specifically the way in which analysis is practiced in musicology departments, which he more or less identifies with Schenkerism, or 'Neo-Schenkerism'. What is problematical in Kerman's essay, and this is also true of his book-length treatment of the same subject, *Contemplating Music* [1985], is his lack of clarity in proposing a positive project for an academic criticism; for in his article, he uses as a case study an analysis of a lied which relies on a *literary* criticism of the Heine poem of which it is a setting. The analogy with literary criticism is thus crystal clear, because it *is* literary criticism. This begs the question of what a music analysis *analogous* to literary criticism, but having no literary text to rely on, would look like.

In fact, Kerman's title turned out to be less than judicious: the antagonistic tone tended to turn off analysts who felt themselves placed in existential danger by as authoritative a player as Kerman. They failed to see how Kerman was preaching a vast enlargement of the field of analysis — one which places analysis, or "criticism", as Kerman would put it, right into the center of musical research: for Kerman sees literary criticism, studies of composer's sketches, biographical work, literary criticism, studies of influences as well as formal analysis as essential tasks for the analyst. Kerman ends his essay with a quote from musicologist Robert Morgan, the author of several important works of analysis of twentieth-century works. Morgan writes:

[The analysis of new music]...must examine the composer's intentions in relation to their compositional realization, must discuss the implications of the compositional system in regard to the music it generates, consider how the resulting music relates to older music and to other present-day music....[and]...a pressing responsibility of present-day analysis is to indicate how new music reflects present-day actuality. (quoted in Kerman 1994: 30-31)

Kerman is well-served by the Morgan quote; Morgan's formulation of a program for analysis/criticism is clearer than any of those proposed by Kerman. Morgan's program is beyond reproach in that the interest of a study that succeeds in all of these goals is obvious. The only possible danger is that of expecting too much of musicologists: a working knowledge of literary theory, philosophy, an understanding of world-historical forces, etc. Even with the notable exceptions of Charles Rosen, Leonard Meyer and others, one nevertheless fears that if these aspects cannot be treated properly, then they are better left untreated. And yet, this is always the danger of an ambitious program: is it better to leave these aspects of music writing to journalists, leaving

professionally-trained musicologists to restrict themselves to the analysis of the formal and immanent features of a musical work?

In fact, Kerman's article must be read in the context of the American musicological establishment of the sixties and seventies which was dominated by Neo-Schenkerianism, and a kind of pseudo-scientific jargon that approaches the absurd in many cases. It is with this more "humane" approach to analysis, as embodied in the Morgan text, which shall serve as inspiration for this analysis.

One aspect of Kerman's criticism, however, which will not be invoked more than is necessary, is the value judgment. For Kerman has a tendency to repudiate the ideology of the greatness of the German standard repertory without questioning the usefulness of the category "greatness" within music criticism. Much has been said of the elimination of hierarchical thinking within musicology, and it is not a debate which I feel tempted to re-open. Rather, I would offer a functional (and rather hedonistic) definition of value in a musical work, which holds just as much for the value of musicological writing: a musical work, just like an analysis, is valuable in as much as it is fruitful and opens up a new linguistic or musical space. This position is clearly very Boulezian, as has been shown above with Boulez's position on analyses written by composers. If an analysis succeeds in convincing its reader of the actuality and relevancy of a work, as well as inspiring a host of fruitful concepts - it has already succeeded at least partially. Thus the question of the value of *Anthèmes* need not be debated — and will be conspicuously absent from the body of this paper. There is nothing particularly radical about this position — largely because Kerman's injunctions to analysts have largely been heeded in the Musicology of the nineties, and present day analysts tend to attempt to bridge Forte-like rigorous

analysis, and a more humane Kerman-style analysis, exemplified in an extreme way, in Lawrence Kramer's *Music as Cultural Practice* [1990].

This goal of bridging these two currents is explicitly held out as the purpose of a fairly recent collection of essays in analysis entitled *Analytical Strategies and Musical Interpretation: Essays on Nineteenth- and Twentieth-Century Music* [1996]. The editors, Craig Ayrey and Mark Everist, managed to find many of the younger generation of analysts (including Anthony Pople, Jonathan Dunsby and Stephen Walsh) who are vastly competent at making the bridge toward literary-type theory, without sacrificing analytical rigor. The dichotomy upon which this analysis\criticism debate bases itself, has, one hopes, disappeared, or never truly existed.

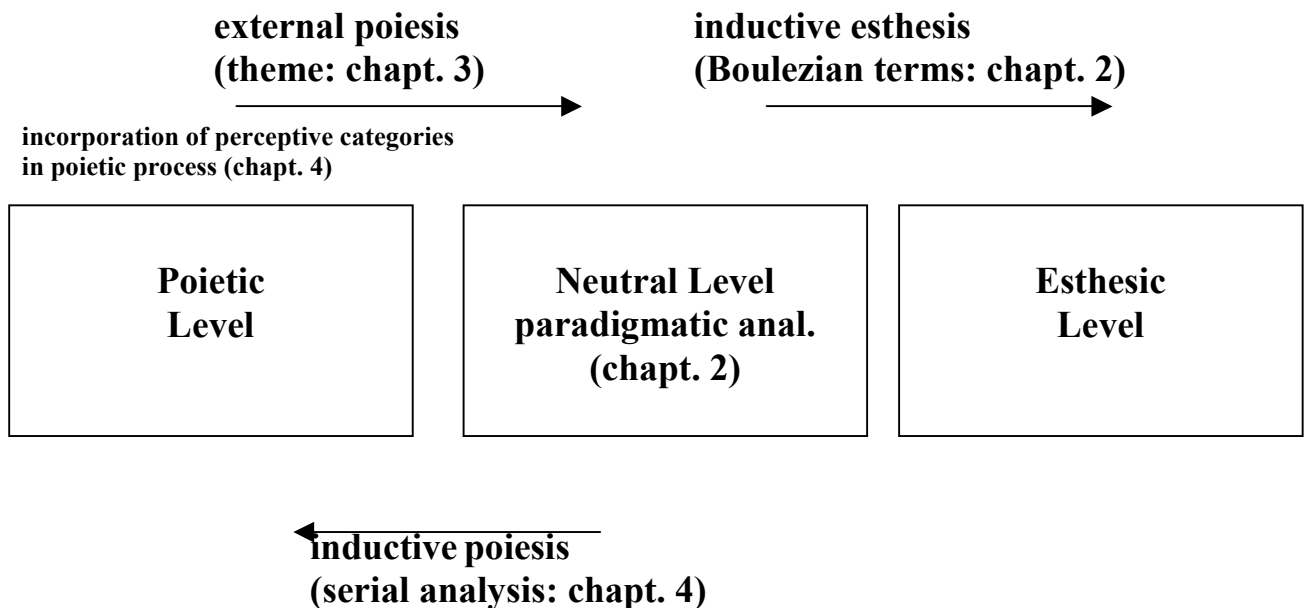
### **Methodology of Analysis**

This being said, the analysis which follows (or criticism, if criticism it be) will be structured as follows. The acclaimed Belgian musicologist Célestin Deliège divides his discussion [1988] of the orchestral introduction of *Répons* into three sections: morphological, syntactical and stylistic. This is a fine systematic approach, but I prefer, for this study, to jump back and forth between these three levels, and to make comments pertaining to each level whenever they become relevant. The discussion will be structured as follows: this general introduction which forms the first chapter is followed by a chapter (Chapter 2) on general morphological aspects of *Anthèmes*, including the global plan of the work, macrostructure, registration, dynamics, modes of attack, etc. Chapter 2 will also present the paradigmatic analysis of the piece, accompanied by a symbolized copy of the score, and a catalogue of all thematic material. This will then be put in relation to the Boulezian analytical vocabulary already alluded to above. Chapter 3

then goes on to study the notion of theme as it appears in Boulez's writings (including the Boulezian notions of *infrathème* and *hyperthème*) and the privileged structural role it occupies in *Anthèmes*. Chapter 4 unearths the series (or pitch-class set, to be more precise) and several serial structures that issue from an analysis of the work. A short conclusion follows, as well as a transcription of the Boulez lecture of Oct. 21, 1997 on the subject of *Anthèmes*.

This manner of structuring the analysis conforms in a general way to the semiotic model of music analysis proposed by Jean-Jacques Nattiez, and which is by-now quite familiar in musicological circles (cf. Nattiez 1987b:177). It has the advantage of distinguishing the different ways in which a musical work exists, and then characterizing analyses according to the relations which they posit between these different forms of existence. Thus the *poietic* level, already alluded to in this introduction, corresponds to the work as a fabricated object, a realization of the composer's intentions; the *esthesis* level corresponds to the work as a perceived object; the *neutral* level corresponds to the immanent, *de facto* properties of the work. In Chapter 2 a paradigmatic analysis of the work is introduced – a type of analysis which effects a segmentation of the work based on its immanent properties, and which thus constitutes analysis of the neutral level (*analyse du niveau neutre*, or ANN.) In Chapter 3, poietic information is used – Boulez's writings in *Jalons* and the lecture on *Anthèmes* in order to interpret *Anthèmes* thematically – a line of thinking that may not have suggested itself from a purely immanent analysis of the piece. In its relating of 'private' information to the piece at hand, this constitutes what Nattiez terms *poïétique externe*.

In Chapter 4 the work in itself is analyzed, on its own terms, and a compositional grid which Boulez may have used in the construction of the piece is postulated. As such, we pass from a neutral level of analysis, to postulations about the poiesis of the work. This constitutes *poiétique inductive*. Moreover, the Boulezian analytical vocabulary is presented, and placed in relation to the paradigmatic analysis; this constitutes a movement from the poietic, i.e., Boulez's conceptual framework, to the work itself. The terms used by Boulez to characterize the ways in which his works are perceived belong then to the domain of *esthétique inductive*. But not to be neglected is the fact that since Boulez integrates these perceptive categories into his compositional strategies, which implies that the use of this terminology in *this* essay constitutes *poiétique externe*. This can be represented as follows:



**Figure 1: Semiological model of analysis**

We do not claim to strictly adhere to these distinctions – no humanistic field can expect absolute rigor in its presentation. For example, in Chapter 4, the immanent quasi-serial analysis cannot be separated from a search for clues in Boulez's *Collège de France* lectures – hence constituting *poiétique externe* in tandem with the more explicit *poiétique*

*inductive.* But by approaching the work from these varying angles, I hope to circumscribe it, and succeed in characterizing it.



## CHAPTER 2

### About *Anthèmes*: Features, Form and Paradigmatic Analysis

#### I. Form

##### The Title, the Note D, the Number 7

*Anthèmes*, for solo violin, was composed in 1992. It was commissioned as a *pièce de concours* for the Yehudi Menuhin Violin Competition in Paris. It bears the dedication “à Alfred Schlee - en souvenir amical du 19.11.91.” The significance of this pallindromic date will be discussed later, in chapter 4. As is a common procedure with Boulez, *Anthèmes* was later altered into a second version, called *Anthèmes 2*, this time with the addition of real-time electronics that features a computerized ‘score follower’ (*suiveur de partition*) and a series of speakers placed in such a way as to surround the audience. Although keeping the basic structure intact (in particular the number and character of sections) it is a much expanded version — lasting approximately 21 minutes, compared with the 10 minutes of *Anthèmes*. On Oct. 22, 1997, Boulez gave a lecture at IRCAM in Paris, in the form of an interview with Musicologist Peter Szendy. At this lecture *Anthèmes 2* received its French première, by *Ensemble Intercontemporain* violinist Hae-Sun Kang (in point of fact, this concert followed the world première, at Donaueschingen, by two days.)<sup>24</sup>

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<sup>24</sup> Cf. Ms. Kang’s recording of *Anthèmes 2*, on Deutsche Gramophon DGG 463 475-2.

Although the lecture deals with the later version of *Anthèmes*, it is nevertheless included here in abridged form, in Appendix A and B, since much of what was said there applies equally to the earlier version of the work. Moreover, whenever timings are mentioned or they are approximate values deduced from the indications on the score, and can be verified by listening to the recording of Jeanne-Marie Conquer.

We learn from the lecture given by Boulez at IRCAM that the piece is based on seven notes from the violin part of Boulez's ...*explosante-fixe*... And indeed the number seven is so ubiquitous in this piece that one is tempted to say that the piece is a signifier that signifies "seven"; or, to apply an evocative term used by Boulez himself to describe a similar situation but with the number three in Berg's *Kammerkonzert*, the seven "irrigates" the piece (Boulez 1989: 296). A few examples: it has seven sections, each separated by double bars and long held notes played as harmonics; it begins with an irrational group of seven 32<sup>nd</sup> notes, followed by another figure containing these seven notes permuted and practically every anacrusis is made up of seven notes. one could say that just as *Messagesquisse* is centered on the number six, here, things come in sevens.

Before succumbing to the temptation of meditating on the importance of the number in Boulez's music, of a symbolism or mysticism that is at the root of these 'Number' works, a caveat is in order. Firstly, it must be remembered that for Boulez, the initial series of a piece belongs to the work's 'pre-history', and as such, is not an essential feature of the finished work. The proper locus of analysis, as we have seen, is the labyrinth of intentions and transformations that stem from this origin *to* the piece, from the idea to the system. This is why Boulez, at the lecture on *Anthèmes 2* adds, after

mentioning that the work is an expansion of a seven-note passage of ...*explosante-fixe*..., that “I find that starting points are, in the end, not very important.”<sup>25</sup>

What *is* worth mentioning is that the piece can in fact be seen as a sustained meditation on a seven-note series: there are several distinctive characteristics of seven-note series that necessarily shaped the pre-compositional material of the piece: 7 equals 6+1, and so is interpretable as being one polar note plus a six-note series, where a six-note series partitions the twelve well-tempered pitch classes into two equal parts. This is in fact how the series is interpreted in the chapter devoted to this subject (cf. Chapter 4.) But, alternate readings of the number seven are also plausible: at the risk of sounding pedantic, 7=3+4, and Boulez has asserted that three- and four-note cells are ideal in that they are the best suited to being retained by memory: long enough to have a distinct contour, short enough for this contour to be recognized in other sections (1989: 241). This also might have been a fruitful manner of partitioning the series.

At any rate, this is the furthest thing from the kind of meditation on number which one could term ‘numerological’. One of the aspects of Schoenberg’s Second Vienna School to which Boulez seems to show little attraction is their number-mysticism, which borders on superstition (Schoenberg changed Aaron’s name to “Aron” in his opera, so as not to have thirteen letters *Moses und Aron* in the title!) Boulez shows a marked aversion towards numerology, and interestingly, tends to consciously ignore the numerical symbolism that goes into many of the works of the Viennese masters, in favor of a formal analysis which relies on more esthetic categories. A case in point is Boulez’s analysis of Alban Berg’s *Kammerkonzert* (1989:296-300). Boulez informs us that the

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<sup>25</sup> « Je trouve que les points de départ ne sont toujours pas très importants, finalement. »

piece obsessively treats of the number three, as a homage to the three ‘A’s of the Second Viennese School, i.e., Arnold Schoenberg, Anton Webern and Alban Berg himself. The instruments are divided into three groups (piano, violin, winds), the form is at once a sonata form (exposition, development, recapitulation: three sections) and a theme with five variations (i.e. 6 sections = 2X3), and there are various other ways in which Berg embeds the number three into the work.

Boulez then goes on to analyze the piece according to its perception, ignoring the poietic information of the primordial status of three-ness in the work. He finds, in an attempt to memorize the theme (memory - that esthetic category *par excellence*) that it seems to be composed of four segments of very similar length. The 1+5 form of the theme and variations, due to the variability of rhythmic density is, according to Boulez, impossible to perceive. The trinity, so essential to the pre-history of the work, turns out to have little to do with the work's perception (or even, possibly, to the immanent properties of the work, the so-called “neutral” level.)

Boulez concludes that this numerological obsession, evident in the Viennese as well as in many of their predecessors, serves as little more than a “crutch for the imagination,” as he calls it:

To justify oneself to a higher order of Truth, to protect oneself from errors that only our instinct can allow us to avoid, this is the true meaning of this adherence to number mysticism; it becomes a kind of strange obsession with constraints in the midst of the instability of invention<sup>26</sup>

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<sup>26</sup> « Se voir justifié par un ordre supérieur de vérité, se protéger de l’erreur que notre seul instinct ne nous permettrait pas d’éviter, tel est profondément, il me semble, le sens de cette adhésion à la mystique des nombres; on la retrouve comme une étrange obsession de contrainte dans l’instabilité de l’invention. » (1989: 300)

Besides the number seven, the other important constant in the piece is the note D, which is sounded from the first trill of the piece, and which is also the last note to be sounded. This D intervenes at almost all crucial moments of the piece. The D is played with such obstinacy, and has such a distinctive sound on the violin (when played as open string, as natural harmonic of the G- or A-string, etc.) that its presence can be sensed even without the aid of true perfect pitch. The presence of a polar note goes clearly contrary to classic 12-tone technique, whose prohibition against untimely tone-repetition derives from the very avoidance of polar-notes. Boulez, as we shall see, transgresses the note-repetition prohibition just as surely as the avoidance of privileged tones. The justification for this comes from Boulez's criticism of classic serial technique's inability to assign different weights or hierarchical orderings to notes. He writes that with the serial technique,

We were using an egalitarian system in which, in principle, there were no strong or weak elements. This type of relational system is now to be abolished. It is as if we deprived sounds, lines, of their possibility of having *auras*.<sup>27</sup>

We see that the new point of view of Boulez permits notes to be privileged, to the point of admitting whole works which can be considered the aura of a central tone. This is the case with the D of *Anthèmes*, and of the E-flat of *Mémoriale* and of *Messagesquisse*. In *Répons*, Boulez also relies on a series of polarized notes which serve as 'auditory markers'— to guide the listener through sections that, because of the extreme acoustic density due to an orchestral *tutti* coupled with electronic sounds, can easily cause

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<sup>27</sup> « ...on fonctionnait avec un système égalitaire où, en principe, il n'y a plus d'éléments faibles ou forts: ce type de relation *s'en trouve aboli* [my emphasis]. On a privé, en quelque sorte, le son, la ligne de toute possibilité d'avoir une *aura*. » (1989: 373)

a listener to lose his/her way. The analysis of this system of polar notes can be found in Jean-Jacques Nattiez's article on *Répons*. (1987a: 35)

Boulez expands on this idea of note polarization in “Le système et l'idée” :

In effect, a sound can be considered as a center, about which satellites are available for enriching it, for conferring upon an importance which it would not have had on its own.<sup>28</sup>

The techniques for giving a principal note importance through appoggiatura, grace-notes, trills, etc., are extended by electronic means in *Anthèmes 2* in which the concept of an aura surrounding the ubiquitous D is extended considerably — into the realm of the electronic. But this above quotation will become important in the analysis of tonal-regions which forms the fourth chapter.

Boulez explains in his lecture that the title, a French neologism, has a double meaning: its first meaning is derived from the English word anthems (in French, *hymne*) and as such is intended to have a hymn-like quality. Its second sense derives from the fact that “*Anthèmes*” is homophonic with “*en thèmes*”, and as such represents a return in Boulez's career to a thematic style of writing. It is the motivic style of the piece (or thematic if one likes, for never in musicology have the exact distinctions between the terms *cells*, *motives* or *themes* been clearly defined), which recommend an analysis of the sections in terms of paradigmatic charts, as is done later in this chapter. The next section is devoted to a study of immanent features of *Anthèmes*, both macroscopic and microscopic, which constitutes what Nattiez calls *Analyse du niveau neutre*, or ANN. This leads into a presentation of the paradigmatic analysis, a neutral level analysis..

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<sup>28</sup> « Un son peut être considéré, en effet, comme un centre autour duquel des satellites sont disponibles pour l'enrichir, lui donner une importance qu'il ne saurait avoir par lui-même. » (1989: 373)

### General Features by Section

We have mentioned that *Anthèmes* is divided into seven sections, each signaled by long harmonic notes that rise up in a glissando to indefinite pitches. For the sake of clarity, laid out below is the schema of the seven sections, with accompanying bar numbers<sup>29</sup>. The pitches of harmonic notes which divide these sections, are also indicated.

SECTION NO.	BAR NUMBERS	SIGNALS
<b>I</b>	<b>m.1</b>	<b>m.2:D</b>
<b>II</b>	<b>mm. 3-13</b>	<b>m.14:G</b>
<b>III</b>	<b>mm. 15-44</b>	<b>m.45:</b> <b>F#,D#,G</b>
<b>IV</b>	<b>mm. 46-65</b>	<b>m.66:G,F#</b>
<b>V</b>	<b>mm. 67-88</b>	<b>m.89:</b> <b>C#,A,G#</b>
<b>VI</b>	<b>mm. 90-96</b>	<b>m.97:D,C#</b>
<b>VIIa</b>	<b>mm. 98-112</b>	
<b>VIIb</b>	<b>mm. 113-143</b>	
<b>VIIc</b>	<b>mm.144-165</b>	

**TABLE I: Sections of *Anthèmes* and Accompanying Bar Numbers**

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<sup>29</sup> All bar numbers refer to the published version of the score, which is available from Universal Edition, UE 19 1992.

As can be seen, the seventh section is divided in the score into three smaller sections with double bar-lines. Boulez has compared this structure to the delimitation of verses and paragraphs in the Bible. As has been mentioned, the first section is exceedingly short (1 measure, ca.15") and serves as a kind of title (a "courte introduction" in Boulez's own words during the lecture.) The final section is by far the longest, comprising more than one-third of the bars of the whole piece (67 out of 165,) and occupying over half of the duration of the piece (approximately 4'20" out of 9', excluding between-section signals.) This final section is itself divided into three clearly delineated sections, each noted graphically by double bar-lines. Just as we have seen, with regard to the 'didactic' quality of some of Boulez's works, that a brief introductory section, often enunciating the series, is a stylistic trait in the later Boulez, the same can be said for the long, summarizing final section. A long final cadenza-like section in *Messagesquise* repeats the opening material, but in retrograde form; the last section of *Rituel* is also the longest, and most orchestrally dense, and the long awaited final version of *Répons*, it is tempting to conjecture, will also contain a significant final section.

Boulez explains the origin of the long harmonic notes between the sections with a biblical allusion. This is where he refers to these notes as "letters":

I remember when as a child we used to chant the *Lamentations* of Jeremiah during Easter holy week. What struck me then was that although the text was of course in Latin, the verses were separated by letters, that were themselves chanted, but in Hebrew; that is, *aleph*, *beit*, etc. This is close to the system I have used here. After a short introduction, the first letter, announcing the first paragraph. This is followed by the paragraph, in which there is a certain amount of activity. This stops and is followed by the second letter, then the second paragraph, etc. The form of the piece is entirely deduced from this.<sup>30</sup>

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<sup>30</sup> « Je me souviens que, dans les cérémonies de la Semaine Sainte, on chantait les *Lamentations* de Jérémie. Ce qui m'a frappé quand j'étais enfant, c'était que le texte était en latin, bien sûr, mais que les lettres étaient séparées, chantées aussi, mais en hébreu :



This is why these long notes in harmonics which divide the sections will be referred to as “letters”, and symbolized graphically, on paradigmatic analysis which can be found in Appendix C, with the first letter of the Hebrew alphabet, Aleph ( $\Sigma$ ). Boulez goes on to emphasize how these letters are “neutral” and “non-directional”.

We see in this description of the origin of the letters which divide up the sections of *Anthèmes*, a familiar Boulezian obsession with books, and with *the* Book, viz., the Bible. This forms a leitmotif in Boulez’s output that is almost as distinctive as that of birds in the output of Messiaen: in the *Livre pour cordes*, a title which emphasizes the music’s existence as a bound book in a way that has primacy over its existence as a musical piece; in Boulez’s interest in Mallarmé and his *livre* project, much of which is based on a ‘science’ of typesetting — on the impact a word has in relation to its placement on the page; also, there is the *Troisième Sonate*, for which Boulez names two literary influences — Joyce and Mallarmé — to whom he owes more than any musical antecedent (1985: 151). Boulez also makes reference to holy books, as in the title *Répons*, a reference to the responsories of the medieval Church. To these may be added the signals of *Anthèmes*, inspired by the verses of Jeremiah, and which, once again, bear witness to a particular fascination with the physical, graphical setting of the words on the page, in this case, the words of the Bible. This fascination with the setting of the words is clearly a Mallarmean inheritance — and Boulez is himself aware of this. One need only

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*aleph, beit*, etc. C’est à peu près ce système que j’ai repris on annonce le paragraphe — vous avez une courte introduction, la première lettre, on annonce le paragraphe. Le paragraphe suit, très bien, il y a une certaine activité, et ça s’arrête, et ensuite on a la seconde lettre, le second paragraphe, etc. Et [dans cette pièce], , toute la forme est déduite de ça. » (cf. Appendix B : p. 119)

read Mallarmé as he is quoted by Boulez in “Sonate, ‘*que me veux-tu*’”, in order to see this:

The intellectual framework of the poem hides and inhabits the space which isolates the stanzas, and in the white of the page, significant silences which are no less beautiful to compose than the verses themselves.<sup>31</sup>

But there is another affinity between Boulez and the Bible, or more specifically, to biblical interpretation. This affinity is without doubt unconscious on Boulez’s part, but this only makes it all the more striking: an integral part of Jewish biblical interpretation involves a study of the graphical layout of the Bible upon the scroll, traditionally believed to contain clues to the understanding of the text. There are, for instance, at certain points in the Bible, large gaps between sentences, and in other places, letters are stretched to occupy almost an entire column. The example will perhaps evoke Boulez and Mallarmé: in the *Shema Yisrael*, the Jewish credo (“Hear O Israel, the Lord our God, the Lord is One,” from Deuteronomy 6:4,) the last letters of both the first and the last words appear enlarged in the biblical scroll. These two letters are ayin (**I**) and dalet (**P**). The rabbis interpret this by combining these two letters to form the word ‘eid’ (**PI**), meaning witness. The verse then is to bear witness to the unity of God.<sup>32</sup> This interpretation, it seems to us, illustrates the ‘poetry of typesetting’, so to speak, as well as any passage in Mallarmé’s *Livre*. The affinities with Boulez are striking.

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<sup>31</sup> « L’armature intellectuelle du poème se dissimule et tient — a lieu — dans l’espace qui isole les strophes et parmi le blanc du papier; significatif silence qu’il n’est pas moins beau de composer que les vers. » (1985:154)

<sup>32</sup> cf. for example, *The Complete Artscroll Siddur* (1984: 91)

We will now return to a more concrete approach by taking a closer look at the general features of the individual sections of *Anthèmes*. This will lead us into the paradigmatic analysis which can be found in Appendix C and downloaded.

### **Fixed Registration**

One of the refinements of classic 12-tone technique is the use of fixed registration. Along with an increase of freedom with respect to the choice of pitch classes, Boulez is more systematic with respect to registration than the original twelve-tone masters, for whom the latter was basically a free parameter. Boulez writes,

It was essential for me, in twelve-tone technique, in order to obtain a sort of value corresponding to tonal values, such as modulation, to appeal to completely different procedures, which are founded on the mobility or the fixity of notes.<sup>33</sup>

As if this weren't suggestive enough, implying a dialectic of fixed and unfixed registration, Boulez goes on to explain that "in the case of fixed-notes, the contrapuntal outline will take place inside a certain placement of the twelve tones, each one occupying a well-determined place."<sup>34</sup>

If we exclude the short first section, so short in fact that it does not seem reasonable to speak of 'registration', and the last section, which juxtaposes several distinct registers, the other sections all occur with each note occupying a fixed register — and almost always consisting of around twelve pitches. Using a unique registration for

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<sup>33</sup> « Il me paraît impérieux que, dans la technique des douze sons, pour obtenir une sorte de valeur correspondant aux valeurs tonales, telle que la modulation, on doit avoir recours à des procédés totalement différents et fondés sur la mobilité des notes ou sur leur fixité. » (1966: 69)

<sup>34</sup> « ...dans la fixité le tracé contrapuntique se fera à l'intérieur d'une certaine disposition où les douze sons auront chacun leur place bien déterminée. »(ibid.)

each of the twelve tones creates a very easily discernible musical region, and serves to delineate the different sections.

Two tables that can be found on the next two pages display the registers of notes in section II to VI, and then in section VII. There are certain salient features which help to characterize the profiles of these registers: the high E-flat of section II, oft repeated; the high G of section IV, also extremely preponderant in that section. Certain single measures are excluded from the analysis of registration: these are single bars which contrast markedly with the registration of the rest of the section. They constitute a kind of interpolation. More will be said about interpolations during the discussion of the theme (Chapter 3.)

The seventh and final section of the piece employs a more involved registration, which is why a separate table is used for this section alone. Here, as has been said, there are three distinct sections: the first section (VIIa, mm. 98-112) containing principally 12 long trilled notes, the middle section (VIIb, mm. 113-143) containing the 'play' of four figures which are labeled c, d, e and f,<sup>35</sup> and finally a coda-like section (VIIc, mm. 144-165) which sharply polarizes the central D note, and leads up to the final gesture of stagnation on the D. Registration remains fixed not within sections, but rather within motivic figures. Thus in section VIIa, the figure marked  $a_3a_4$  has a registration distinct from that of  $a_8$ , and in the middle section, VIIb, each of the four figures marked c, d, e and f, has its own registration. In the following table, the different registers for this section along with the others are given.

		SECTIONS			
	II	III	IV	V	VI
c#'''					
c'''					
b'''					
a#'''					
a'''					
g#'''					
g'''					
#'''					
f'''					
e'''					
d#'''					
d'''					
c#'''					
c'''					
b'''					
a#'''					
a'''					
g#'''					
g'''					
#'''					
f'''					
e'''					
d#'''					
d'''					
c#'''					
c'''					
b'''					
a#'''					
a'''					
g#'''					
g'''					
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f'''					
e'''					
d#'''					
d'''					
c#'''					
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b'''					
a#'''					
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g#'''					
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c'''					
b'''					
a#'''					
a'''					
g#'''					
g'''					
#'''					
f'''					
e'''					
d#'''					
d'''					
c#'''					
c'''					
b'''					
a#'''					
a'''					
g#'''					
g'''					

**TABLE II: Registration for Sections II–VI**

<sup>35</sup> These names derive from the paradigmatic analysis, and will be presented and defined in part 2 of this chapter.

	SECT.VIIa (mm. 98–112)			SECT.VIIb (mm. 113–143)			SECT.VIIc (mm. 144-end)		
	a3.a4	a8	b	c	d	e	h1	h2	j
d#'''									
d'''									
c#'''									
c'''									
b'''									
a#'''									
a'''									
g#'''									
g'''									
f#'''									
f'''									
e'''									
d#'''									
d'''									
c#'''									
c'''									
b'''									
a#'''									
a'''									
g#'''									
g'''									
f#'''									
f'''									
e'''									
d#'''									
d'''									
c#'''									
c'''									
b'''									
a#'''									
a'''									
g#'''									
g'''									
f#'''									
f'''									
e'''									
d#'''									
d'''									
c#'''									
c'''									
b'''									
a#'''									
a'''									
g#'''									
g'''									
f#'''									
f'''									
e'''									
d#'''									
d'''									
c#'''									
c'''									
b'''									
a#'''									
a'''									
g#'''									
g'''									

TABLE II (Cont.): Registration for Section VII

### *Modes de Jeu*

We have been discussing the ways in which Boulez invests each section with its own particular character. Besides registration, Boulez also employs a high degree of uniformity with respect to playing style within each section. *Anthèmes* is, after all, a *pièce de concours*, and, as such it repertories a wide variety of violin techniques, in the manner of an étude. But, as if each section were its own, self-contained étude, each section confines itself to only one or two of these techniques (a few more for the long final section.) The following schema is born out:

SECTION	TECHNIQUE
<b>I</b>	<b>ricochet bow playing double stops</b>
<b>II</b>	<b>sul tasto</b>
<b>III</b>	<b>pizzicato</b>
<b>IV</b>	<b>tremolando sul ponticello</b>
<b>V</b>	<b>triple- and quadruple-stops with trilled top note</b>
<b>VI</b>	<b>shifts from sul tasto to natural position</b>
<b>VII</b>	<b>ralentendo, half-wood/half-hair, ricochet bow with double stops</b>

**TABLE III: Modes of Sound Production in Sections of *Anthèmes***

To these should be added harmonic notes and harmonic notes in glissando, which are reserved almost exclusively for the “letters” as Boulez calls them, i.e., the section divisions.

### Dynamic Ranges

Below dynamic ranges attained in each of the sections are outlined. On the right we note the approximate length of the section, in order to demonstrate that length of section need not be directly proportional to the range of dynamics.

SECT	PPP	PP	P	MP	MF	F	FF	FFF	TIME
I									14”
II									51”
III									28”
IV									41”
V									58”
VI									23”
VII									4’21”

**TABLE IV: Dynamic Envelopes in Sections, with Timings**

After this discussion of the global form of the work, the paradigmatic analysis will now be presented.

## II: Paradigmatic Analysis

As a means of acquainting the reader with *Anthèmes*, a paradigmatic analysis of the piece is included here, and the reader is referred to the paradigmatic analysis included here in Appendix C. It is the thematic style of writing that breathes through every page of *Anthèmes* (with the possible exception of the third section, as shall be explained later) which recommends to us the method of paradigmatic analysis. This method, originally invented by the linguist and musicologist Nicolas Ruwet (Ruwet 1972) and later



championed by the musicologist and semiologist Jean-Jacques Nattiez is particularly apt at displaying analogous structures, exact repetitions or more subtle transformations that occur at even the widest of time intervals. By organizing these similar figures paradigmatically, some basis of comparison between them can be found.

This analysis, which is available here section by section (C-I, C-II, C-IV, C-V, C-VI, C-VIIa, C-VIIb, C-VIIc,) is meant to be printed, and, with the exception of Section III, not included in the analysis for reasons explained below, can be followed while listening to the recording of *Anthèmes*. As *Anthèmes* is divided into seven sections, the analyses of each of these sections can be placed one on top of each other, as the columns correspond. From section to section, although the symbols stay the same throughout, the columns cannot be placed one on top of each other. However, since the labeling of motifs remains the same from section to section, the connection between sections can be established. In this way, for each separate section, the paradigmatic analysis can be read both horizontally and vertically: horizontally, one can follow the score while listening to the recording; vertically, one sees how recurring motives are varied within sections.

Section VII is divided into three sections (VIIa, b, c), and each section must be read separately, i.e. the charts are only to be superimposed for VIIa, VIIb and VIIc separately. Thus, for example, section VIIa is graphed on two pages, so the first page must be placed above the second; the same goes for VIIb and VIIc individually, but one cannot read VII a, b and c in superimposed fashion — due to the thematic individuality of each of these three sub-sections. Also to be noted is the omission in most cases the clefs from the score of the piece, since the treble clef may always be assumed. Rests have also for the most part been omitted, since, as is discussed later, rests serve in most cases to

separate motifs, and are normally not an integral part of these motifs. When the rest does, however, seem to be part of the motif (e.g. when it is one articulation of a triplet figure) it is included.

It goes without saying that in the Boulez of the non-motivic period, a paradigmatic approach risks confronting insurmountable difficulties, as repetitions are strictly avoided, and notes appear, as in the third movement of the Third Piano Sonata, in an apparently undifferentiated flow. The paradigmatic approach depends on the existence of musical objects, that is, of *discrete* musical objects, rather than of a sonic continuum.

Another consideration that recommends the paradigmatic approach is that the latter has the virtue not only of dividing up a long musical discourse into its smallest divisible units, but also of discovering hierarchies that exist on higher levels of grouping. Considering Boulez's new interest in polar notes, and in ways to differentiate and confer importance upon certain notes and passages from others, in a way that was not possible in a strictly serial idiom, paradigmatic analysis bears the hope of discovering the details of hierarchization that infuses the piece. Paradigmatic analysis achieves this goal through a systematic tallying of repetitions in the piece, that occur on a variety of levels. It is through this repetitive insistence which certain motivic figures, rhythmic figures or simply single notes acquire an importance that allows them to detach themselves from the linear flow of notes that constitutes the piece.

Another possible use of the paradigmatic approach is to allow for the possibility of some kind of limited aesthetic *judgment* about the piece. Much has been said, particularly in the circles of American musicology, about the role of criticism and the

value-judgment in musical writings (cf. Chapter 1). Without going too far afield with the details of this debate, I would like to suggest that paradigmatic analysis, too often associated with structuralism and positivism, can serve as a basis for certain types of value judgments pertaining to the musical work. In particular, it can be used to criticize works on the basis of unity, continuity of discourse, coherence of structure, etc.

In light of this discussion of aesthetic judgment, it became clear to us through the course of analysis that the third section of *Anthèmes*, the *pizzicato* ‘movement’, could only be incorporated into the fabric of the discourse of the rest of the piece with the greatest of difficulty. Unlike all the other sections, not only does section III not make use of any melodic or rhythmic figures used in the other sections, and for that matter, with the exception of one repeated figure (mm. 33 and 36, what in the analysis is called  $\gamma$ ) contains no motives, but in addition to this, it does not offer itself up for division into smaller units in any obvious manner. It is for this reason that this section is omitted from the paradigmatic analysis. Given that *Anthèmes* was commissioned as a *pièce de concours* for a violin competition, and that no such piece is complete without the requisite *pizzicato* passages, one wonders if this section was not composed for reasons other than the internal grammar of the work.

What is clear is that *Anthèmes* is constructed of a relatively restrained number of identifiable motivic cells, and that these cells vary with each of their appearances, by being shortened or lengthened, by the alteration of the number of attacks or the durations of the notes, through changes in dynamic markings and so forth. A paradigmatic analysis is used to simply juxtapose these similar figures, as a way of rendering their similarity and their differences visible.

Another argument which serves to support this form of analysis is the fact that in many cases, the fixed registration agrees with the paradigmatic segmentation. Often, the figures collected in one column, bearing similar contours, also share the same registration. This is the case particularly in the last section (VII).

At any rate, the paradigmatic analysis will proceed as follows: I have attempted to use a consistent symbolization for the entire piece, even though the analysis is divided up section by section. The uniform symbolization ensures that recurring entities are noted (like element 'b' of section I, which bears the same appellation as when it returns in section VIIb). In addition, subscripts are used in a consistent manner: high-level elements (long phrases, periods, etc.) are assigned capital letters as symbols. Their component parts are assigned lower case letters, with subscripts only if it is composed of several unlike elements (e.g., element A is composed of  $a_1$ ,  $a_2$ ,  $a_3$  etc.) This is observed as much as possible, except when smaller elements recur as part of new large units. Thus there could be a new element C, e.g., composed of a new combination of older elements  $a_2$ ,  $b_3$  etc. Also, the prime symbol (') is occasionally added to a letter in order to convey the sense that two elements are variations of each other. For example, in the paradigmatic analysis below, we shall see that  $a_3'$  is the same as  $a_3$  except for the addition of appoggiatura.

What may also strike the reader as curious in the nomenclature chosen, is the numbering. One finds, for example, that the very first cell of the piece, the seven-note group followed by a trill, is named ' $a_2$ ', and is followed by ' $a_4$ '. The elements  $a_1$  and  $a_3$  are absent, and appear for the first time only in the fourth and seventh sections respectively. The figure  $a_1$  appears as a *sul ponticello* figure which indeed precedes ' $a_2$ ';

$a_3$  appears as a 32<sup>nd</sup> note which indeed precedes the trilled  $a_4$ . The labeling was chosen in this way in order to bring out the unity of thematic material which is observable in the second, fourth, sixth and the first part of the seventh sections (VIIa). We will show, after having presented the paradigmatic analysis, that these sections (comprising over half of the piece) are composed entirely of statements of a single ‘virtual phrase’ — composed of the elements  $a_1, a_2 \dots a_8$  always in that order, but each time having certain elements omitted. This shall be presented on this on the last page of the paradigmatic analysis.

It may be argued that in the analysis presented here, there is a tendency to assign the same symbol to similar but non-identical repetition. For example, practically all trills in the work, regardless of their pitch, bear the name “ $a_4$ ”. There are several reasons for this choice: for one thing, since we are dealing with Boulez, who has never espoused exact repetitions in any of his phases, an overly fastidious naming system would result in a nomenclature having as many symbols as notes in the piece! This is clearly an impossible situation, that would hardly advance the cause of analysis, which precisely attempts to find links between seemingly disparate objects. Secondly, as Nicolas Ruwet noted in his seminal article on paradigmatic analysis,

Whoever speaks of identity begs the question, ‘identical in what respect?’ In effect, from a purely physical point of view, two concrete events are never completely identical.<sup>36</sup>

Since, with this point of view, even exact repetition does not imply exact identity between two musical objects, one must admit a certain amount of flexibility in the process of attributing individuality to one object and not to another. Hence a labeling

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<sup>36</sup> « Qui parle d’identité soulève la question: identité à quel point de vue? En effet, du point de vue purement physique, deux événements concrets ne sont jamais complètement identiques. » (Ruwet 1972:111)

system which economizes on symbols, and which tries to make visible recurrences of similar structures as much as possible.

But first and foremost in this case, the paradigmatic analysis serves as a way to effect a segmentation of the work (into phrases, sub-phrases, cells, etc.) which is based on the immanent properties of the work, rather than on the vague traditional guidelines for defining these musical units. Once this segmentation is effected, a poietic analysis can attempt to find out how these smaller musical units are constructed (i.e. the *poiétique inductive* which was alluded to in the introduction.) This is what shall be done in Chapter 4, which offers a serial analysis of several fragments of the piece, often relying on phrase divisions derived from the paradigmatic analysis. It is in Chapter 4, then, it will shown how to a large degree, there is a coincidence between a segmentation derived through paradigms, and one derived through a poietic (in this case, we could tentatively say “serial”) approach.

The reader is referred at this time to the paradigmatic analysis of *Anthèmes*, which can be accessed by clicking on the appropriate icon, it being organized according to section (omitting the third section, as indicated above).

I should also mention that although the paradigmatic includes all the notes which comprise the score, it is far from containing all the symbols which appear on the score: often, for convenience, time signatures and even bar-lines are omitted, as well as many of the expression markings: what is left is a skeleton of the score, which can be used in order to follow the linked recording of *Anthèmes*, but which is far from being identical with the score itself, which is available from Universal Editions.

Included, in the next three pages, is a list of all the thematic material in *Anthèmes*, each labeled according to the paradigmatic analysis. Here are the most important ones: the ubiquitous group of seven 32<sup>nd</sup> notes followed by long trill ( $a_2 + a_4$ .) This figure can be found in section I, II, VI and VII. Partly identified with this figure, but recurring under recognizable forms in its own right, is the trill with legato phrase underneath it, as in the “tail” of the same example ( $a_4 + a_5$  in paradigms.) We find this figure in II, IV, VI. We then have the “*irregulier*” motif, characterized by jagged bowing, and abrupt dynamic markings, and appearing in section IV and VI ( $a_7$  and  $a_7'$ ). Finally, we have the four ‘personnages’, as Messiaen might have said, which appear in the final section, of which one, the ricochet cell, appears in the first section (items *b*, *c*, *d* and *e* in the list of figures.)

46 *sul pont.* *mp* *a*<sub>1</sub>

*jeté* *pp* *a*<sub>2</sub>

*p* *mf* *a*<sub>3</sub>

*a*<sub>4</sub> *a*<sub>5</sub>

*p* *mf* *a*<sub>3</sub>'

*p* *a*<sub>6</sub>

*f ff ff f ff p pp* *a*<sub>7</sub>

65 *ff p pp p pp p pp p pp* *a*<sub>7</sub>'

*rall.*

106 *moitié crins, moitié bois* *pp* *a*<sub>8</sub>

**TABLE V: Catalogue of Themes in *Anthèmes***  
 Examples used with kind permission of Universal Editions.



Libre  
archet normal *gliss.\* pas trop lent*

*ppp* *pppp (dim. à l'in audible)*

Σ

c.l. batt.

*ppppp*

Ω

(♩ = 92) *rall.* . . . . . (♩ = 66)

batt. (archet normal)

*ff*

α

*calme, régulier*  
ricochet

*p* *pp*

b

*ffz*

*ff* *mf*

γ

Un peu plus rapide ♩ = 112, *agité, instable*

*ff* *mf* *ff*

f

*rythmiquement stable*

*fff sost.*

g<sub>1</sub>

*f* *ff*

g<sub>2</sub>

TABLE V (cont.): Catalogue of Themes in *Anthèmes*

*agité*  
pizz.

*f* *mf*

c

*brusque*  
arco

*ff*

d

*calme, retenu*  
(pizz.)

*pp*

e

144

*mp*

h<sub>1</sub>

→ *sul pont.*  
*non legato (on string)*

*pp*

h<sub>2</sub>

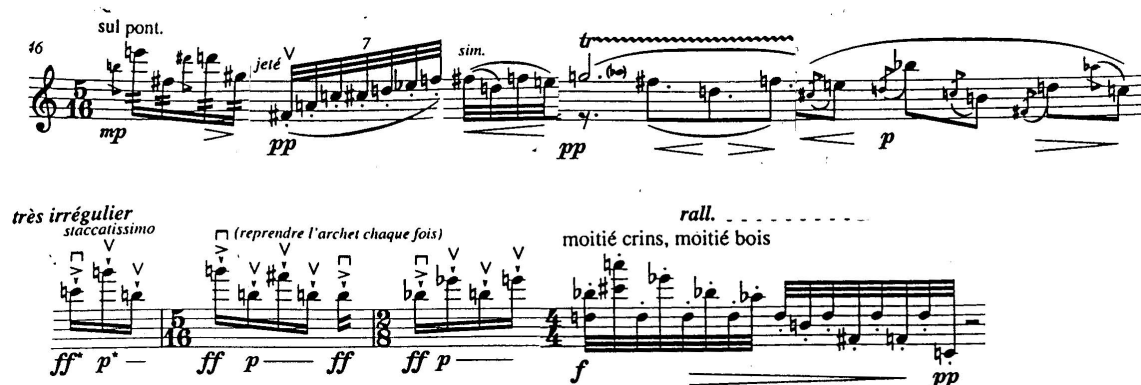
*pos. nat.*  
*stacc. (off string)*

*mf* *pp*

j

TABLE V (cont.): Catalogue of Themes in *Anthèmes*

We alluded above to a virtual theme, consisting of  $a_1.a_2.a_3.a_4\dots a_8$ , which runs through Sections II, IV, VI and VIIa. This theme, patched together, and never occurring in its entirety, is as follows:



**FIGURE 2: The Virtual Theme ( $a_1.a_2.a_3\dots$ etc.)**

As can be seen, it consists of a *sul ponticello tremolando* figure ( $a_1$ ), followed by a seven-note anacrusis ( $a_2$ ) (sometimes four-note), followed by a 32<sup>nd</sup> note polarization around the note D ( $a_3$ ), followed by a trilled note ( $a_4$ ), with melodic line beneath it ( $a_5$ ), followed by the grace-noted tail ( $a_6$ ), then the *irregulier* section with jagged bowing ( $a_7$ ), ending with the half-bow/half-hair figure ( $a_8$ ). This ‘Ur-phrase’ does not occur anywhere in the piece in its entirety, but its order is preserved, in the sense that, e.g.,  $a_4$  never occurs before  $a_1$  in any actual phrase<sup>37</sup>. The following table demonstrates the use of this single “virtual theme” to structure these four sections, which consist then, of thirteen analogous “instances” of the virtual theme, each one labeled from  $A_1$  to  $A_{13}$  in the paradigmatic

<sup>37</sup> Two exceptions to this ordering rule need to be mentioned: repetition of an element is allowed (e.g.,  $a_4, a_4, a_4$ ) and repeated alternation of adjacent elements is allowed (e.g.,  $a_3, a_4, a_3, a_4$ ).

analysis. In this way, in light of this paradigmatic treatment, sections II, IV, VI and VIIa form the *main* body of the piece, with section I being an introduction, VIIb and VIIc a coda, and III, a digression.

SECTION		a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	a <sub>5</sub>	a <sub>6</sub>	a <sub>7</sub>	a <sub>8</sub>
II	A <sub>1</sub>		●		●	●			
					[ ● ]x5				
					●	●	●		
	A <sub>2</sub>		●		●		●		
	A <sub>3</sub>		●		●		●		
	A <sub>4</sub>		●		●		●		
	A <sub>5</sub>		●		●		●		
IV	A <sub>6</sub>		●		●			[ ● ]x3	
	A <sub>7</sub>		●		●	●			
					●				
					[ ●	● ]x4			
					●			[ ● ]x2	
VI	A <sub>8</sub>		●		●		●	●	
	A <sub>9</sub>				[ ● ]x5	●			
			●						
VIIa	A <sub>10</sub>		●		●				
				[ ●	● ]x4				●
	A <sub>11</sub>			[ ●	● ]x2				●
	A <sub>12</sub>			[ ●	● ]x3				●
	A <sub>13</sub>			[ ●	● ]x2				

**TABLE VI: The Virtual Theme as it Appears in Score**

### III. Boulez's Terminology

Another reason for having undertaken a paradigmatic analysis of *Anthèmes* is that the charts which result serve to clarify morphological terms which Boulez uses to describe his works in his *Collège de France* lectures. Thus we begin with poietic information, viz., the Boulezian terms, and infer their use in *Anthèmes*; this constitutes the *poiétique externe* to which was alluded to at the end of the introductory chapter. Some of these terms have already been mentioned, and are typical of the esthetic approach of the later Boulez: *envelopes*, *satellites*, *auras*, *signals*, *memorization*, *enhancement*, *strophes*, *directionality*, etc. These terms will now be studied in closer detail, and references in Boulez's lectures will be found for many. It shall then be claimed that many if not all of these categories correspond to columns that are derived from the paradigmatic analysis — i.e. that these terms emerge as concepts from an examination of the immanent properties of the work. If this is indeed the case, one cannot but be impressed by the cohesion that exists between Boulez the essayist and Boulez the composer!

A closer look at the above italicized terms reveals that the terms are borrowed from two separate fields: on the one hand, the field of acoustics, the study of the properties of sound, and on the other, psychoacoustics, or the study of how music and sound are perceived and reconstructed by the mind. That both of these fields are official objects of study in the IRCAM mandate, the organization founded by Boulez, is of course, anything but coincidental. In many cases, a single term (especially *envelope*) has two meanings — one a technical term pertaining to the scientific properties of sound, and another which Boulez assigns to it and which pertains to the perception of musical works.

For example, in acoustic terms, an envelope is defined simply as the amplitude of a wave as a function of time. In Boulez's writings, it is used to denote a "legible" contour traced by a series of smaller musical units. The classic example being the traditional tonal analysis of a sequence of chords in the same inversion, appearing in parallel. The analyst notes the start and end point, and ignores the tonal function of each chord used in the sequence: the "envelope" has perceptive primacy over the individual chords of which it is composed. Boulez often plays on this ambiguity, and some would argue, in so doing, gives an air of scientific authority to purely music-theoretical concepts, themselves having little to do with the work of acousticians. Their validity, therefore, remains to be seen.

**SIGNAL:** The most famous of Boulez's new terms, a signal is defined simply as any non-directional figure — i.e. one which does not lead onto what follows, nor hark back to what preceded it. By displaying a kind of fixity that breaks up the flow of the musical discourse, the signal draws attention to itself, and thereby serves to demarcate the structure of the piece. As we know, the signals of *Anthèmes* are the so-called "letters( $\Sigma$ )" which herald the beginning of a new section with their slow, fixed, sounds played as harmonics. Indeed, without these milestones, the listener could easily get lost even in a work as relatively simple as *Anthèmes*. Boulez explains, speaking about *Anthèmes*:

What I am *sending* you, what you *perceive* are *signals*. These are signals which allow you to get your bearings, even in an unconscious way. This is essentially how I *manipulate* you. Every execution, every composition is a kind of manipulation, in the best sense of the term, I hope.<sup>38</sup>

<sup>38</sup> «Donc, ce que je vous envoie aussi et que vous percevez, même si vous n'en êtes pas conscients, ce sont des *signaux*, des signaux avec lesquels vous vous repérez, même si vous n'en avez pas conscience. Je vous manipule, finalement. Vous savez, toute exécution, toute composition est une sorte de manipulation, au meilleur sens, j'espère. » (cf. Appendix B : p. 120)

**ENVELOPE:** Let us now take Boulez's concept of envelope: an envelope is a musical object which is perceived as simple (in the sense of the German *einfach*: one-fold) even though it is actually constituted of several smaller, similar objects:

"The envelope is what individualizes a development, and allows you to give it a profile in the evolution of the work."<sup>39</sup>

It is what is perceived in "global perception" as opposed to "unitary perception" (1989: 334). An envelope is "legible" (i.e. perceptible) when the law that governs the movement from one of its members to another is regular and sufficiently simple (in the case of the parallel chords described above, the law is simple step-wise motion, but a regular augmentation or diminution is also sufficiently legible.) He adds,

The real problem is in the relationship between interval and contour. The contour can be stronger than the interval, annihilating its individual power. Conversely, the interval can dominate over the contour, and destroy it. It is the struggle between the discerning of individual units and a more global perception.<sup>40</sup>

In *Anthèmes*, examples of envelopes abound, and their existence is well documented in the paradigmatic analysis included with this essay. Consider the object that has been labeled  $a_2$ : It is a seven-note irrational group, serving, in every case, as an anacrusis of a long trill. Rather than perceiving the individual notes of these objects, or the intervals between them (which are composed of major and minor seconds, and to a lesser extent, minor third), they are perceived globally — whether it climbs up or down,

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<sup>39</sup> « L'enveloppe est ce qui individualise un développement et permet de lui donner un profil particulier dans le déroulement de l'œuvre. » (1989: 386)

<sup>40</sup> « Tout le problème réside dans la relation du contour et de l'intervalle. Le contour peut être plus fort que l'intervalle, annihilant son pouvoir spécifique. L'intervalle peut dominer le contour et le détruire. C'est la lutte de la perception unitaire contre la perception globale. » (1989: 334)

whether it does this relatively quickly or slowly and so forth. These can be compared at a glance in the left-hand column of the paradigmatic analysis of section II. Similarly, consider the object which was labeled *b*: heard only once in Section I, then reappearing ten times in Section VIIb, it consists of ricocheted double stops with a fixed D above, and a descending glissando below, beginning on the same D, always articulating a decrescendo. Although these eleven occurrences have much in common, no two are alike: the interval traced by the lower voice, the starting and end point of the decrescendo, the number of ricocheted attacks, these are the mobile parameters. But this does nothing to disturb the identifiability of the motif: the ricochet, the descending line, the decrescendo are fixed parameters, i.e. envelopes. A simple definition of the Boulezian envelope emerges, viz., ‘the audibly fixed parameters.’

As simple as the concept of envelope may be, it allows Boulez to analyze works in a deeper, more macroscopic manner, than the “perception unitaire” of those analysts (read: “Leibowitz”) who attend only to intervals and notes, without concerning themselves with envelope, contour, gesture, all of which being basically synonymous. Boulez praises a composer like Berg for being more concerned with the envelope than with textual accuracy in terms of the series: Berg varies material “while taking into account the interval contour.” Boulez observes,

One cannot assimilate the notion of order to a static datum which can be manipulated by changing its presentation. True order is the affinity, the resemblance, the gesture which cannot bear to be oppressed by the literal.<sup>41</sup>

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<sup>41</sup> « L’ordre ne peut s’assimiler à un donné immuable que l’on manipule en changeant sa présentation, l’ordre se base bien davantage sur l’affinité, la ressemblance, le geste qui ne supporte pas de se sentir opprimés par le textuel. » (1989: 349)



**SATELLITE:** The next term, *satellite*, and its equivalent, *aura*, were mentioned briefly above with reference to polar-notes: the concept of satellite will be used as the basis of the serial analysis contained in Chapter 4, especially in the analysis of the  $A_n$  (where  $n= 1,2,3$ , etc.) passages, which constitute sections II, IV, VI and VIIa. The literary sources for the term is given below, while at the same time, a certain ambiguity is brought to light.

This term is particularly important in the analysis of the second section. We shall reprint the passage previously quoted. Boulez writes,

In effect, a sound can be considered as a center, about which satellites are available for enriching it, for giving it an importance which it would not have on its own. This aura can be a linear ornamentation or can appear in the form of a vertical aggregate.<sup>42</sup>

If we read only until here, we have the image of a polar note benefiting from being surrounded by satellites which reinforce its status. But this passage seems to suggest that these satellites have the power of asserting (“enriching”) the importance of the central note, and thus must be in some way related to or derived from this initial note (perhaps as the existence of a leading tone asserts the tonicity of the note to which it leads.) This is why in Chapter 4, Section II is analyzed, considering the trilled notes to be satellites, and demonstrating how in each phrase, the surrounding notes belong, by and large, to the seven-note series associated with that note. The sentence which follows, however, refutes this interpretation somewhat:

The aura, or satellite of a note grafts itself onto a note, for an instant, without being an integral part of the structure to which this note belongs.<sup>43</sup>

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<sup>42</sup> « Un son peut être considéré, en effet, comme un centre autour duquel des satellites sont disponibles pour l'enrichir, lui donner une importance qu'il ne saurait avoir par lui-même : cette aura peut être une ornementation linéaire, elle peut se présenter aussi bien sous la forme d'un agrégat vertical. » (1989: 373)

<sup>43</sup> « ...elle [the aura, or satellite of a note] vient se greffer sur le son à titre momentané, sans faire partie intégrante de la structure à laquelle ce son appartient. (ibid.) »

A note is then a “satellite” precisely when it does *not* belong to the family to which the “moon” belongs. Just how foreign tones can serve to assert, and not to weaken, the polarity of the central tone, is partly explained by an example (how rare in Boulez !) which follows the above text :

In the same way, a heterophonic texture is a kind of aura of the melodic line. One does not need a strict rule in order to create it. On the contrary, the curls that fan out from the principal line are derived in a free and unpredictable manner, enriching its presentation, without modifying the structure.<sup>44</sup>

We begin to understand that the phenomenon which Boulez is describing here does not correspond completely with the forthcoming analysis of the second section. We discover two possible phenomena cloaked in this single term, satellite: a) a polar note surrounded by tones which assert its polarity (belonging to its series, tonality, tonal region, etc.); b) a polar note surrounded by unrelated tones, on the model of heterophony. For the sake of clarity, and since both of these phenomena are evident throughout *Anthèmes*, two different names will be assigned to them: To a), the name *satellite* is used, since it aptly describes the play of different tonal regions in the second section, and a more involved analysis of this phenomenon is reserved for the fourth chapter. To anticipate: the trilled notes of Section II (a<sub>4</sub>) are considered as polar notes followed by ‘satellites’ consisting of a small pool of fixed-register eighth notes (a<sub>6</sub>). Following a trill by short notes which imitate the decay (*désinence*) of an audible signal, is, by the way,

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<sup>44</sup> « De même, une hétérophonie est, en quelque sorte, l'aura d'une ligne mélodique; point n'est besoin, pour le constituer, d'une règle rigoureuse : au contraire, les volutes qu'elle tracera autour de la ligne principale en sont dérivées d'une manière libre et imprévisible, enrichissant sa présentation, sans en modifier la structure. » (ibid.)

a stylistic trait of Boulez in a great number of his later works, and especially in *Répons*.

Thus Deliège notes:

Among other procedures for abandoning a polar note, one notes that Boulez often embellishes the note with a few brief decay-like notes; the opposite situation, that a trilled or otherwise sustained note is simply followed by a rest, is actually quite rare.<sup>45</sup>

To b) a different Boulezian term will be applied, employed in the above passage: “*enrichissement*”, or as Boulez says elsewhere, and with a typical Anglicism, “*enhancement*”. An example of the latter from the first third of Section VII (VIIa, mm. 98-112) will be presented.

**ENHANCEMENT:** In this section, we find a long trilled D opening the section, followed by long trilled notes (labeled  $a_4$  in paradigmatic analysis) played on almost every one of the remaining twelve tones (except B and F#.) Each of these trills, however, is preceded by a series of 32<sup>nd</sup> notes that emphasizes D ( $a_3$ ). It is these runs which are referred to here as an *enhancement* of D. It is clear from listening and viewing the score that it is the D which is important in these 32<sup>nd</sup> note groups, in the manner of a trace of the D which introduces the section (and the work for that matter.) However, this D is sustained in these 32<sup>nd</sup> passages with the help of many other notes, chosen in an apparently free manner. The D is present anywhere from 40%-60% of the time — and yet is reinforced, or accented by these other tones. In the last third of the seventh section (mm.144-end) what has been noted, is a kind of virtuoso *enhancement*, or prolongation of a single note, once again, the fetishized D note. It is enlarged here to form an entire section of the piece - in near minimalist fashion! There is an obvious analogy here with

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<sup>45</sup> « Parmi d’autres procédés d’abandon d’un son porteur de polarité, on remarque fréquemment que Boulez l’orne de quelques valeurs brèves désinentielles; il est plutôt rare qu’un son soutenu et trillé soit purement et simplement suivi d’un silence. » (1988: 65)

Luciano Berio's piece for solo violin *Sequenza VIII* [1976], which obstinately repeats a single note, also an open string of the violin, in that case, the note A.

This chapter comes to a close after having presented a) certain general morphological features of the work, b) the paradigmatic analysis and c) analysis of Boulez's analytical vocabulary. With regard to the latter, we see that, as was conjectured, many of these terms apply to features of the piece which come to light through paradigmatic analysis. Although it is perhaps not customary to call 'analysis' a study of a text by a composer, it is clear that such a study has much to enrich a purely immanent analysis of a piece. In particular, in Boulez, one senses that he is trying to articulate certain features, whether they be timbral, or dynamic or otherwise; if one is unacquainted with Boulez's concepts, one would be at a loss to understand just what he is articulating. This holds true as much for the signals which have been called here 'letters' as for the satellites, enhancements and envelopes which have been described here. Moreover, one senses a kind of free-trade between the poietic and the neutral levels of analysis which is typical of this kind of *poiétique externe*: the study of the score suggests a certain segmentation, certain incipient 'concepts'; a study of Boulez's writings and lectures yield names for these concepts, which in turn refine the segmentation of the work, and so forth. Because poietic analysis becomes here completely intertwined with the immanent neutral level analysis, they shall be discussed together.

## CHAPTER 3

### The Theme

#### I. Boulez on Themes

We have already stated that *Anthèmes* represents a return to a thematic style of writing. The very fact that a paradigmatic analysis of the piece could be successfully executed, and without appealing to arbitrariness, testifies to this. But what, ideologically speaking, does this amount to? The body of this chapter will be devoted to a discussion of Boulez's writings on the theme, as well of how his approach is worked out in practice in *Anthèmes*. This chapter will begin with a short discussion of just what a supposed return to thematic writing could mean for Boulez. In particular, could it mean a gesture of “*retour à*” — a much anticipated step backwards to the bygone days of pre-serialism, undertaken in the name of “accessibility”? A first concession made by the most uncompromising of avant-gardists when faced by the stagnation in public understanding of the new musical idiom? Are we being projected, upon listening to *Anthèmes* to an era before the one so strikingly described by Schoenberg:

Intoxicated by the enthusiasm of having freed music from the shackles of tonality, I had thought to find further liberty of expression. In fact, I myself and my pupils Anton von Webern and Alban Berg and even Alois Haba believed that now music could renounce motivic features and remain coherent and comprehensible nevertheless.  
(Schoenberg 1949, in 1975: 88)

This is not necessarily so far from the truth, when we consider that Boulez has admitted that at present it is indeed the pre-serial phase of the Viennese composers which

interests him the most.<sup>46</sup> This could mean that the free atonality of this period interests him less the pan-thematicism which characterizes many of Schoenberg's works in particular. As we shall see, Boulez's so-called return to thematicism fits into a larger orientation in which the composer takes into account the process of listener perception of the work into the work's very fabric. This is what accounts for the very clear delineation of sections (the long notes in harmonics "signaling" a new section) and for the use of never-exact repetition of gesture in the work. To understand how such a position does not represent a retreat let alone an ironic "retour à" we must understand the logic of *innovation* versus *renovation* in Boulez's works.

A quick glance at the score of *Anthèmes* reveals a certain traditionalism of writing. Above and beyond the motivic play — the second section presents a number of similar phrases consisting of a seven-note anacrusis, a long trilled note and ending on a triplet figure — the writing contains many traditional gestures, not least a certain squareness (God forgive us!) in the formal structure: For example, in the fourth section which consists of two analogous phrases each containing a *sul ponticello*, *tremolando*, four-note anacrusis and long trill followed by the jerky bowing and dynamics of a short period marked *très irrégulier*; we have also the ABA' form of the fifth section. These forms are probably what Boulez had in mind when in his lecture he stated that the individual sections of the piece are structured like short hymns ("anthems"): the hymn, like the funeral march, has traditionally been seen to require a more sober structure — even in formally adventurous Chopin and Beethoven.

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<sup>46</sup> From a private exchange with Jean-Jacques Nattiez during a visit to Montreal, 1991.

Boulez has always sought to find the power of *renovation* latent in musical writing as it has been handed down to us: it is not mere caprice which has made Boulez express obvious reticence with respect to musical trends which abandon the mediation of traditional writing, whether it be the cluster-glissandi school of Xenakis *et al.*, or electroacoustics. This stems from a fundamental attachment to writing (and to *le Livre*, as has been said,) and as such, a desire to breathe new meaning into old gestures: in many cases, this act of renewal of the old language becomes an act of vindication in acoustic terms. Boulez not only takes into account the discoveries of psychoacoustics and considers, for example, the capacity of human memory when devising musical figures, but also one who incorporates the results of the science of acoustics into his musical language.

And so it is that the abundance of trills, grace-notes and anacruses all receive vindication on the acoustic plane in the later Boulez. Thus the trill is analogous to the phenomenon of oscillation, and also has as acoustic effect of radically increasing the density and creating a very characteristic type of beating phenomenon,<sup>47</sup> as well as aiding the ear to identify the timbre. Anacruses are in a sense the written analogue of the attack that is a characteristic of any sound, and thus receives a kind of acoustic blessing. Boulez's gift of vindicating gestures that are the legacy of tradition is what holds him apart from the willed austerity of a Schoenberg with his "ornament is crime" ideology (cf. the well-known pamphlet bearing this title, written by Schoenberg's friend, the architect Adolf Loos.) Although it is true that Schoenberg's works are not lacking in ornamentation, we could say that their theoretical status was always ambiguous; they are

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<sup>47</sup> cf. Deliège 1988, p.52 on the use of trilled chords in *Répons*.

present while at the same time regarded with suspicion. It is the frankly lush ornamentation found in *Anthèmes* that led musicologist Peter Szendy to see (in an interesting but nevertheless false etymology) the title *Anthèmes* as deriving from *chrysanthème*, i.e., chrysanthemum, and thereby linking the work to flowers, *fioritura*, that is, musical embellishment. We will have the opportunity to return to the above-discussed concept of vindication in other contexts.

In *Anthèmes*, the return to thematic writing (and effectively, this expresses itself by the phenomenon through which every group of notes presents itself as comprising, or being contained in, a typographically identifiable motif,) can be compared to another compositional trope which Boulez has adopted, or vindicated in his later phase, viz., the quotation: Béatrice Ramaut has analyzed Boulez's work for clarinet, *Dialogue de l'ombre double*, in terms of its use of quotations from Berio and Stockhausen (Ramaut 1992.) In both cases, thematism and quotation are vindicated respectively, but in each case the device serves different functions. In *Dialogue*, the quotations are silent tributes and also 'inside' jokes to his friends; at any rate, they are so decorticated and hidden that they cannot be expected to be perceived by anyone other than the *happy few* to whom they were intended. In the case of *Anthèmes*, Boulez emphasizes over and over again that the repetitions of themes *are* meant to be perceived, by performer and listener alike.

But more concretely, just what do these motives, or themes, if one likes, consist of in *Anthèmes*? Are the themes comparable to the short motives that characterize and shape Boulez's early serial works, such as the *Première Sonate*? If not, what is the difference? In that work, short but recognizable figures abound, such as a two-note figure tracing the interval of a major ninth, or an arpeggiated figure of 64<sup>th</sup> notes. Boulez has always had an



obsession, inspired by Webern, with the partitioning of the series into smaller units: often these partitions are made to coincide with other musical parameters (rhythmic groupings, number of notes in a chord, etc.). Koblyakov [1990] has demonstrated this admirably in his full-scale analysis of *Le Marteau*, as has Joseph Dechario in his 1977 PhD. thesis analyzing the third movement of the *Deuxième Sonate* (Dechario 1977). In *Anthèmes*, the grouping-role normally conferred upon the partition of the series (into 4+3+5 notes, for example) is complemented or even replaced by a thematic work. Complemented, because often the two cannot be distinguished, as for example in the case of a thematic figure comprised of seven notes: it is a theme, and at the same time it partitions the series into 7+5. This ambiguity of theme and series was a characteristic of Schoenberg's serial style, and has remained a constant theme for many composers who followed him: it is not absent from the work of the later Boulez. As such, it marks a return to Schoenbergian values — reports of Schoenberg's death, it would seem, are greatly exaggerated.

François Nicolas, in an admirable article surveying the notion of the theme in Western music, discusses this phenomenon in Schoenberg (Nicolas 1988). He uses Schoenberg's *Theme and Variations for Orchestra* op. 31 as a virtuosic example in which theme and 12-tone row coincide, and to wit, the theme is based on a ultra-tonal German folk song. This differs from Webernian serialism, in which the series has primacy over the theme, or if one likes, and in an oft-repeated formulation, the interval itself is thematized in Webern. But this is what creates the ideal-character of Webern's music — it is not clear that an interval has anything characteristic enough about it to permit itself to be thematized. The later Boulez, in word and music, distances himself to a certain extent from this Webernian idealism.

Much of the conceptual artillery used to fend off the so-called Weberian idealism is contained within the term “infrathème”— a term coined by Boulez in the context of the *Collège de France* lectures and elaborated upon in the chapter entitled “Athématisme, identité et variation”(1989: 239-290). “*Infrathème*,” and its sister word “*hyperthème*” connote not so much entities as historical processes. *Hyperthématisme*, a feature of Western music as it reaches its maturity, is the compositional process through which all musical figures are derived from the intervals of one primordial figure. Boulez probably has in mind that amazing economy of thematic material typical of Brahms and Schoenberg. *Hyperthème* thus deals with the relation between theme and work. *Infrathématisme*, on the other hand, is the process through which the properties of a theme are reduced more and more, until all that is left of the material of a theme are the pure intervals of which it is constituted. Boulez surely has in mind here what this so-called “Weberian Idealism.”

What Boulez achieves with these two neologisms is a typically astute use of Occam’s Razor, in order to render the concept of “thematicism” more clear. Also, he uses this distinction in order to make clear his own position with respect to the history of Western music: he will come out in favor of hyperthematization and against infrathematization. By rejecting one and accepting the other, we can make sense of Boulez’s remarks such as “I aimed at confronting thematicism and athematicism”<sup>48</sup>

Since Boulez’s present position is that pure intervals, in their abstraction, are enough to characterize a theme, he attempts, in his later works, to incorporate other

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<sup>48</sup> “J’aspirais alors à confronter le thématisme et l’athématisme.” (1989: 249)

musical parameters within the notion of infratheme which succeed in characterizing a theme to the listener.

This is why Boulez's themes tend to have intervallic content but also a) a characteristic tempo, b) characteristic accents, c) a characteristic expression marking (e.g., *calme* or *irrégulier*), d) a characteristic dynamic range. In this way, the *personnages musicaux* have a recognizable contour, and the hopes of a listener recognizing their use within a piece go far beyond the Weberian utopianism.

In this way, Boulez's return to the theme turns out to be more sophisticated than a mere 'retour à' an antiquated form of writing: Boulez's first mature work is characterized by a lack of thematicism *because* it relies structurally on the properties of the series — i.e. intervals in their purest form. This is *infrathematicism* taken to its ultimate extreme — and which ends up by annihilating or severely hypostasizing the concept 'theme'. By playing further with the title word *Anthème*, we get '*An(a)thème*' — the privative 'ana' signifying the peeling away of layers of musical gesture from a theme, until all that is left is pure intervallic relationships leading to '*anathème*' — no theme: and in the later Boulez, this kind of utopianism "s'en trouve aboli"(1989: 373), i.e., is declared anathema!

The Boulez of *Anthèmes* does not contradict his premises from the 1950s: he still holds that the pure proportions articulated by the series do not have the power to generate themes in and of themselves. But he now considers it merely Utopian or naïve to believe that a reliance on the series guarantees the comprehensibility or the coherence of a work. And this is why he enlarges in scope the notion of theme (or, if one likes, the notion of series also) to include other characterizing parameters.

We have seen how the theme in Boulez's writings is inextricably linked to the notion of ornament; it is these which confer an individuality of contour upon the bare-bones of a series of notes. The ornament, in turn, is given a theoretical 'vindication' thanks to a reinterpretation of their function on the acoustical level. Throughout the theme is treated in its esthetic aspect, i.e., in its role as organizer of perceived space.

## II. *Anthèmes en Thèmes*

We refer the reader back to the catalogue of thematic material in *Anthèmes* (on p. 56). In light of what has been said above about Boulez and the theme. This list gives an idea of what we are dealing with. To see how the themes serve to plot out the structure of the piece, one need only observe how the system of rests seems to arise simply as a means to separate one cell from another. Also, the ever-changing meters, a constant throughout Boulez's career, and almost certainly an inheritance from Stravinsky, are conceived as a function of the length of the motif contained within the bar. This same phenomenon, moreover, moved Célestin Deliège to comment about *Répons* that "rarely have metrical indications been as justified by the musical figures themselves, and at the same time these figures lend a voice to the fractions [contained in the time signatures]." <sup>49</sup>

The same comment could be made about *Anthèmes*, with its constantly changing meters.

When considering the above mentioned disposition of rests, it seems almost as if the Boulez of *Anthèmes* has somewhat regressed, or, to put in a milder form, is not

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<sup>49</sup> « Rarement, des figures musicales ont autant justifié leur métrique et ont rendu aussi parlant le dénominateur de la fraction indicative. » (Deliège 1988: 58)

interested here with the sophisticated dialectic of notes and rests which characterized his Webernian *Domaine musical* period and which Messiaen, for one, greatly admired; in *Anthèmes*, theme, by and large, means theme of notes; and notes have a marked primacy over the rests which divide them.<sup>50</sup>

In the manner of the table laid out above of the modes of sound production, or “modes de jeu” unique to each section, different sections can be linked conceptually on the basis of common thematic material or profile. There are seven sections, of which the first is a short introduction, and therefore unique. As has been noted, the seventh section is by far the longest, and summarizes the whole piece, and is therefore unique. To this can be added the third section, unique because it is all played *pizzicato*, and contains no identifiable motivic material. We are left with the two couples II-V and IV-VI. These sections are coupled on the basis of their containing comparable thematic material: II and V are both densely populated with trills, and IV and VI both have the “*irrégulier*” motif, with its abrupt dynamics, and bow changing with every note. The following table summarizes this schema, and contains in addition the approximate timings of the sections. The table is itself organized in the form of a paradigmatic analysis, so that a horizontal reading describes the piece in chronological order and a vertical reading describes sections which are analogous.

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<sup>50</sup> Messiaen, referring to Boulez in his *Traité*, makes the following observation about Boulez’s dialectic of note and rest: Pierre Boulez hears sounds and silence separately, no matter how short ! Two perpetual antitheses, two universes closed off to each other, yet constantly existing side by side – sound on one side, rest [silence] on the other, with no overlapping. It’s his point of view... It has at any rate allowed Boulez to invent an extraordinary procedure which is the ‘negative repeat’ [reprise négative] [in which notes are replaced with rests and vice versa.] » (Messiaen 1994: 49-50)

<b>I(intro.)14”</b>				
	<b>II 51”</b>			
		<b>III(pizz.) 28”</b>	<b>IV 41”</b>	
	<b>V 58”</b>			
			<b>VI 23”</b>	
				<b>VII(Concl.) 4’21”</b>

**TABLE VII: Analogous Sections in *Anthèmes***

Up to now we have spoken of elements which serve to distinguish one section from another. Another variation on thematic writing evident in *Anthèmes*, is that old war-horse of the thematic legacy, namely the cyclic theme à la César Franck. Whereas in Franck, the cyclic theme returns from one movement to the next, in Boulez, there are certain figures repeating from one short section to the next. To speak of a cyclic theme, however, would be inexact, since the piece displays in several places a more general phenomenon, which could be termed an ‘*interpolation*’. An interpolation is an intervention of no longer than two measures, of a different texture, register or style from what is around it, and which consists of either new and unrepeated material, or of a reminiscence of a figure from previous sections. An example of the first kind are the two similar measures 33 and 36 which constitute an interpolation that breaks from the uniformity of the third section. An example of the second, cyclic, form of interpolation is the figure of a trilled high note played simultaneously with a legato phrase underneath (marked  $a_4$  and  $a_5$ ) as first seen in bar 4, and then re-appearing in cyclic fashion in bars 6, 58 (section IV) and 96 (section VI). It could be hypothesized that when the interpolations

are of the first type, they off-set the balance of a section, and thus create a need for a section's completion by other sections, and when of the second type, they create a more obvious kind of unity of material.

### **The Theme in Boulez's Lecture**

But besides undeniably serving to structure the piece, the theme is used expressly as a means for the listener to orient him\herself in the work. We embark then once again into the realm of *poïétique externe*, just as we did earlier with the discussion of Boulez's analytic vocabulary. We have the already oft cited lecture of the October 21, 1997.

During this lecture Boulez describes the use of the theme in *Anthèmes* not so much as a means to structure the piece, but rather as a device used to trigger the listener's perception towards an "entity", as he calls it, which, although appearing in many forms, remains perfectly identifiable. Boulez says,

Yes, because in my youth, I thought that music could be *athematic*, completely devoid of themes. In the end, however, I am now convinced that music must be based on recognizable musical objects. These are not 'themes' in the classical sense, but rather entities which, even though they constantly change their form, have certain characteristics which are so identifiable that they cannot be confused with any other entity.<sup>51</sup>

The piece then uses themes as a kind of aid in listening — a perfect example of the later Boulez incorporating the conditions for the work's reception into the work itself.

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<sup>51</sup> « ... Oui, parce que, à l'époque de ma très grande jeunesse, je pensais que toute la musique devait être athématique, sans aucun thème, et finalement je suis persuadé maintenant que la musique doit se baser sur des choses qui peuvent être reconnaissables mais qui ne sont pas des thèmes au sens classique, mais des thèmes où il y a une entité qui prend des formes différentes mais avec des caractéristiques si visibles qu'on ne peut pas les confondre avec une autre entité. » (Appendix B: p.117 )

But this play of themes also allows for a degree of unpredictability, and Boulez does not lack that characteristic trait of French music, the *imprévu*:

This piece is replete with such entities, which can be identified very easily. What is less easily identifiable is the *order* in which they occur, or rather the *disorder* in which they occur. We recognize a specific event, but we do not know *when* it will occur; we recognize them *after the fact*. This is what interests me – to create an effect of simultaneous surprise and recognition.<sup>52</sup>

When Boulez speaks of this game of “surprise and recognition” which he plays with the listener, it seems probable that he is thinking especially of the middle portion of the last section of the work (VIIb mm.113-143) and the corresponding section in *Anthèmes 2*. In this section, bordered off by double bar-lines on each side, there is a kind of dialogue between four very clearly defined musical objects (b,c,d and e of the list of themes on p.56). Here more than anywhere else in the piece, Boulez clearly achieves, on the one hand, this ideal of recognition, since the four motives are clearly recognizable, being comprised of the following: 1) element *b*, ricochet double stops marked *calme, retenu*; 2) element *c* marked *agité, pizz.* 3)element *d*, a violent bowed flourish marked  *Brusque* and 4) element *f*, a *pizzicato* broken chord, also marked *calme*, emphasizing (tonicizing?) the note D and marked *calme, retenu, pizz.* But in addition to this, in this section, the element of surprise is present, since the elements do not occur in any obvious order, e.g., simple alternation *bcdebcd* etc. Each one of the four occurs on average ten times, but in the following order:

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<sup>52</sup>« ... Et donc, ici, c’est plein de choses comme cela, qu’on peut repérer pratiquement tout de suite. Mais ce qu’on ne repère pas, c’est l’ordre et le désordre dans lequel viennent ces événements : on les reconnaît, mais on ne sait pas quand est-ce qu’ils vont venir ; on les reconnaît après coup. Et ce qui m’intéresse, c’est justement d’avoir à la fois cet effet de surprise et de reconnaissance : on a une variation sur quelque chose de global, et en même temps, c’est très caractérisé au moment même où on l’entend.. » (Appendix A : p. 117.)



*bcdcbcedecbdecdbdbecbdcdbdec*

As can be seen, as in much of Boulez, and this has been the bane of analysts, much of the structure is derived from permutation tables, which are well-nigh impossible to reconstruct. However, for the sake of this analysis, not being able to explain the logic of this succession is far from being fatal. By being faithful to Boulez's new *esthesis* outlook, we can resign ourselves to the following: Boulez did not want the order of this succession to be audible, lest his game of surprise be spoilt. The analyst can, however, in this case, demonstrate the opposite, namely, that the order is *so constructed as to be unpredictable*.<sup>53</sup> The occurrence of entities in the above sequence can be analyzed paradigmatically, thus revealing an absence of repeated structure:

<b>b</b>	c	<b>d</b>	
	c		
<b>b</b>	c	<b>d</b>	e
		<b>d</b>	e
	c		e
	c		
<u>b</u>		<u>d</u>	<u>e</u>
	c		
<u>b</u>		<u>d</u>	<u>e</u>
	c	<u>d</u>	
<b>b</b>		<b>d</b>	
<b>b</b>			e
	c		
<b>b</b>		<b>d</b>	e
	c		e
<u>b</u>		<u>d</u>	<u>e</u>
<u>b</u>		<u>d</u>	<u>e</u>
	c		

**TABLE VIII: Predictability in Section VIIb (mm. 113-143)**

We notice that with the exception of the four-times-repeated *b-d-e* segment, and the central role of *c*, there are no repeating segments in the entire sequence. There then

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appears a pattern (or non-pattern) which practically obeys, on a higher structural level, the principle of non-repetition which Boulez long adhered to at the smallest structural level, i.e., the series. This simple paradigmatic presentation serves then to bring out the essential unpredictability of this passage (some 30-odd bars) of *Anthèmes*. This unpredictable form (or formless form as his detractors would say!) is termed “forme mosaïque” by Boulez (de Médicis 1992: 78). François de Médicis writes in an article about a lecture given in Montreal by Boulez that “...according to him, redundancy and renewal represent two equally indispensable elements in the formal balance.”<sup>54</sup>

Up to here, this seems simple enough; it remains to be seen if this simplicity, this game of recognition and surprise, manifests itself a) in the score and b) as a perceptive reality. It is a safe hypothesis that they do, as Boulez’s themes are highly characterized, not so much by their constitutive intervals, but by the “timbre” attributed to each: ricocheted double stops always resemble each other, whatever the intervals used. As such, Boulez’s piece, like the second Boulez in general, is much less interested in pure intervallic relationships, and puts more emphasis on differentiating and articulating different sections through the use of other musical or acoustic parameters. This has already been discussed above in our discussion of the *infrathème*. This provides yet another justification for rejecting a purely serial approach to analyzing *Anthèmes*. The series, with its idealized intervallic proportions, only tells a small part of the structural story in the piece.

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<sup>53</sup> I wish to thank Jean-Jacques Nattiez for suggesting this linguistics-inspired point to me.

<sup>54</sup> « Selon lui, la redondance et le renouvellement représentent deux composantes également indispensables à l’équilibre formel. » (de Médicis 1992: 78)

### What *Anthèmes* is Saying

Another surprising characteristic of the themes of *Anthèmes* is their semantic content: here, the feeling of motivic playfulness, of themes actively communicating with their listener is confirmed in the lecture. When speaking of Hae Sun Kang's interpretation of *Anthèmes 2*, Boulez describes what the long trilled and then held note D has to "say" at the end of the piece. When the movement finishes by a dry *col legno batutto* D (a dry finish emphasized even more in the newer version, thanks to the electronic enhancement):

Indeed, one approaches this ending, and the texture thins out until all that is left is a single note, which is cut off by a gesture on the violin which is both willful and humorous, as if saying "That's enough for now! See you later!" This is how I want the ending to be, and [Hae-Sun Kang] played it very well, as she was instructed by me to do.<sup>55</sup>

Later on in the lecture, he describes a similar gesture which opens the piece; namely, the trilled D, immobile and long, which risks bringing the movement of the piece to a halt even before it has begun. This is what it is "saying":

As a matter of fact this ending is already alluded to at the very beginning, in which there is already a polarization around the note D; there is a build-up, and then it stops, as if to say, "no, not yet. There still a whole piece left to play." There is certainly a theatrical element in this piece, in the relationship between the player and something over which she has no control.<sup>56</sup>

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<sup>55</sup> « ... et plus on s'approche de cette fin, plus ça désépaisait, s'amincit, s'amincit encore jusqu'à rester sur une seule note qui est coupée par un geste à la fois humoristique et très volontaire du violon qui dit : « Maintenant, ça suffit, au revoir! » Je veux que cette fin soit jouée comme ça, [la violoniste] l'a faite très bien, comme je le lui avais demandé. » (cf. Appendix B: p. 118)

<sup>56</sup> « En fait, cette fin, on la retrouve au tout début; quand [le violon] commence à faire cette espèce de polarisation sur le ré, et puis il y a une espèce de montée comme ça et on s'arrête: « Non, ce n'est pas encore le moment, il y a encore toute une pièce à faire. » Il y a quelque chose de théâtral aussi dans cette pièce... » (Appendix A: p. 118.)

To these we can amuse ourselves by finding other “elocutions” in the work: one could postulate that the opening of the final section, featuring the ubiquitous seven-note anacrusis ( $a_2$ ) and settling on a trill on D says: “I’m back”. The lugubrious off-the-string staccato run that slows down to a torpid *pianissimo* in measure 147 (element ‘j’ of the paradigmatic analysis) only three measures into the ‘coda’ (i.e. section VIIc) says “I can’t go on”: it is as if mile 20 of the marathon has reached! Be that as it may, it goes without saying that this is very far indeed from the Boulez of 1961, the inveterate formalist, who declared famously that “la musique est un art non signifiant.”<sup>57</sup>(1981:18) For even if Boulez’s famous declaration of musical formalism has a much wider sense than the types of “denotations” that are discussed here, it would be hard to imagine even this weak kind of musical denotation in, say, *Structures Ia*. The kinds of “elocutions” discussed here, and to which Boulez himself alludes, have more in common with the narratological analyses associated with recent work by the musicologists Anthony Newcomb and Carolyn Abbate, and in a different way by Marta Grabocz, than with the musical formalism of the Post-War avant-garde, from which Boulez’s famous remark emerges. But a more positive attitude towards narrativity in music by Boulez nevertheless heralds a less fanatical approach to musical formalism in the later Boulez.

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<sup>57</sup> “Music is a non-signifying [non-semantic?] art.”

## CHAPTER 4

### Serial Analysis of Parts of *Anthèmes*:

#### The Symmetrical Series, or Genesis of a Work

It was mentioned earlier that the dedication of *Anthèmes* reads “à Alfred Schlee — en souvenir amical du 19.11.91”. I also noted in passing that date mentioned in this dedication formed palindrome, i.e. it stays the same whether it is read forwards or backwards. In the following chapter, certain series, patterns, proportions, etc., will be uncovered which arise from the study of various fragments of *Anthèmes*. The common thread that runs through all of the structures uncovered, as shall be shown, is a certain kind of symmetry: in particular, nearly all of the series discussed will be palindromic in the sense that the intervals of the second half are the mirror image of those of the first half. There is obviously a great temptation to affirm that the inspiration for the work lies in the palindromic character of this presumably important date (Oct. 19, 1991.) This despite the fact that Boulez makes no allusion to this at his lecture on *Anthèmes*. It is then left to the reader, after having read this chapter, to arrive at his/her own conclusions.

Boulez informs us in his lecture (precious information!) that the starting point for the work was seven notes of the violin part for ...*explosante-fixe*.... There is then, just as Célestin Deliège uncovered four notes which “from the initial Big Bang to the existence of the work, four notes emerged from the global chromatic foundation.”<sup>58</sup>, a similar situation, but with seven notes. Rather than launch a treasure hunt in the large score of

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<sup>58</sup> « ...du *bang* préalable à l’existence de l’œuvre, [ont] émergé du fonds chromatique global .» (1988: 183)

...explosante-fixe..., which, to make matters worse, exists in several versions, this series can be found directly in *Anthèmes*. After all, the model of Koblyakov [1990] can be followed, as he discovered a seeming infinity of series, permutations, multiplications and the like, and this from a purely immanent analysis of *Marteau sans maître*. This amounts to a masterly work of “poïétique inductive”, in that it surmises from the work itself, the method of its construction.

We have, thus, a collection of seven notes in the first beat of the piece — the irrational group of seven notes: A, C#, F#, A#, G#, G, E $\beta$ , followed by D, the central tone. The same collection is repeated immediately after, in permuted version. The temptation

would certainly be to view this group as *the* series of the piece, or, since the fact that it is permuted so early in the piece suggests that the order of notes is not significant, it should probably be referred to it as the central *pitch-class set* of the piece. This choice is recommended by the example of *Rituel*, *Messagesquise* and *Répons* (the latter in a more subtle way) in all of which, the series is announced in the first bar, in a similar fashion.

This is in effect how I shall proceed, with one exception; the A# will be treated as ornamental, i.e. not belonging to the set as such. The reasons for this are twofold. Firstly, the pitch-class set which is finally opted for (i.e. the six notes of the opening figure minus A#, plus the D which follows) has more explanatory value in the piece. Secondly, it has symmetric properties that the opening series lacks, and that have always been favored by Boulez <sup>59</sup>. In addition to this, as shall be shown below, a remarkable number of structures in *Anthèmes* turn out to be based on such symmetrical series (i.e. ones whose intervals are the same as those of its retrograded form.) To this can be added the fact that this series also has a convincing textual basis. It is as follows.

We examine the so-called “letters”: there are seven sections, and thus six “letter” interludes. In each interlude anywhere from one to three notes are played, and they are as follows:

- I: D**
- II: G**
- III: F#, D#, G**
- IV: G, F#**
- V: C#, A, G#**
- VI: D, C#**

#### **TABLE IX: Letters (⌘)**

This results in (*comme par hasard!*) the seven different notes D, G, F#, D#, C#, A, and G#, and *excluding* the A#. These notes can in turn be arranged in relationships of perfect and augmented fourths (intervals 5 and 6.) We have:

<b>A</b>	<b>D#</b>	<b>G#</b>	<b>D</b>	<b>G</b>	<b>C#</b>	<b>F#</b>
<b>6</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>5</b>	

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<sup>59</sup> Cf. thesis of Dechario [1977], which describes symmetric series in the *Deuxième Sonate* and that of Galaise [1991] which deals with analyses of Webern’s two Cantatas by Boulez, often bringing to light symmetric properties.

This creates a very symmetrical series that polarizes the central D: an initial corroboration of this ordering. We see also how this schema valorizes the D, by placing it in the center, and thus neatly encapsulating the two known starting points for the piece: a seven-note series, and the central note D. It is perhaps this type of schema which Boulez has in mind when he writes (in typically enigmatic fashion) in the relatively contemporary “Le système et l’idée”:

In effect, a sound can be considered as a center, about which satellites are available for enriching it, for giving it an importance which it would not have on its own.<sup>60</sup>

At any rate, this seven-note “satellite” shall be considered as a ‘D-region’. By transposing this series in the order of the other notes of the series (also a classic Boulezian technique,) we obtain the following ‘solar-system’ of tonal regions:

C#	G	C	<b>F#</b>	B	F	Bb
G#	D	G	<b>C#</b>	F#	C	F
D	G#	C#	<b>G</b>	C	F#	B
<b>A</b>	<b>D#</b>	<b>G#</b>	<b>D</b>	<b>G</b>	<b>C#</b>	<b>F#</b>
Eb	A	D	<b>G#</b>	C#	G	C
Bb	E	A	<b>D#</b>	G#	D	G
E	Bb	Eb	<b>A</b>	D	G#	C#

**TABLE X: Tonal Regions of Polar Notes**

Adding one more transposition which will prove useful:

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<sup>60</sup> « Un son peut être considéré, en effet, comme un centre autour duquel des satellites sont disponibles pour l’enrichir, lui donner une importance qu’il ne saurait avoir par lui-même. » (1989:373)



**G    C#   F#   C    F    B    E**

Now two observations can be made: first of all, how this schema proves useful in the analysis of pitch content of the second section, and secondly, how a very similar schema (also using intervals 5 and 6) is independently derived through an analysis of the outer phrases of the fifth section.

A look at the paradigmatic analysis of the second section reveals a movement composed of five morphologically similar phrases (marked A1 to A5 in paradigmatic analysis.) Besides the first phrase, each one is composed of the seven-note group anacrusis ( $a_2$ ), a long trill ( $a_4$ ) and a grace-noted tail notated in eighth-notes ( $a_6$ ). There is, as is a common feature of the Boulezian phrase, a kind of mirror image of the structure of any audible signal: attack–resonance–decay. The first phrase follows the same pattern, except with an interpolation of two phrases underneath the trill ( $a_5$ ) and five extra shorter trills in the middle.

If we consider the long trill of each of the five phrases as the polar note of that phrase we see that to a large extent, the pitch content of the phrase belongs to the region of the polar note. In calculating this, we exclude the seven-note anacrusis, apparently derived in a less rigid manner. Here is, for example, the second phrase (A2):



**FIGURE 3: Phrase A2 from Section II**

As this phrase has a trilled A as its polar-note, we would expect its pitches to belong to the series on A, that is, the series which has A as its central tone: E, B $\beta$ , E $\beta$ , A, D, G#, C#. It turns out that the pitch content of this phrase conforms to a large degree to the 'A' region: only a B appearing as a grace-note, and a one-time occurrence of G

contradict this reading. Going through the four other phrases we find a large degree of conformity, if never exact adherence to the series. But it is enough to suggest that Boulez uses such serial partitions as a guideline in composing essentially free music (wherein the *envelope* is strict, but the contents are not.) And even if, despite the evidence, this has little to do with Boulez's actual compositional techniques, surely this is at least creating 'a labyrinth from another labyrinth,' one of the goals of analysis, dixit Boulez. Here are the results of the pitch-inquiry into the second section:

PHRASE	POLAR NOTE	NON-SERIAL TONES
A <sub>1</sub>	G	E,A,F,Bb
A <sub>2</sub>	A	G,B
A <sub>3</sub>	C	Bb,A
A <sub>4</sub>	F#	none
A <sub>5</sub>	G#	none

**TABLE XI: Polar Notes in Section II**

Even though note-counting is a particularly derided analytical habit, it is worth noting that 8 exceptions out of 65 notes gives fairly good support to our chosen analytical framework (88% accuracy.)

We now show, in a different part of the work (Section V) the use of another serial procedure. This will demonstrate once again the importance of symmetric series in the construction of the piece, as well as the tendency in the work to group together notes having intervals which alternate between perfect and augmented fourths. The fifth section consists of two outer parts marked *instable* (mm. 67-71 and mm. 80-88, marked A and A' in paradigmatic analysis,) consisting of double- and triple- stops with trilled top notes, and a central phrase (mm. 72-79, marked B) which is written in predominantly

32<sup>nd</sup> notes, and which uses only nine distinct pitches at a fixed register. It is these outer passages which are to be examined: the A section consists of 12 attacks, and A' consists of 18. In the first section, there are four attacks are marked **ff**, and are triple stops, four notes are marked **mf**, and are double stops, and four are marked **p**, and are single notes. It is noted in passing that the relationship here between density and dynamic markings is direct: loudest attacks correspond to most dense (triple-stops.) Grouping notes with like dynamics together the following schema obtains:

### **FF**

Series O:	G	C	Ab	Db
Intervals:	5	4	5	

### **MF**

Retrograde of O, transposed:	A	E	Ab	Eb
Intervals:	5	4	5	

### **P**

O transposed:	F	Bb	Gb	Cb
Intervals:	5	4	5	

We discover three variants of a symmetric four-note series built essentially on two perfect fourths separated by a semitone. The closing phrase has almost the same structure, but is constructed of three groups of six.

We have:

**FF:**

Series S:	Db	G	C	F	Bb	E
Intervals:	6	5	5	5	6	

**MF:**

S transposed:	C	F#	B	E	A	Eb
Intervals:	6	5	5	5	6	

**P:**

Series inverted, with exchange of last two notes:	F	B	F#	C#	G# ↔ D
Intervals:		6	5	5	5
					6

Here there are three variants of a six-note series built entirely on perfect and augmented fourths, and which is also arranged in a symmetric fashion (6-5-5-5-6): the resemblance with the series derived from the letters, is striking. And note that all of the series enumerated thus far have this symmetrical property in their intervals (5-4-5, 6-5-6-5-6-5, 6-5-5-5-6.) For any series with this symmetrical property, at least two of its four classical contrapuntal variations (inversion, retrograde, retrograde inversion) are identical: thus it is a series of limited transformation, somewhat akin to Messiaen's modes of limited transposition, which are known to be of enduring interest to Boulez: Boulez himself has privately admitted to being at the heart of the serial style of *Répons*.<sup>61</sup> The specter of the date 19.11.91 reappears...

We wish to make note of another section of the piece that provides evidence that the symmetrical series, polarizing the central tone (as laid out above) plays an important role in the structuring of *Anthèmes*. In this case, the example comes from the sixth

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<sup>61</sup> This came out in a private exchange between Boulez and Jean-Jacques Nattiez in Halifax, NS on June 5, 1991. Boulez was referring to the pitches of the notes in *Répons* which make up the 'fusées', as the rapid, fireworks-like sequences of notes are known in that work.

section, and once again makes use of the regrouping of notes according to their dynamic marking.

Section VI (mm.90-96), the shortest section, save for the introduction (I), contains two long trilled notes, one in the first measure, the other in the last measure, on C and D-flat respectively. Measures 92–3 consist of a return of the *irrégulier* motif from the Fourth section. It is these two measures in relation to the two polarized notes C and D-flat which will be analyzed:

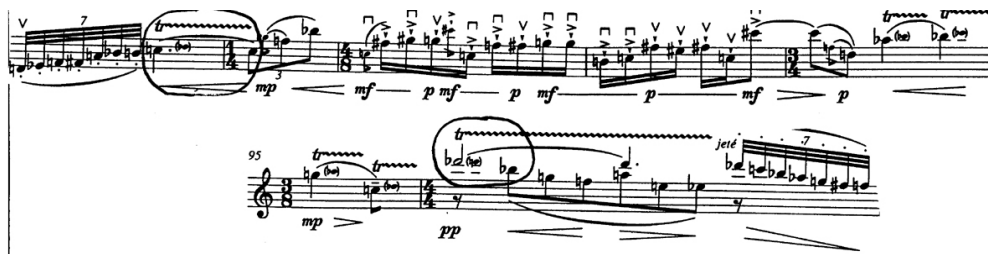


FIGURE 4: Polar Notes in Section VI

The *irrégulier* section contains notes of only two different dynamic markings: *mezzoforte* and *piano*. If we note the *piano* notes and the *mezzoforte* notes separately, in order of appearance:

P:	G	F#	F#	F	F#	C					
MF:	C	F#	G#	C#	C	G	G	B	C	C#	F

The *piano* notes (5 different tones) can be rearranged in the by-now familiar symmetric form. Note that the C-sharp has been added in the center, even though it does not appear, but that since the addition is made to the center, this does not affect the symmetry of the structure.

	D	G	(C#)	F#	C
Intervals:	5	6	5	6	

The *mezzoforte* notes, it turns out, can also be arranged in this form:

	G#	C#	G	C	F#	B	F
Intervals:	5	6	5	6	5	6	

We find, be it *par volonté* or *par hasard*, that these two series polarize the two notes C and C#, the notes privileged with long trills that open and close the section.

We have outlined these three examples, taken from three different sections (II, V and VI,) in order to show how serial considerations are not completely rejected in the style of the later Boulez, despite all the praises of informal music that color his *Collège de France* lectures.

We will close this chapter, devoted to a serial analysis with a short note on the fourth section, which although not related to the seven-note symmetrical series used to interpret the previous three sections, bears witness to a permutational construction. As Allen Forte has made clear, any operation on a twelve-tone row, be it transposition, retrogradation or anything else, can be considered a permutation of twelve distinct objects, and hence, the theory of twelve-tone music (“set theory” as he called it,) is a sub-theory of permutation theory. The notes that follow need not then be considered out of place.

The fourth section, then, as has been mentioned, is constructed of two phrases (marked A<sub>6</sub> and A<sub>7</sub> in paradigmatic analysis.) Each one of these phrases ends with a passage marked *très irrégulier*, of varying lengths (a<sub>7</sub> and a<sub>7</sub>’ of paradigmatic analysis.) These sections are characterized by very abrupt dynamic changes. The first phrase ends with 36 (3 × 12) of these notes (including appoggiatura) and the second with 21 (3 × 7) notes. The division into groups of 3 and 12 is chosen for two reasons: firstly, the importance of groups of seven notes has already been made sufficiently clear, and the

importance of twelve note series to twentieth century music is of course, primordial. Secondly, this division is reminiscent of the one which bore such promising analytical fruit in the fifth section (cf. p.90), in which the A and A' sections of the ABA' structure were further divided into 3 groups of 4 notes (= 12) and 3 groups of 6 notes (= 18) in A and A' respectively.

Closer examination reveals (and this explains the two separate columns  $a_7$  and  $a_7'$ , in the paradigmatic analysis,) that the first twelve notes of each phrase must be considered separately from the tail of the phrase. In the tail, in each case, dynamics change with each note, while they change only every 1, 2 or 3 notes in  $a_7$ . In what follows, the dynamic fluctuations of these  $a_7$  units in each phrase is examined.

With only one exception, these two half-phrases use only two dynamic markings, **ff** and **p**. (The single forte at the beginning of m.51 can be interpreted as a way to distinguish it as an appoggiatura, rather than a full note, which, in any case, is extremely difficult through listening alone.) Labeling **ff** notes 1, and **p** notes 3, we obtain the following succession of numbers for each phrase:

First phrase ( $A_6$ ):	133133311333	(a)
Second phrase ( $A_7$ ):	331113113113	(b)

Taking what is known as a cyclic permutation of (a), that is, starting at the 8th note and “wrapping around” the first, we obtain:

113331331333

Inverting one's and three's in this series, we obtain:

331113113111

What we obtain is (b) with the exception of the last note. We see that the two half-phrases are intimately related: one is a kind of ‘inversion’ of the other: and this technique smacks of Boulez’s handiwork — one need only think of his technique of replacing the notes with rests and vice-versa in order to vary a theme, outlined in Messiaen’s *Traité*, and mentioned above.

Another reassuring aspect of this short example is that it shows a kind of correspondence between serial analysis and paradigmatic analysis. The element  $a_7$  was distinguished from  $a_7'$  for morphological reasons, in accordance with paradigmatic analysis. But the analysis along permutational lines agrees with this assessment, in showing that the two objects grouped as  $a_7$  share a common mathematical property as well. In the best possible world (alas, this is not always the case!) serial, paradigmatic, and “Boulezian” (as outlined above) exhibit perfect agreement.

I made it clear in the introduction that it is not the object of this study to offer a complete serial analysis of *Anthèmes*, in the way that Ligeti, for example, analyzed the “automatonic” structure of *Structure 1a*; I am trying to follow a (recent) tradition of analysis which incorporates perceptual categories into its discourse — on the model of Deliège, Nattiez and Bonnet. Nevertheless this chapter has been devoted to “showing the series,” occult ritual in the analysis of twentieth century music! Indeed, if we heed Boulez’s words, the series is but the inchoate germ that inspires the composer’s fancy, the true analyst needing to focus on the inscrutable paths from system to idea. This is undoubtedly true, yet are we to conclude that by making the central pitch-class set explicit, we have done *nothing* to make the work clearer? Also, even if the series is a



completely ideal entity, having no direct impact on the perceptual level (as the later Boulez implies), need it be completely barred as a perceptual category?

We think not, and for several reasons. Firstly, all pitch collections mentioned above inscribe themselves in a conceptual framework that has much to do with Boulez's new perceptual outlook: the "moons" and satellites and tonal regions used to analyze Section II are clearly reminiscent of Boulez's use of these terms in his essays on musical perception (in particular in "Le système et l'idée.") Moreover, Boulez's work bears witness to the flexibility not of the series, the latter being quite limited in its scope and ability to be varied, but of "serial thought" (*pensée serielle*, an expression which English unfortunately lacks.) In serial thought, the series is a means towards musical expression and comprehensibility, not a fetishized end in itself *à la* Webern. It has been observed by several writers that Boulez's work displays a dialectic between strict and free writing, just as Gilles Deleuze described Boulez's work as a dialectic between the fixed and the mobile (Deleuze 1986). Thinking back not only to the "letters" (the harmonic notes separating sections,) but also to those sections displaying a clear serial structure as being examples of the Fixed in *Anthèmes*, we can understand from Deleuze how these fixed entities relate to the less-analyzable remainder of the piece. By extension, I hope that this will make clear how this chapter relates to other chapters of this study. The last words are reserved for Gille Deleuze, not least for the charming evocation of Proust:

The Fixed Universe is like a flourish upon the formal structure, or an envelope inside it, which creates the richness of perception, and awakens the senses and the memory. In Proust, the little phrase of Vinteuil contains a high note held for two bars, which is "held like an acoustic curtain which hides the mystery of its own incubation". This note is an example of the Fixed. As for the Septet of Vinteuil, Mlle Vinteuil's girlfriend need to

have landmarks in order to write the work. This is the role of automatic memory in Proust – it constitutes envelopes of the Fixed.<sup>62</sup>

One cannot help but be reminded of features of Boulez's work in general, and of *Anthèmes* in particular.

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<sup>62</sup> « [L'univers des Fixes] se présente à la manière d'un geste faisant affleurer la structure formelle, ou d'une *enveloppe* entre elles qui crée la richesse de la perception, et tient en éveil la sensibilité et la mémoire. Dans la petite phrase de Vinteuil [chez Proust], la note haute tenue pendant deux mesures, et "tendue comme un rideau sonore pour cacher le mystère de son incubation," est un exemple privilégié de Fixe. Quant au Septuor [également chez Proust] l'amie de Mlle de Vinteuil a eu besoin des repères fixes pour écrire l'œuvre. Et c'est bien le rôle de la mémoire involontaire, chez Proust, de constituer des enveloppes de Fixes. » (Deleuze 1986: 99)

## Closing Remarks

The analytical strategy used has attacked the work from three different perspectives, and I wish to address in this final word the question of how these perspectives related to each other. I began with an immanent analysis of the piece, in the form of a paradigmatic analysis. This provided us with a segmentation of the work from which other analyses could emerge. The analysis is then based on that precious piece of data — the transcribed lecture which Boulez gave on *Anthèmes 2*. The analysis of *Anthèmes* — especially the thematic analysis, and the analysis of rhetorical devices (Chapter 3) — relies heavily on this lecture, as well as other of Boulez's writings contemporaneous with it. This portion of the analysis can be termed *poiétique inductive*, to use once again Jean-Jacques Nattiez's terminology. When in the second chapter, Boulez's analytic vocabulary was inventoried, and *Anthèmes* described in terms of this vocabulary, the work was being analyzed based on external poietic information. This thus constitutes *analyse poiétique externe*. But this case is more complicated since Boulez's very terms (*satellite*, *signal*, *envelope* etc.) refer to perceptive categories, and are thus a reflection of the composer's incorporating knowledge of the ways in which music is perceived into his compositional intentions. The presence of the *listener* — in the form of these perceptive categories — brings with it a non-negligible *esthetic* component.

Finally, in the chapter 4, a serial analysis of the piece was proposed that suggests that series having certain symmetrical properties are indeed at the heart of the work's structure. This analysis is also something of a hybrid, in that it cannot honestly claim to

be an analysis of purely immanent properties of the work: it deduces compositional strategies based on expectations of what a Boulez piece ought to be, as deduced from his writings and other analyses (Dechario, Koblyakov, Ligeti, etc.) As such, it takes the form of *poiétique externe*, deducing compositional strategies to which Boulez may have appealed.

The question then arises as to whether the three approaches are redundant, contradictory or complementary. It is clear that they complement each other. For paradigmatic analysis effects a segmentation that agrees for the most part with Boulez's analytical vocabulary. It therefore has an obvious value. However, the paradigmatic analysis is quite incapable of discovering serial (or better: permutational) procedures in the piece — in particular the type of symmetrical series that was elaborated in Chapter 4. And neither of these could possibly uncover how the piece inscribes itself in Boulez's new pro-thematic approach — a discussion which relies on the author's own testimony. On the other hand, it is clear that a discussion of the theme in *Anthèmes* would not come near to exhausting the analysis of the piece, even if the theme is the *raison d'être* of *Anthèmes* according to its composer. As Reed Hoyt points out in an article cited above, if the composer had but one intention in writing his piece, and if analyzing meant uncovering this intention, then there would be one and only one true analysis of a piece (Hoyt 1985: 45). By incorporating all three approaches, the results complement each other, although one simultaneously gives up any claim to exhaustivity. After all, the semantic content of a piece is not exhausted simply by identifying the intentions that lurk behind it, nor by a complete analysis of syntax.

The next tempting question is to ask whether this analysis has been faithful to Boulez in its approach. After all, the discussion of symmetrical series in *Anthèmes*, contained in the preceding chapter, was not mentioned anywhere in Boulez's lecture. Can we be certain that Boulez made use of them? It is difficult to address the question of fidelity about a composer known to esteem unfaithful analyses. It was mentioned in the beginning of this paper that Boulez values most those analyses that open up new spaces, even if they end up falsifying the true intentions of the composer. Boulez often speaks of an analysis as being at its best when it is "mutilating". He once wrote in praise of "...this mutilating analysis [which] is indispensable to the establishment of panoramas, of global views."<sup>63</sup>

Thus the analyst disfigures the composer as a way to carve out new territory. One is almost led to believe that in this case, Boulez's most faithful disciple is he who betrays him completely! This conclusion has obvious Adornian overtones ("Bach defended against his devotees.") The obvious conclusion is that this study most probably resides somewhere in that modest territory between the most faithful analysis, and the one that does the most violence to the author's intentions.

Montreal, February 2001

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<sup>63</sup> « Cette analyse mutilante est indispensable pour établir des panoramas, des vues d'ensemble. » (1989: 37)

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## Appendix A: English Version of Lecture

A slightly abridged and edited transcription of a public discussion between Pierre Boulez and musicologist Peter Szendy, on *Anthèmes 2* for violin and electronics, on the occasion of its French première on October 21, 1997 at IRCAM, Paris.

*Please note that this lecture deals with Anthèmes 2 rather than the original solo violin version Anthèmes, which is the subject of this study. Because of this, certain passages of this lecture, in particular those which involve the use of live musical examples, have been omitted from this transcription. Nevertheless, many of the electronic effects, as Boulez elucidates clearly, aim at bringing out features or oppositions which are already present in the instrumental version (the close-far function, counterpoint compressed into one line, passages of ‘ordered’ chaos, etc.) For this reason, this discussion remains pertinent to a study which deals only with the purely instrumental Anthèmes.*

[*Anthèmes 2* is played in its entirety]<sup>64</sup>

**Peter Szendy:** I would like to thank you, Pierre Boulez, for coming to speak to us about *Anthèmes*. Let’s begin with some general questions: Could you tell us something about the title “*Anthèmes*”?

**Pierre Boulez:** Yes, well the title is something of a play on words. It is a reference to both “hymn” and “theme”. The English word “anthem” means “hymn”, as in “national anthem” [*hymne national* in French]. Although the word “anthème” is meaningless in French, I use it in this piece to refer both to hymns and to themes. It is a hymn in that

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<sup>64</sup> The recording of *Anthèmes 2* can be found on CD DGG 463 475-2 on Deutsche Gramophon, with Hae-Sun Kang, violin, and Andrew Gerzso, technical director.

there is a succession of verses and paragraphs which are constructed as hymns, that is as a kind of refrain.

**PS:** So then the title “*Anthèmes* “ is saying something about your relationship to the theme, to the notion of a musical theme?

**PB:** Yes, because in my youth, I thought that music could be *athematic*, completely devoid of themes. In the end, however, I am now convinced that music must be based on recognizable musical objects. These are not ‘themes’ in the classical sense, but rather entities which, even though they constantly change their form, have certain characteristics which are so identifiable that they cannot be confused with any other entity. This piece is replete with such entities, which can be identified very easily. What is less easily identifiable is the *order* in which they occur, or rather the *disorder* in which they occur. We recognize a specific event, but we do not know when it will occur; we recognize them *after the fact*. This is what interests me – to create an effect of simultaneous surprise and recognition. There is variation with respect to a global object, and yet, when an event is heard, this object is highly characterized. This is a possible explanation for the title.

**PS:** I looked up the word “anthème”, and found a meaning which you were perhaps not thinking of when you chose the title. I am referring to “chrysanthème” [chrysanthemum], the flower. I mention this as a pretext for leading me into the next question: the piece is very ornamental, so how do you work with what one could call the “flower”, i.e. *fioritura*, the musical ornament, in the best sense of the term?

**PB:** This piece is, as is often the case with me, a reflection on something else previously composed, but left in an unfinished state. In this case it is a tiny fragment of

...*explosante-fixe*... You showed it to me earlier today, as I didn't have the example at hand. To be precise, it begins with a mere seven notes. I find that starting point are not of great importance. What *is* important is the trajectory that one takes. And this trajectory, as you say, is seven notes which last perhaps five seconds; as the piece lasts twenty minutes, there is much room for invention. But this invention is centered about certain notes. For example, you noted that the ending is played on a single note, the D. Indeed, one approaches this ending, and the texture thins out until all that is left is a single note, which is cut off by a gesture on the violin which is both willful and humorous, as if saying "That's enough for now! See you later!" This is how I want the ending to be, and [violinist Hae-Sun Kang] played it very well, as she was instructed to do. It is as if she waits for this note to fade away and then – "Finished!". As a matter of fact this ending is already alluded to at the very beginning, in which there is already a polarization around the note D; there is a build-up, and then it stops, as if to say, "No, not yet. There still a whole piece left to play." There is certainly a theatrical element in this piece, not in the sense of having a violinist wave his arms in the air, or having him play on his head, but rather in the sense of there being a *dramatization* of the piece; above all, the theatrical element resides in the relationship between the player and something over which he has no control.

For me, what is interesting about an electronic piece is that the violinist supplies all the material which we require of him, with all the necessary freedom. There is absolutely no constraint on him, no temporal constraint; in particular, he needn't worry about synchronization, which could otherwise stifle his imagination. On the contrary, we take what the violinist plays in order to make something else out of it. It seems to me that

there is an interesting relationship here between what is produced by a human being, and what can be produced by a machine — which is, of course, *also* the product of a human being, only obtained through other circuits. There are then two circuits: an extremely direct, intuitive circuit and a much more analytical one. And it is in a particular piece that these two circuits intersect.

**PS:** Would you like to tell us about the structure of the piece?

**PB:** Yes, although I have no intention of giving an actual composition class: this is not the right setting for that sort of thing, and besides, it is not my style either. I taught composition for three years of my life, and that was enough for me. I will discuss, however, what must strike you when you listen to the piece. Certainly the most obvious thing that must strike you are the interruptions, in which, shall we say, not much is happening. These passages, in which [the violin] plays long notes in harmonics, contrast with other moments in which there is much activity. I would compare these — since I have already spoken of verses and paragraphs — to letters. I remember when as a child we used to chant the *Lamentations* of Jeremiah during Easter holy week. What struck me then was that although the text was of course in Latin, the verses were separated by letters, that were themselves chanted, but in Hebrew; that is, *aleph*, *beit*, etc.

This is close to the system I have used here. After a short introduction, the first letter announces the first paragraph. This is followed by the paragraph, in which there is a certain amount of activity. This stops and is followed by the second letter, then the second paragraph, etc. From this, the form of the piece is entirely deduced. You have a sense of the form of the piece which is quite immediate, I think, thanks to these *breaks* [coupures] which are entirely non-directional; they are *neutral*, and then it continues.

And when there are no more notes in harmonics, you can be sure that the piece has ended. All that is left is a kind of reminiscence, and is nearly unnoticeable, which is the fact that the last note of the piece is in harmonics. This note stays frozen in place, and signals the end. What I am *sending* you, what you *perceive* are *signals*. These are signals which allow you to get your bearings, even in an unconscious way. This is essentially how I *manipulate* you. Every execution, every composition is a kind of manipulation, in the best sense of the term, I hope. And this manipulation must be prepared in advance.

The goal of electronics in this piece is to ‘thicken’ [charger] the sound. We mentioned chrysanthemums earlier, and that is not far from the mark. There is a kernel, with petals all around. This is what is known as a ‘harmonizer’. It is a procedure which in itself has nothing particularly exceptional about it. What is interesting about it is that one never leaves the well-tempered system with it, that one stays very close to the temperament of the violin. And if we add a chord to it, this chord will move in parallel motion. That is to say that if this chord is made up of, e.g., a minor third, a seventh, etc., any interval, the violin will play, and like in certain paintings, the line is thickened, without deformation. This creates a kind of arithmetic progression; the proportions [rapports] do not change. On the other hand, there is another type of transformation which is known as *Frequency shifting*. Frequency shifting is based not on the interval but on the frequency itself, calculated in Hertz. There is nothing overly scientific about this, it is just substituting one value for another. But in this case we have a *geometric* progression, that is to say that instead of having a straight line, we have a curve: low frequencies are lowered by a great amount, whereas high frequencies are only slightly

lowered. The amount of transformation is a function of the register of the sound. In this way we have two types of transformations, two senses of the word ‘transformation’. On the one hand we leave the well-tempered system; non-tempered, that is, enriched, intervals are added. In the other type of transformation, you have the ordinary sound of a violin, only transformed. You have the natural harmonics of the violin, but these harmonics are deformed. Inharmonic sounds are introduced, which have nothing at all to do with the natural sound produced by this instrument. [Excerpt from first stanza, demonstrating the two types of transformations.]

The second important aspect of the electronics used pertains to the rhythmic structure. I will have a passage played for you which you have certainly noticed. There is a passage entirely in *pizzicato*, played very loudly, and which is conceived as a *compression*. I have in mind César in particular, César the sculptor, of course. There is a compression — there are three lines which are staggered rhythmically [*décalage rythmique*]. Although it is conceived as three lines, all three are contained in the single line played by the violin, which are braided together into a single bundle. Now in order to prolong this, Andrew Gerszo [who is responsible for the electroacoustic realization] augments this [through electronic means.] This is to say that we have enlarged this possibility by unraveling the bundle, and multiplying it. So much so that one often hears the same note played, not played, starting over again, etc. We will now hear two measures of the violin alone, which you have already heard, so that you can hear the text itself alone. After that, of course, it is made to travel through the speakers, and the volume of the speakers is adjusted to match that of the violin; this makes it extremely difficult to be able to tell who plays what at which moment. You are lost in a labyrinth of

sound, with, naturally, certain sounds which are stronger than others. [Excerpt from second stanza, first without electronics, then with.]

You can hear that there are repeated notes, there are notes which change, and there are notes which take off in every direction. This means that it is very difficult, even for us, to distinguish what the violin is playing from what it is not playing.

For me, what is important is that, when you have a violin in front of you, the sound is *embodied* [réalisé] in front of you, whereas with amplifiers, the sound is completely *disembodied* [déréalisé]. This creates a sound which travels, which is no longer bound directly to some local perception. What is interesting here is having this fixed point, this point of coordination, and as opposed to this, a mobile space around it.

To give another example, there is an aleatoric environment. The violin plays a certain number of figures, which are highly directed, and the machine takes practically the same notes, but rearranges them very quickly. This rearrangement is not done in a chaotic manner – the field of pitches is fixed, only the order is random. [In other passages] the field is fixed *and* the order is fixed. This is another example of an opposition, rather than a coordination, between a gesture which is highly intentional, and ones which are completely unintentional. [Excerpt from the fourth section]

There is a contrast here between very loud notes and others which are played *piano*. There is a contrasting tempo — I marked this passage ‘extrêmement irrégulier’ since there must be a kind of convulsive [ataxique] motion. It must give the impression of no longer being able to control its motions. But these ‘convulsions’ are realized through the use of numerical values. Now these convulsions will also be reinforced by aleatoric sounds in the background — another kind of disorder. It is exactly the same

thing, only completely at random. [Excerpt of the same section, first the electronic part only, then with violin.]

I used the word aleatoric, but I should add that the values are not chosen in a haphazard manner. For the pitches, there is a very precise reservoir, and the choice is made from within this reservoir. For the rhythmic values, there is also a reservoir, because if we chose values at random, we obviously would not obtain the same result. The values are calculated so as to have repetitions of short values as opposed to long values: the system is weighted in favor of short values. It is simply a question of proportions, but I mention it so as not to give the impression that values are chosen like in a lottery... It is slightly more deterministic than simply leaving things to pure chance!

The next utilization involves a counterpoint between acoustic rhythm and acoustic space [*rythme sonore et espace sonore.*] This is impossible [without electronic means] because one cannot expect orchestral musicians to run around to the four corners of the hall in order to make the sounds they produce travel through space!

What is time? We can define time briefly as two categories which are superimposed and which can be used precisely in a superimposed manner. Time is first of all numerical relationships — a measure of 4/4, with a dotted eighth note, an eighth, etc. There is a time signature, time with a pulsation made up of greater or smaller values which are placed in relation to this pulsation. This I call 'Numerical Time'. This sort of time is discontinuous. Continuous time, on the other hand, is velocity. The numerical relationships can be altered by changing this velocity.

Space, one can observe, also has the same structure. We have the location of the loudspeakers which is discontinuous. There are six speakers. But there is also the



function ‘close→far’, which is a completely continuous function. True, this function can be defined by means of numbers, but it is perceived as a continuous function rather than as a discontinuous function. Therefore, if we superimpose the two layers, Time and Space, we can establish a kind of counterpoint between the two. [Excerpt from the fifth section].

In this case, the sounds are not changed, it is rather their spatialization which is constantly changing. If you are seated near a speaker, you will hear something which is very close to you, very loud, and later you are hardly able to hear anything at all; you concentrate on the violin. It is as if the space around the violin were changing, approaching or moving further away. The perception of this is purely individual, depending as it does on the place which the listener occupies in space.

I have already mentioned that the machine was capable of making aleatoric choices, but that what was interesting was supplying it with a fixed field of action. The next thing which we shall do is to choose a field of action which corresponds to the field of action of the violin, by setting what we call a *cluster*. The machine will choose values inside this cluster, which produces chords, or, if you prefer, *limited* clusters, which are sustained. We play the chord very quickly, and then allow it to reverberate. We make a decision, set the machine accordingly, and then let it play itself out. [excerpt of three computer-generated ‘chords’] So you see, there is always the infamous D, which I have already mentioned. It is a basic element of the chord, and it must be heard clearly. Then there is a sort of halo about this D which changes with each chord, and which is defined by the injection of a certain number of notes during a small lapse of time, causing the chord to change constantly. If we repeat the piece, it never repeats in the same way. This

is a way to introduce the aleatoric system into a precisely determined context. [Excerpt from the seventh section.]

The final thing which I would like to speak about is the fact that, without changing the sonority of the violin, we transgress what is possible on the instrument. We have produced *pizzicati* which could never be played at such a speed, because it is quite simply *physically* impossible. What is interesting, is to use the instrumental sound in all its bareness, its exactitude, but to use it *beyond* a certain possibility of the fingers. [Excerpt of electronically produced *pizzicati*.] These are simply arpeggios, but in fact, they are not as simple as they seem; they are *zigzagged* arpeggios, of quite a complex construction, which are constantly modified in different ways. And yet everything is written in relation to the violin, and is triggered by the violin itself. [Excerpt from the beginning of the seventh section.]

The arpeggios are triggered by the ‘score follower’ [suiveur de partition]; following the short notes, there is a long trilled note, which is what ultimately triggers the arpeggio. Sometimes — we are not yet sure why, it remains to be properly analyzed — although it usually works, sometimes the dinosaur is missing a few teeth... We try to ensure that the dinosaur is not missing any teeth, and in general it can be done, in real time, by following the score. The score is entered into the computer, and the computer follows, with the help of the score, all that happens, although this is in practice extremely difficult. We have started here trying to follow scores with instruments which allowed it. By this I mean instruments like the flute, because there is always a specific finger position for every note<sup>65</sup>. Since you have an intersection between two variables, the

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<sup>65</sup> In ...*explosante-fixe*... [Ed.]

computer does not make errors in ninety-nine percent of cases. With the violin however, there is no finger position triggered by keys or holes or tubes, as is the case with the clarinet or the flute, which makes it more difficult. This why sometimes, we must resort to categories that are much more perfunctory, like, for instance, distinguishing simply between passages in which there is much activity, and others in which there is none. There is a series of rapid notes which I am not able to follow, I must get my bearings from the long note which follows. And this is in fact how the computer operates here: it does not follow the short flourishes, it skips to the long note which follows in the score. So as you see, we must sometimes operate with notions which are more perfunctory than one would like, and compose with the notions with which the computer supplies us.

[Short discussion with Andrew Gerzso, then *Anthème* is performed once again]

Translated by Jonathan Goldman

## Appendix B

### Conférence de Pierre Boulez sur *Anthèmes 2*

Transcription normalisée de l'entretien public entre Pierre Boulez et Peter Szendy, réalisé à l'occasion de la première française de *Anthèmes 2*, pour violon et dispositif électronique (IRCAM, Paris, 21 octobre 1997).

*Nous prions le lecteur de noter que l'entretien publié ici porte non sur la version originale pour violon seul qui fait l'objet de la présente étude, mais sur Anthèmes 2, qui fait appel à un dispositif électroacoustique. On a omis de cette transcription certains des propos qui introduisaient, au cours de l'exposé, l'exécution en direct d'exemples musicaux. Néanmoins, beaucoup d'effets électroniques, comme Pierre Boulez l'indique clairement, ont pour but de souligner des traits ou des oppositions qui sont déjà présents dans la version instrumentale : la fonction proximité-éloignement, le contrepoint ramené à une seule ligne, les passages de chaos « ordonné », etc. Pour cette raison, nous n'avons pas cru inutile de publier cet échange au terme d'une étude consacrée à la seule version instrumentale de Anthèmes.*

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(Audition intégrale de *Anthèmes 2*)<sup>66</sup>

**Peter Szendy** : [...] Est-ce que vous pourriez nous dire quelque chose sur ce titre, « *Anthèmes* »?

**Pierre Boulez** : Le titre, c'est un peu un jeu de mots ... C'est à la fois « hymne » et « thème ». Le mot « *anthem* » signifie en anglais « hymne », tout simplement, hymne national par exemple. Mais ici, j'ai pris un mot qui n'a plus de sens en français, mais qui fait à la fois référence à « hymn » au sens anglais et au mot « thème » : c'est une

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<sup>66</sup> L'œuvre est accessible sur le disque compact DGG 463 475-2. Hae-Sun Kang, violon, réalisation électroacoustique : Andrew Gerszo.

succession de versets, de paragraphes, qui sont construits comme des hymnes, précisément, avec des espèces de refrains, de paragraphes et de versets.

**P.S.** : Donc « anthème », ça dit quelque chose sur les thèmes, sur votre rapport au thème, à la notion de thème ?

**P.B.** : Oui, parce que, à l'époque de ma très grande jeunesse, je pensais que toute la musique devait être athématique, sans aucun thème, et finalement je suis persuadé maintenant que la musique doit se baser sur des choses qui peuvent être reconnaissables mais qui ne sont pas des thèmes au sens classique, mais des thèmes où il y a une entité qui prend des formes différentes mais avec des caractéristiques si visibles qu'on ne peut pas les confondre avec une autre entité. Et donc, ici, c'est plein de choses comme cela, qu'on peut repérer pratiquement tout de suite. Mais ce qu'on ne repère pas, c'est l'ordre et le désordre dans lequel viennent ces événements : on les reconnaît, mais on ne sait pas quand est-ce qu'ils vont venir ; on les reconnaît après coup. Et ce qui m'intéresse, c'est justement d'avoir à la fois cet effet de surprise et de reconnaissance : on a une variation sur quelque chose de global, et en même temps, c'est très caractérisé au moment même où on l'entend. Voilà une explication possible du titre.

**P.S.** : J'ai fait une petite recherche sur le sens d'« *anthème* ». J'en ai trouvé un auquel je ne pense pas que vous ayez songé en choisissant le titre. C'est comme dans « chrysanthème », la fleur. C'est un prétexte, en fait, pour vous poser une question : c'est une pièce très ornementale, donc comment vous travaillez avec ce qu'on pourrait appeler « la fleur » — la *fioriture* au sens de l'ornement, au meilleur sens du terme?

**P.B.** : Cette pièce est, comme souvent chez moi, une réflexion sur quelque chose que j'avais déjà écrit, qui n'était pas abouti — qui est un tout petit noyau d'...*explosante*-

*fixe...* Vous me l'avez montré tout à l'heure d'ailleurs, parce que je n'avais plus l'exemple sous la main. Mais c'est exactement sept notes au départ, pas plus. Donc, je trouve que les points de départ ne sont jamais très importants. Ce qui est important, c'est toute la trajectoire. Et cette trajectoire, comme vous dites, est entre sept notes qui durent cinq secondes peut-être, et puis une pièce qui dure vingt minutes et qui a tout de même beaucoup d'invention à trouver. Et cette invention se polarise sur certaines notes. Par exemple, vous avez remarqué que la toute fin repose sur une même note, c'est-à-dire le ré...et plus on s'approche de cette fin, plus ça désépaissit, s'amincit, s'amincit encore jusqu'à rester sur une seule note qui est coupée par un geste à la fois humoristique et très volontaire du violon qui dit : « Maintenant, ça suffit, au revoir! » Je veux que cette fin soit jouée comme ça, [la violoniste] l'a faite très bien, comme je le lui avais demandé. Elle attend que ce son disparaisse, disparaisse — fini ! En fait, cette fin, on la retrouve au tout début; quand [le violon] commence à faire cette espèce de polarisation sur le ré, et puis il y a une espèce de montée comme ça et on s'arrête: « Non, ce n'est pas encore le moment, il y a encore toute une pièce à faire. » Il y a quelque chose de théâtral aussi dans cette pièce, non pas au sens où la violoniste va faire des pieds et des mains ou jouera sur la tête, mais au sens où il y a ici une dramatisation de la pièce, surtout dans le rapport qu'elle a avec quelque chose sur lequel elle n'a aucun contrôle.

Pour moi, ce qui est intéressant dans une pièce avec électronique, c'est que le violoniste fournit tout le matériel qu'on lui demande, avec toute la liberté qui est nécessaire – il n'est pas contraint par quoi que ce soit, il n'y a pas de contrainte temporelle, il n'y a pas la contrainte de synchronisation qui pèserait sur sa fantaisie. Au contraire, on prend ce qu'elle fait pour en faire quelque chose d'autre. Il y a là un rapport

qui me semble intéressant entre ce que produit l'être humain et ce que peut produire une machine – qui est aussi, bien sûr, le produit d'un être humain, mais par des circuits différents. Ainsi, il y a deux circuits : un circuit qui est très direct, intuitif, et un circuit beaucoup plus analytique. Et les deux circuits se rencontrent dans une pièce particulière.

**P.S.** : Vous alliez aussi parler de la structure de la pièce?

**P.B.** : Oui, je ne veux pas, disons, faire un cours de composition, ce n'est pas le lieu, et ce n'est pas mon genre, en plus de ça. J'ai enseigné la composition pendant trois ans de ma vie, ça m'a suffi. Je n'ai pas insisté. Quand vous entendez la pièce, la première chose qui peut vous frapper, c'est d'entendre ces interruptions où il ne se passe, disons, pas grand-chose, exprès parce qu'il y a beaucoup d'activité dans les autres moments, quand [le violon] joue les sons harmoniques. [Exemple musical] J'ai parlé de versets ou de paragraphes. C'est comme les lettres qu'on trouve dans la Bible. Je me souviens que, dans les cérémonies de la Semaine Sainte, on chantait les *Lamentations* de Jérémie. Ce qui m'a frappé quand j'étais enfant, c'était que le texte était en latin, bien sûr, mais que les lettres étaient séparées, chantées aussi, mais en hébreu : *aleph, beit*, etc.

C'est à peu près ce système que j'ai repris: on annonce le paragraphe — vous avez une courte introduction, la première lettre, on annonce le paragraphe. Le paragraphe suit, très bien, il y a une certaine activité, et ça s'arrête, et ensuite on a la seconde lettre, le second paragraphe, etc. Et [dans cette pièce], , toute la forme est déduite de ça. Vous avez un sens, je pense, assez immédiat de la forme, par ces coupures qui ne sont pas directionnelles du tout, qui sont *neutres*, et on continue: voilà le prochain [paragraphe]. Et quand il n'y a plus d'harmoniques, vous pouvez être sûrs que c'est tout à fait fini. Il y a simplement une sorte de rappel, mais qui est presque insensible : la dernière note est une

note harmonique, mais qui reste, qui est complètement figée et [qui] signale la fin. Donc, ce que je vous envoie aussi et que vous percevez, même si vous n'en êtes pas conscients, ce sont des *signaux*, des signaux avec lesquels vous vous repérez, même si vous n'en avez pas conscience. Je vous manipule, finalement. Vous savez, toute exécution, toute composition est une sorte de manipulation, au meilleur sens, j'espère. Et cette manipulation doit être vraiment préparée. Alors vous pourriez me dire maintenant : quel est le but de l'électronique ?

Le but de l'électronique est de changer le son. On parlait de chrysanthème. C'est un peu ça. On a le noyau et puis il y a les pétales autour. C'est ce qu'on appelle le *harmonizer*. C'est un procédé tout à fait connu qui n'a rien d'exceptionnel, mais ce qui est intéressant, c'est qu'on ne sort pas du système tempéré, ou du système très proche du tempérament qu'on joue sur le violon. Si on ajoute un accord comme ceci, cet accord va être parallèle. C'est-à-dire que, si j'ai un accord avec, disons, une tierce mineure, une septième, etc., que le violon va jouer, c'est comme dans certains tableaux : quand le trait est épaissi, vous avez un trait comme ceci, et le trait est épaissi avec certaines lignes et suit constamment, sans déformation. C'est une espèce de progression arithmétique. C'est-à-dire que rien ne change, les rapports ne changent pas.

Mais il y a une autre transformation qu'on appelle le *frequency shifting*, c'est-à-dire le décalage de fréquence. Elle n'est pas basée sur l'intervalle du tout, mais sur la fréquence elle-même — on calcule ça en hertz. Ce n'est pas très scientifique d'ailleurs, [puisque ça consiste] simplement à enlever un chiffre d'un autre. Mais alors, vous avez quelque chose de géométrique : au lieu d'avoir une droite qui ne bouge pas, vous avez une courbe qui, lorsque vous appliquez ça à des fréquences graves, ça descend beaucoup,



et [lorsqu’]ils sont des sons aigus, ça descend très peu. Donc vous les bougez, disons, en fonction du registre. Et ça vous donne deux transformations, deux sens de la transformation : vous sortez du système tempéré, donc [vous avez] des intervalles non tempérés, enrichis, et, d’un autre côté, vous avez la sonorité de ce qui sort du violon mais transformé. Vous avez des harmoniques naturelles dans le son que vous entendez du violon, mais ces harmoniques sont déformées, des sons qui sont inharmoniques, qui sont complètement étrangers au son naturel tel que le produit l’instrument. [Extrait de la première strophe montrant les deux types de transformations.]

La deuxième chose, c’est que l’électronique prolonge la structure rythmique. Je vais vous passer un passage. Vous avez entendu et certainement, vous avez remarqué, ce passage qui est tout en *pizzicato*, très fort : ce *pizzicato* est conçu comme une compression. Je pense à César en particulier, César le sculpteur bien sûr. Il y a une compression — il y a trois lignes qui sont en décalage rythmique, qui sont conçues comme tel, mais qui sont ramassées dans le violon – si bien que le violon joue une ligne, mais cette ligne est composée de trois lignes qui sont mises en faisceau, si je peux dire, comme si vous aviez une torsade. Et là, évidemment, pour prolonger ça, avec Andrew Gerszo<sup>67</sup>, on a augmenté. C’est-à-dire qu’on a élargi cette possibilité en dénouant la torsade et en la multipliant. Si bien qu’on entend souvent les mêmes notes qui arrivent, qui n’arrivent pas, qui recommencent, etc. [...] On va jouer deux mesures du violon seul, pour que vous entendiez le texte lui-même, et puis après, évidemment, [avec l’intervention de l’électronique], ça se balade dans l’espace et on s’arrange pour que le niveau dans les haut-parleurs soit à peu près qu’avec le violon, si bien que vous ne savez

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<sup>67</sup> Le responsable de la réalisation électro-acoustique.

plus qui joue quoi, à quel moment. Vous êtes complètement perdu dans une espèce de labyrinthe de son, avec naturellement, des choses qui sont plus fortes que d'autres. [Extrait de la deuxième strophe, sans dispositif électronique, ensuite avec électronique.]

Comme vous l'entendez, il y a des notes qui se répètent, il y a des notes qui sont changées, il y a des notes qui partent dans tous les sens, si bien que c'est très difficile, pour nous-mêmes quelquefois, de distinguer ce que [la violoniste] joue de ce qu'elle ne joue pas. Pour moi, ce qui est important, c'est que, quand vous faites face à un violon, le son est réalisé devant vous, tandis que, avec les haut-parleurs, le son est complètement déréalisé, et vous avez ce son qui voyage, qui n'est plus lié directement à une perception locale : ce qui est intéressant, justement, c'est d'avoir ce point fixe, ce point de coordination, et, au contraire, cet espace mobile.

Vous avez aussi un environnement aléatoire, c'est-à-dire que le violon joue un certain nombre de figures qui sont très dirigées, et la machine, elle, prend les mêmes notes pratiquement mais elle en fait [autre chose] comme si vous remuiez quelque chose très vite mais dans n'importe quel ordre : seul le champ est fixé, mais l'ordre n'est pas fixé. Tandis que, là, le champ est fixé, mais l'ordre est fixé aussi. Là aussi on peut avoir une opposition - pas de coordination cette fois-ci - entre un geste qui est très volontaire et des gestes qui sont complètement sans volonté. [Extrait de la quatrième section.]

Et c'est un contraste, toujours, entre des sons très forts et des sons très *piano*. Il y a un contraste de tempo, j'ai écrit exprès '*extrêmement irrégulier*' : il faut qu'il soit comme ataxique, qu'on ait l'impression [que la violoniste] ne contrôle plus ces mouvements. C'est une espèce d'ataxie, mais qui réalisée avec des valeurs numériques. Cette ataxie va être réalisée en fond sonore d'une façon aléatoire, et c'est là qu'elle va

donner lieu à une autre forme d'ataxie. C'est la même chose, mais c'est complètement le hasard. [Extrait du même passage, avec seulement l'ordinateur, ensuite s'ajoute le violon.]

J'ai dit aléatoire, mais les valeurs ne sont pas choisies n'importe comment, bien sûr. Pour les hauteurs, il y a un réservoir qui est très précis, et le choix se fait à l'intérieur de ce réservoir. Pour les valeurs rythmiques, il y a aussi un réservoir, parce que si on mettait n'importe quelle valeur, naturellement on n'aurait pas ce résultat. Les valeurs sont écrites de façon à ce qu'il y ait des répétitions de valeurs très courtes par rapport à des valeurs plus longues : c'est là que les valeurs courtes sont favorisées par rapport aux valeurs longues, etc. C'est simplement une question de proportion, mais je voulais que vous sachiez qu'on ne va pas tirer ça comme au loto... C'est tout de même un peu plus choisi que [si on se fiait] simplement au pur hasard.

La prochaine utilisation, c'est le contrepoint entre le rythme sonore et l'espace sonore, ce qui est irréalisable autrement. Vous n'allez pas faire courir les musiciens dans un orchestre aux quatre coins pour essayer de transporter le son, c'est évident. Donc, il y a un contrepoint entre le temps et l'espace. Qu'est-ce que le temps? Le temps, très brièvement défini, ce sont deux catégories qui peuvent se superposer et qu'on utilise justement en superposition. Ce sont des rapports numériques : quand vous avez une mesure à 4/4, avec une croche pointée, une croche, etc., il y a une signature, une pulsation avec des valeurs plus ou moins grandes numériquement qui rentrent en rapport avec la pulsation. J'appelle ça le temps numérique. C'est un temps qui est discontinu. Et [il y a ] le temps continu qui est, au contraire, la vitesse. Vous pouvez modifier par la vitesse ces rapports numériques.

Dans l'espace, c'est la même chose, si on réfléchit. Vous avez l'emplacement des haut-parleurs ('*location*' en anglais) qui est discontinu. Vous avez six haut-parleurs. Mais vous avez aussi la fonction « lointain à proche », « proche à lointain ». C'est une fonction complètement continue, qu'on peut définir par des chiffres, bien sûr, mais elle est perçue comme une fonction continue et non comme une fonction discontinue. Et donc, si on superpose les deux couches de temps et d'espace, alors on peut établir une sorte de contrepoint entre les deux. [Extrait de la cinquième section.]

Ici, les sons ne sont pas changés du tout, mais c'est l'espace qui change constamment. Alors si vous êtes près d'un haut-parleur, vous allez entendre tout à coup quelque chose qui est très près de vous, très fort, et puis, à un autre moment, vous entendez à peine, vous vous concentrez sur le violon. L'espace joue autour du violon, se rapproche, s'éloigne, etc., et ça, c'est une perception individuelle pour chacun, à la place que vous avez dans l'espace.

J'ai dit que la machine était capable de choix aléatoires. C'est ça qui est intéressant, mais il faut lui fournir un champ d'action. La prochaine chose qu'on va faire, c'est qu'on va choisir des champs d'action qui correspondent au champ d'action du violon. On met ce qu'on appelle un *cluster*, c'est-à-dire une grappe de sons, et la machine va choisir à l'intérieur de cette grappe de sons, ce qui va faire un accord, ou disons, un *cluster* limité qu'on prolonge. Alors on donne ça très rapidement, et après, on le met dans la réverbération. Vous fixez une décision de la machine, et vous la laissez filer après. [Extrait électronique de trois « accords ».] Vous entendez ? Il y a toujours la même note, ce fameux ré, dont je vous ai déjà parlé. Ça, c'est la base, il faut qu'on l'entende bien clairement, et puis il y a une espèce d'auréole autour de ce ré qui change

chaque fois, et qui est définie par l'injection d'un certain nombre de sons à l'intérieur d'un très court laps de temps et qui fait que l'accord change constamment. Si on le répète, il ne se répétera jamais de la même façon. Alors c'est une façon d'introduire le système aléatoire dans un contexte qui, lui, au contraire, est très précis. On peut le faire maintenant. [Extrait de la septième section.]

La dernière chose dont j'aimerais vous parler, c'est le fait qu'on transgresse, sans changer les sonorités elles-mêmes, mais on transgresse la possibilité instrumentale. [Nous avons mis] des *pizzicati* qu'elle ne pourrait faire jamais à cette vitesse-là parce que c'est tout simplement physiquement impossible. Mais ce qui est intéressant, c'est d'utiliser justement le son instrumental dans toute sa nudité, son exactitude, mais de l'utiliser au-delà d'une certaine possibilité par les doigts, tout simplement. Ce sont de simples arpèges, mais, enfin, ils ne sont pas si simples que ça : des arpèges en zigzag, c'est assez complexe comme formation, ils se renouvellent toujours, de façon différente. Mais alors là, tout est écrit en rapport avec le violon. [Extrait électronique.] C'est déclenché par le violon lui-même. [Extrait du début de la septième section.]

Là, c'est le suiveur de partition [qui travaille]. Quand [le violon] a des traits très rapides, et il y a des notes longues avec le trille, ce sont les notes longues qui déclenchent l'arpège dans la machine. La plupart du temps, ça marche, mais quelques fois — on ne sait pas exactement pourquoi pour le moment, il faut qu'on l'analyse—, il y a une dent qui manque au dinosaure... Il faut essayer que toutes les dents soient toujours là. En général, ce que nous faisons, c'est, en temps réel, du suivi de partition. [...] Nous avons commencé ici d'essayer de suivre des partitions avec des instruments qui le permettaient.

C'est-à-dire avec des instruments comme la flûte<sup>68</sup>, parce qu'il y a toujours un doigté et le son. Alors vous coupez, vous avez un croisement entre deux notions, deux valeurs. En général, dans ce cas, dans quatre-vingt-dix-neuf pour-cent du temps, l'ordinateur ne se trompe pas. Mais quand vous avez par exemple le violon où il n'y a pas de doigté, c'est-à-dire qu'il n'y a pas de doigté inscrit comme des clés dans une tablette ou dans un tube, [comme] dans une clarinette ou dans une flûte, c'est beaucoup plus difficile. Alors quelques fois, il faut prendre des catégories beaucoup plus sommaires, en disant, bon, il y a activité, il n'y a pas activité ; il y a des sons rapides que je ne peux pas suivre, je me rattrape sur le son long qui suit. Et c'est exactement le cas ici : [l'ordinateur] ne suit pas les traits rapides, mais dès qu'il y a une note qui s'arrête, l'ordinateur saute tout, et va à cette note de la partition. Alors vous voyez, il faut quelques fois se rattraper avec des notions plus sommaires qu'on ne le voudrait, mais on compose avec ces notions telles que l'ordinateur nous les a fournies.

[Échange avec Andrew Gerszo et deuxième présentation d'*Anthèmes 2*.]

*(Propos transcrits par Jonathan Goldman et Jean-Jacques Nattiez)*

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<sup>68</sup> Dans ...*explosante-fixe*... Cf. disque compact DGG 445 833-2, paru en 1995. Sophie Cherrier, flûte midi solo ; Ensemble Intercontemporain dirigé par Pierre Boulez, réalisation ;électro-acoustique : Andrew Gerszo.