FORMAL STRATEGIES
IN
COMPOSITION

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To Jonathan Harvey

whose music has been a continuous enlightenment
and a most precious source of inspiration

Contents

7. Epilogue

Appendices

Reference and Bibliography

List of illustrations

Part II

Portfolio consisting of the following:

Appendix VIII: *Omen:* original score in space-time notation
1 DAT tape
8 scores:
Utopia for mezzosoprano, flute, oboe, clarinet, bassoon
Omen for orchestra, 8 voices and amplification (concert score)
Interchanges for clarinet and piano
Eternity for alto flute, violin, double bass, piano, soprano, tenor, bass, percussion and live electronics
You for 3 sopranos, alto flute, soprano saxophone, trombone, 2 violins, viola, cello, percussion, harp, celesta, harpsichord, piano
Reflections for trumpet, piano, tape
Renge-Kyo for piano, tape and live-electronics
Beyond The Bridge for cello, 2 tapes and live electronics

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Finally, I wish to particularly thank my wife Angelika for her commitment to my *musical cause* throughout the years and her continuous support in the final stage of this research.

Declaration

Abstract

Part I of this thesis examines the compositional techniques employed by the author in his musical works from 1991 to 1994. Chapter one presents the points of departure in the compositional preoccupations of the author and the issues and propositions constituting the objective of the research. It is then followed by an identification of five distinct and progressive areas of exploited techniques. Chapter two examines the foundations of a compositional methodology largely supported by a numerical framework and its application on the work *Utopia* for mezzosoprano, flute, oboe, clarinet and bassoon. Some questions of method and further extensions of the technique are discussed and briefly examined in *Concerto in Two Parts* and *Concertino.* The author also analyses the methodology applied in the composition *Omen* for orchestra and amplified voices. Chapter three explores the technical developments following the work *Omen,* with reference to the former techniques, and focuses on the interchangeable procedures applied in the composition *Interchanges* for clarinet and piano. In chapter four the author discusses composing without pre-established schemes and considers the implications of compositions solely based on the composer's intuitive sense of formal order. He also explores his own approach to texts, the developments of his vocal techniques and his spatial preoccupations in his works. This is followed by a presentation of the compositions *Eternity* and *You,* both for chamber ensemble and the composition *Reflections* for trumpet, piano and tape. Chapter five deals with the author's preoccupations of structural identifications in composition and the application of a compositional procedure in his work *Renge-Kyo,* for piano, tape and live electronics. Chapter six focuses on the extension of the compositional procedure discussed in chapter five with the inclusion of a conscious handling of time and space. This methodology is explored in the composition *Beyond The Bridge,* for cello, 2 tapes and live electronics. Finally, in chapter seven the author discusses his own views on composition and methodology, puts forward the thesis of a significant and signifying form and discusses the importance of a continuous artistic renewal and self-critical attitude.

Part II contains the scores of each submitted composition, a live recording of the work *Utopia* , a workshop recording of *Renge-Kyo* and a studio recording of the composition *Beyond The Bridge.*

1. Introduction

1.1 Foreword

It is extremely difficult for a composer to be impartial when writing about his/her own music. There is a danger of falling into conceptually self-built clichés and pre-conceived assumptions which may easily lead to shallow conclusions and false evaluations by both composer and reader. The multiplicity of roles where the composer becomes both self-analyst and critic implies the risk of being trapped in one's own 'taken-for-granted' aesthetics and theoretical speculations. Throughout this essay I have therefore chosen to remain as clear and objective as possible in the exposition of propositions and description of methods.

In writing about compositional strategies there is a considerable threat of unintentionally reducing the act of composing to a mere succession of mechanical decisions derived from a more or less logical process of the mind. Such a conclusion is rather frightening since it collides with the actual poietics of creating art. Composition is fundamentally a multidimensional area of artistic pronouncement reflecting the cultural models of an individual and an epoch, and relating its propositions to the social environment in which the composer lives. Analytical investigation is certainly capable of providing a technical view of the procedural characteristics in a musical work, yet it is the aural experience of the sonic event that constitutes the paramount verification of its artistic attributes and the major plausible criterion for critical appraisal. Morphological strategies as such are but the unfolding of aesthetic predicaments. From my experience I am convinced, however, that the chief source of artistic invention is, in itself, unexplainable by words since it

resides in the archetypes of the mind.

1.2 Background

As a musician, my own musical development has gone through all the major styles of Western music: initially popular, later on jazz, and since the early eighties the classical tradition of European music. As a performer and improviser, I gained a first-hand experience of those free forms of musical composition which include aleatory music and organized improvisation. Inevitably, I have come across the unpredictability and mobility of those forms, and eventually found myself questioning the limitations and restrictions intrinsic to the nature of that music. Since a free form is, in fact, the starting point for a multiplicity of unforeseeable, different scores, the performer is required to take over the responsibilities of compositional and formal decisions, thus the control of form will inevitably lie in his/her hands.

At a certain stage of my compositional activities it became naturally inevitable to look for an integration of two main approaches in composition, namely, the elements of indeterminacy and freedom, typical of aleatory and improvisation on the one hand, and the determinate and precise control of fixed compositional procedures on the other. In retrospective, I would describe the consideration of a more controlled form of composition as a natural evolutive step towards a personal progressive command and expansion of musical vocabulary.

1.3 Issues and propositions

Since my composition *Utopia* (1990-92), I have often defined my compositional activity as a creative process ' between freedom and discipline', implying a state of affairs in which the artistic inspiration has constantly to come to terms with the formal requirements of construction and design. Therefore, my major effort has been to create compositions whose forms are the result of an integrative and unifying process in which the inspiration of the composer, in its full expressive impetus, would exhaustively merge with a distinct and appropriate textural configuration, in order that the original idea could find full realization in its musical form. Thence, two fundamental issues appear:

1) The demand of compositional systems able to unify and integrate a comprehensible realization of the original idea with a compact construction of procedure.
2) The demand of compositional procedures constructed upon a defined and determined technique, which at the same time would allow free, spontaneous gestures to take place within its own framework.

Both points constitute the main objective of this research and have been dealt with according to the compositional requirements and interests of each specific stage of work.

I believe that the musical result and the architectural design of a composition are not two disparate worlds, but ultimately it is the result that matters and not the technique. Yet, the relationship between the end result and the technique is immediate, and the two

are unequivocally linked. Technique, as an essential organisational process, must be seen as an indispensable channel (rather than the aim) that permits the original idea to take its musical shape. In this sense, for my present purposes, systems and techniques exist in order to support the formal scaffolding of the artistic conception, their function being essentially structural. The application of procedural configurations (no matter what kind) in my works is therefore based on a creative dialogue where the approach to the established structures derives from essentially musical decisions.

In traditional artistic terms, the concept of composition implies the production, the creation of a work of art (its Latin root *componere* means putting or placing together). My personal concept of composition embraces the complete act of conceptual and musical creation in all its individual developmental phases. Thus, in my experience, the formation of the initial idea (whether musical or non-musical) is already a part of the compositional process, rather than a preliminary state of affairs. Likewise, I consider the initial choice of the musical attributes within a theme as a creative decision of full compositional significance.[1] I therefore regard a compositional process as a procedure defined by the following activities:

1. the generative idea
2. the organization of sound (from its earliest technical implications)
3. the application in texture, including orchestration
4. the final morphological and syntactic[2] adjustment (suggested by aural experience).

[1] My opinion on this topic clearly differs from George Perle's definition of 'pre-compositional structure' in contrast to the compositional process as such (Cook,1990: 210).

[2] Throughout this thesis I shall refer to both terms in accordance with their etymological meanings, i.e. ' morphology' as anything related to the form of a composition (*morphe* = form, shape) and 'syntactic' as any structural aspect related to the syntax of music considered as a language with its own grammar. This terminology has also been extensively used by Pierre Boulez.

It is generally acknowledged that composition exists on two different levels: the production and the reception. This research has deliberately focused on a technical investigation of various possibilities of form in composition produced as the result of different procedural methodologies. It is inevitable that such a preoccupation will have to consider some aspects of perceptual awareness during the process of composition. Yet, it is an awareness which cannot be anything else than personal, since I am convinced that it is impossible for a composer to rely upon the general perceptive reaction of the audience. Indeed, no standard measurement of receptive faculties can be drawn on the grounds of the different levels of musical knowledge and sensitivity in the members of an audience. I have therefore intentionally confined this investigation into the technicalities of formal organization in composition, having chosen to remain as technical as possible in order to concentrate my attention on the unfolding of syntactic roles and action fields during the process of composition and their musical result. It is evident to me, however, that by so doing I have implicitly asked the reader to put him/herself into the musical environment of the composer. I believe this to be essential in order to carefully pursue an objective investigation of formal strategies, their application in a musical work, and their effect on the resulting form of the produced composition. Consequently, I have tried to avoid systematic approaches to ontological and aesthetic aspects of music in general, since this would be beyond the purposes and scope of this writing. In its whole shape, the thesis also reflects a more or less chronological development of various methodologies and compositional preoccupations as the result of a gradual development of ideas which has taken place at a continuous and regular pace during the past three years.

Another thread which will be noticed by the reader is the proposal of the same or a very similar procedure in dissimilar musical contexts, thus investigating different musical results out of the same or similar technique. For this reason, I shall be constrained to refer to most of the works composed in the past three years in order to examine some of the crucial interrelationships among the strategies applied on different compositions and in diverse developmental phases. However, I shall endeavour to focus only on the submitted works and to reduce any necessary reference to the other compositions to the minimum.

1.4 Distinctions

The research has delineated two phases: the first phase indicated three distinct areas of compositional techniques, whilst the second phase marked the integration of the previous procedural achievements in two sequential steps. The general technical identifications of the first phase are the following:

1) Configurations based on strict procedures wherein spontaneous gestures have been inserted in the pre-established scheme of the composition. The group consists of the work *Utopia* for mezzosoprano and wind quartet, and three orchestral compositions, namely, *Concerto in Two Parts, Concertino* and *Omen* .

2) The organization of sound based on interchanges of elements in which the arrangement of pitch and duration is continuously swapped through a system of *swap-matrices* . This group includes two instrumental works: the string quartet *Jeu De Mort* and the duo *Interchanges* for clarinet and piano.

3) Compositional procedures entirely based on intuition, thus solely relying on the composer's instinctive sense of balance. Textural applications are spontaneous, whilst formal schemes are applied only to a general planning of sections without going into details of subdivisions and their interrelationships. The compositions of this group are: *Eternity, He, You* and *Reflections.* In addition, *Eternity, He* and *You* present an instinctive unfolding of form suggested by a given text.

In the second phase, the unification of the previous procedural achievements has produced an extended methodology which I shall describe in chapter 5. I have identified two stages:

1) The application of the new methodology in the compositions *Renge-Kyo,* for piano, tape and live electronics, and *Epitaph,* for tape and cello.

2) The inclusion of spatial and temporal components into the same compositional strategy. The works representing this group are *Beyond The Bridge,* for cello, two tapes and live electronics and *Vision,* for harpsichord, tape and live electronics.

A detailed list of all the compositions written in the past three years and those submitted with this thesis is to be found in Appendix I.

2. Numerical supporting framework

2.1 Discussion

Considering my interest in the realization of a balance between form and musical content in composition, it was inevitable that at a certain stage of my composing my preoccupations would be directly related to the conceptual backgrounds and technical implications of a strict organization of sound. In order to achieve a model of morphologically self-contained composition, I was attracted by the idea of an architectural configuration based on a numerical supporting framework. I was particularly interested in organized methods of composition as a manifestation of what Luigi Nono describes as *"... the very existence of spiritual order, creative discipline and clarity of thought "* (Nono,1960: 45).

From 1990 onwards, I was also beginning to move towards a more flexible approach to compositional objectives, where I would accommodate a particular technique to the singular needs of the current idea. Eventually, this feature allowed me to develop a variety of styles and techniques in order to unfold dissimilar conceptual requirements in musical terms. I created rules and frameworks in which systems and techniques existed in order to support the poietic propositions of the artistic conception and consequently defined the form of the composition. I allowed intuitive interventions of the composer's own musical sensitivity to take place within the structural system, considering these as vital 'exceptions' made for the sake of the narrative of the musical discourse. Initially, I shall elucidate the development of my procedural preoccupations in the compositions of the first group in

chronological order, illustrating what I consider their most significant structural characteristics and methodological interrelationships.

2.2 *Utopia*

2.2.1 Background and concept

In 1990 I was asked to write a work that could be linked with the 1991 celebration of the 700th anniversary of the Swiss Confederation and which would musically explore the combination of a wind quartet and the female voice.[3] The starting point of this work was mainly conceptual; I wished to transcend the political features of the Swiss Union in order to transpose my discourse onto a more general sphere. These thoughts suggested a form of musical theatre which would have particularly emphasized the sociological symbolism I intended to create. First of all, I decided to associate the role of the female singer with the utopian idea of a better world and assigned to her a muse-like function throughout the work; the mezzosoprano therefore personified the utopia itself. Secondly, I symbolically associated the four instrumentalists with four characters, each one with a different and individual quality. The narrative of the work was therefore focused on the imaginary meeting between four people (the instrumentalists) and the utopia (the singer) which takes place on stage and constitutes the central section of the work.

2.2.2 The general form

My first preoccupation was to create a structural configuration that

3 The composition was commissioned by the Ensemble Tetraphonia of Basle and German mezzosoprano Heidrun Schulz with funds provided by Pro Helvetia.

would allow an unified and compact framework in which to construct a net of musical relations. I started by defining an approximate length of the work and a general division into three sections. The original plan displayed below defined two different scenes, a central one in which all musicians appear on stage, and an area common to the introduction and the conclusion presenting a very similar musical and scenographic situation.

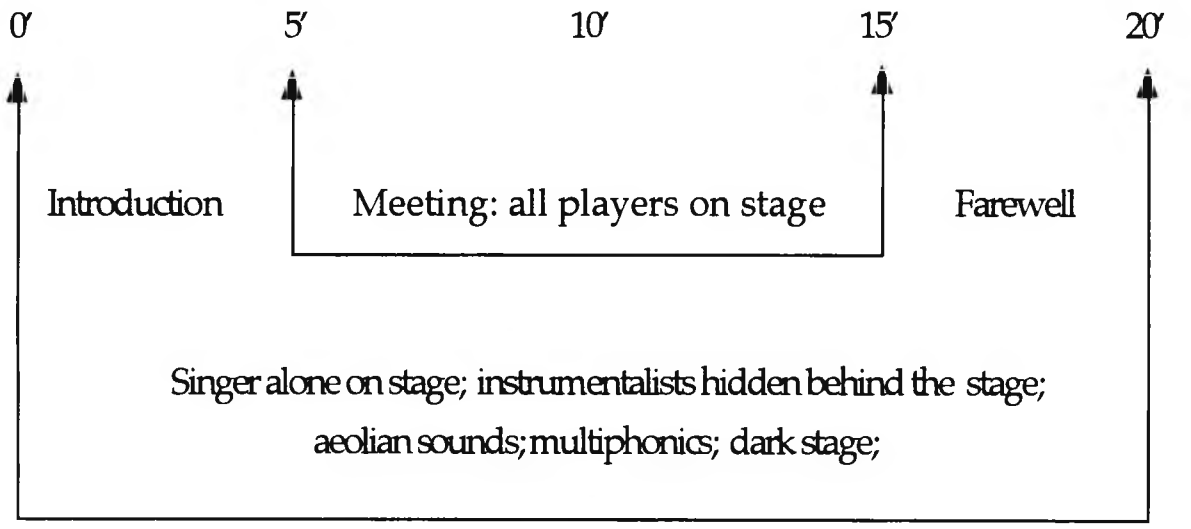


Fig. 2.1: *Utopia:* general plan

2.2.3 The musical material

2.2.3.1 Preliminary work

In order to gain a compact net of sonic references I decided to unify all the instrumental and vocal techniques into the same framework with the other parameters of music. I researched some of the extended techniques of the past decades, particularly those for wind instruments by Bruno Bartolozzi (1967), the studies for

flute by American flautist Robert Dick (1986) and French flautists Pierre-Yves Artaud and Gerard Geay (1980), and some works by Luciano Berio, particularly *Sequenza 3* for female voice. I listed each technique to the assigned instrument on a preliminary chart, then grouped what I considered to be the most significant features for my purposes into two lists, one instrumental and the other vocal.

2.2.3.2 The instrumental techniques

The new instrumental list consisted of 10 extended techniques, not necessarily applicable to all four instruments. I only selected those which seemed more appropriate for enhancing the general communicative element in the sonic texture of this particular composition. In order to emphasize dissimilar sonic manifestations, I chose the following effects:

1) Aeolian sounds; soft and breathy sounds particularly effective on the flute since they retain their pitch quite clearly on this instrument. I extended them, however, to the other three instruments, at the beginning of the composition, in order to stress the airy character of the opening.

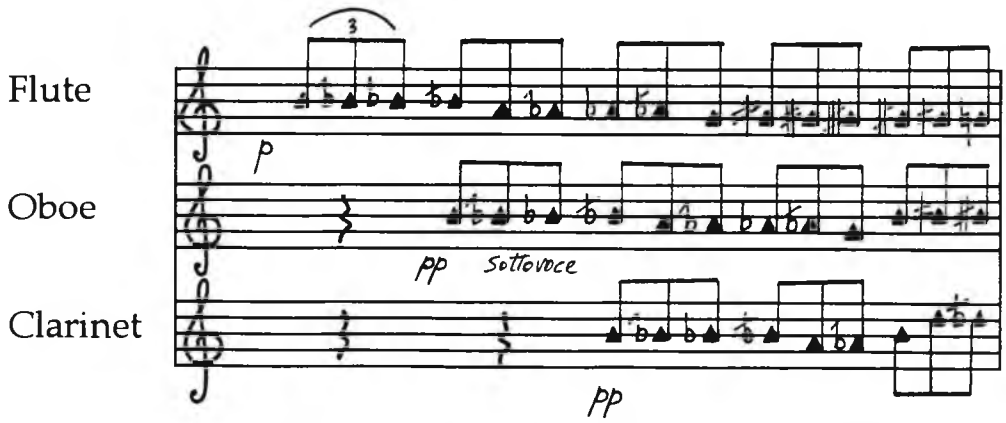


Fig. 2.2: *Utopia* : aeolian sounds on p.1, bottom line

2) Key percussion; producing a relatively soft sound in all instruments, their volume being rather determined by the quantity of the keys depressed. I nevertheless divided them into three regions: low, middle and high.

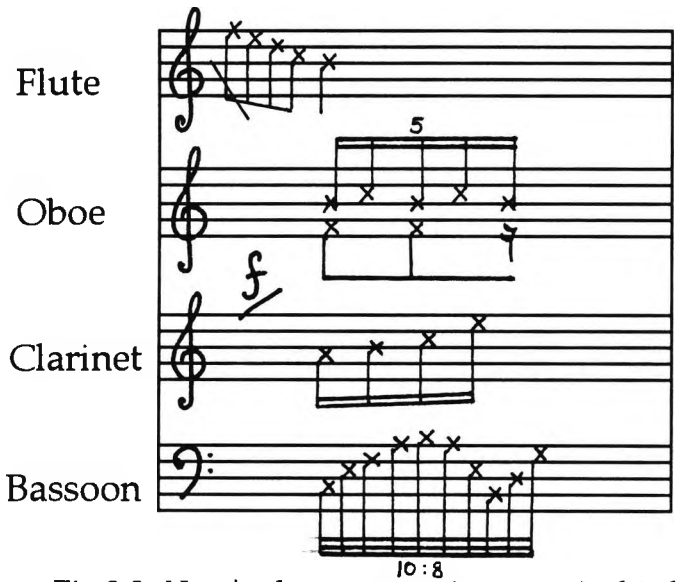


Fig.2.3: *Utopia* : key percussion on p.2, third line

3) Tongue-ram; effective on the flute (sounding a major 7th below), clarinet and bassoon (without reed).

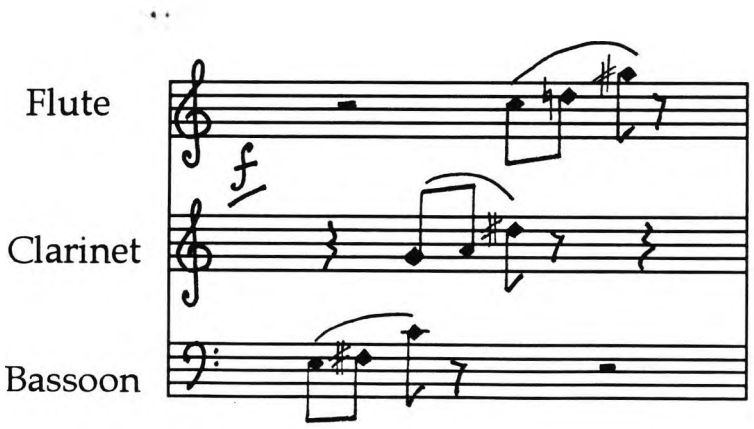


Fig. 2.4: *Utopia* : tongue-ram on p.2,fourth line

4) Glissando; for all four instruments.
5) Sing and play simultaneously.

6) Speak just before producing a sound: both vowels and consonants. Also speak without producing instrumental sounds, as in bar 134.

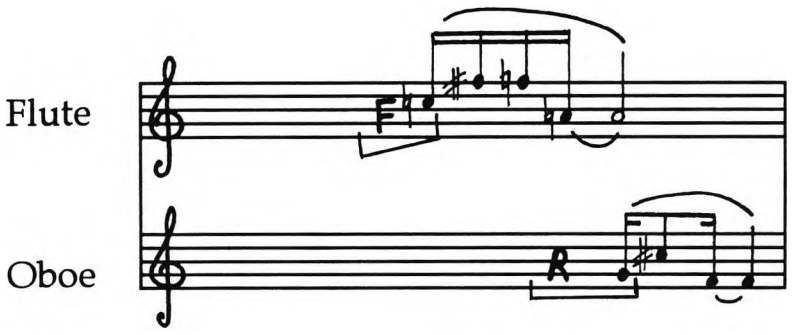


Fig. 2.5: *Utopia* : speak before playing, p.23, bar 133 (flute & oboe)

7) 2-part melody; by overblowing.

8) Quarter tones; including timbral changes in all four instruments.

9) Multiphonics; produced by overblowing and/or special fingering varying on each single instrument. I adopted the Bartolozzi fingering as a guide for the intended effects.[4]

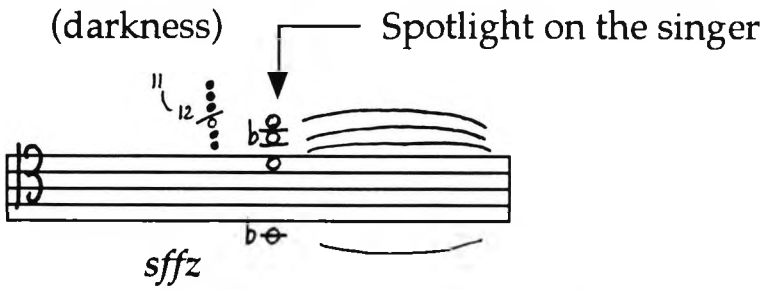


Fig. 2.6: *Utopia* : multiphonics on p.26, first line (bassoon)

10) The same note with other harmonics and/or timbre; produced by change of fingering in the same pitch.

[4] I used the recording included in Bartolozzi's essay (Bartolozzi: 1967) as aural reference to the players for the sounds I wanted, being aware of the diversity of each single wind instrument.

2.2.3.3 The vocal techniques

I selected the following 10 vocal effects and techniques:[5]

1) Closed mouth; i.e. humming.
2) Mouth click.
3) Repetition of words at random.
4) Breathy tone; i.e. whispering.
5) Speech; divided into three registers, low, middle and high.
6) *Sprechgesang.*
7) Timbral change produced by muting the mouth with the hand.
8) Gradual timbral change from one vowel to another through a light *u* sound. I indicated the sonic transformation with an arrow.
9) A quick series of notes to be performed as fast as possible with an improvisatory character.
10) Inhaling and exhaling; voiceless, breathy sounds.

2.2.3.4 The other parameters (dynamics, intervals, tempi)

The dynamics were distributed in the texture at a regular pace of 5 bars, in order to define the volume of each successive region. However, I included additional dynamics within the five bars, as well as exceptions in the pre-established plan.

Five intervals (min. 2nd, maj. 2nd, min. 3rd, maj. 3rd, tritone) dominate the texture, but are often contrasted by an additional interval, i.e. the perfect fourth occurring in the oboe motif in bar 7. Initially, in section A, I displayed the five intervals according to the following succession: min. 2nd, T, maj. 3rd, maj. 2nd, min. 3rd. This provided the main melodic material to the entire work. In section B, I created three different thematic motives, the first one stated by

[5] A full list of all the symbols is included in the submitted score.

the mezzosoprano in bar 1.

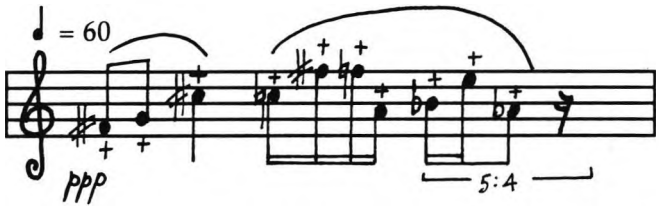


Fig. 2.7: *Utopia*: first thematic motif

the second motif stated by the oboe in bar 7, with the addition of the perfect fourth,

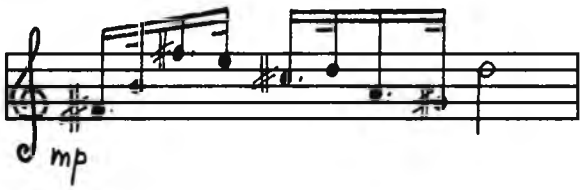


Fig. 2.8: *Utopia*: second thematic motif

the third motif stated again by the oboe in bar 9.

Fig. 2.9: *Utopia:* third thematic motif

The three motives are reproposed at regular intervals of 10 bars (motif 1), 7 bars (motif 2) and 9 bars (motif 3) sometimes in their original form, sometimes varied in an extended or compressed form. On other occasions the motives do not appear at all at the points predicted by this procedure, for instance, motif 1 does not occur in bar 80.

The ten basic tempi cover a range from ♩ = 60 to 200 and are

frequently superimposed according to the groupings displayed in the chart below, although I tried to keep the superimposition to a minimum, in order to avoid a too busy and incomprehensible texture. I used the following 10 basic tempi: 60, 80, 100, 120, 140, 150, 160, 170, 180, 200 and selected 6 of them to be superimposed: 60, 80, 100, 120, 140, 150. I then created the following superimpositions:

60	80	100	120	140	150	160	170	180	200
-	60	80/60	100/60	60	80/60	100/60	120/60	140/60	150/60

Fig. 2.10: *Utopia:* superimposition of tempi

2.2.3.5 The organization of parameters

The numeric relation of 10 and 2 suggested by the number of instrumental and vocal techniques induced me to extend the same mathematical proportions to the other parameters, i.e. dynamics, intervals and tempi. Each parameter was divided into 10 different degrees and interrelated as in the following chart:

	1	2	3	4	5	6	7	8	9	10
1) Inst. effects	▲ aeolian	x perc.	◆ tongue-ram	(gliss)	sing/play	conso-nants	2 parts writing	1/4 tones	multi-phonics	same note other timbre
2) Vocal effects	+	⊕	(words)	—	x	♩	hm	→		
3) Dynamics	*ppp*	*pp*	*p*	*mp*	*pf*	*fp*	*mf*	*f*	*ff*	*fff*
4) Intervals	min 2	min2	T	T	maj 3	maj 3	min 3	min 3	maj 2	maj 2
5) Tempo	60 -	80 60	100 80/60	120 100/60	140 60	150 80/60	160 100/60	170 120/60	180 140/60	200 150/60

Fig. 2.11: *Utopia:* chart of parameters

2.2.4 Further considerations

Generally speaking, once the rules of the composition were defined, I gradually increased the number of exceptions in order to avoid a merely systematic application of a stipulated pre-determined configuration. I then began to freely develop those musical events resulting from the original scheme which suggested an instinctive expansion of their own intrinsic qualities. In a similar fashion, I inserted new elements totally extraneous to the previously organized material, in order to enhance the narrative of the musical and symbolic discourse, as for instance in bar 106 where an A minor tonal field suddenly appears:

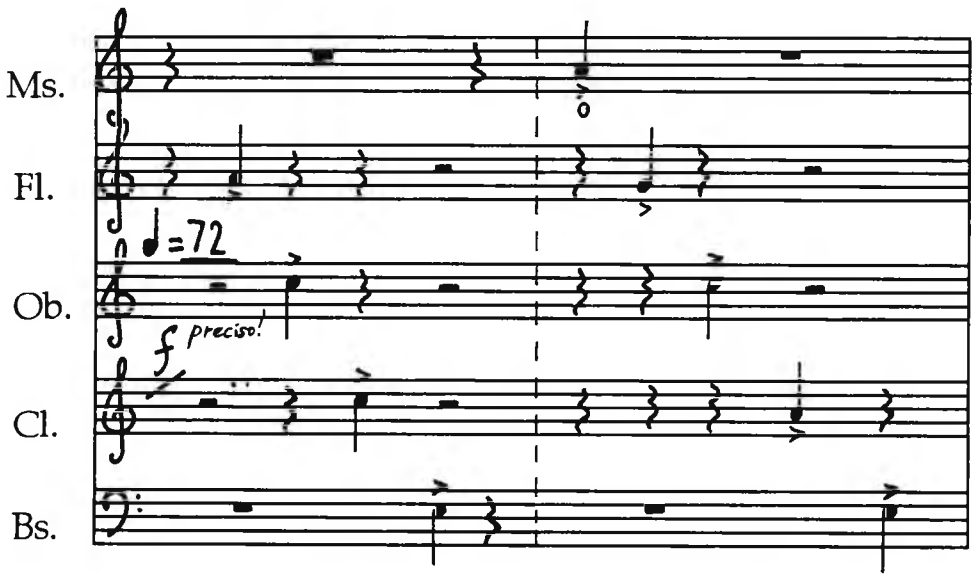


Fig.2.12: *Utopia:* insertion of new elements in bar 106

and particularly in bars 115-118, where a new motif stated by the mezzosoprano and centred in E minor is prolonged by the wind instruments in the form of a canon:

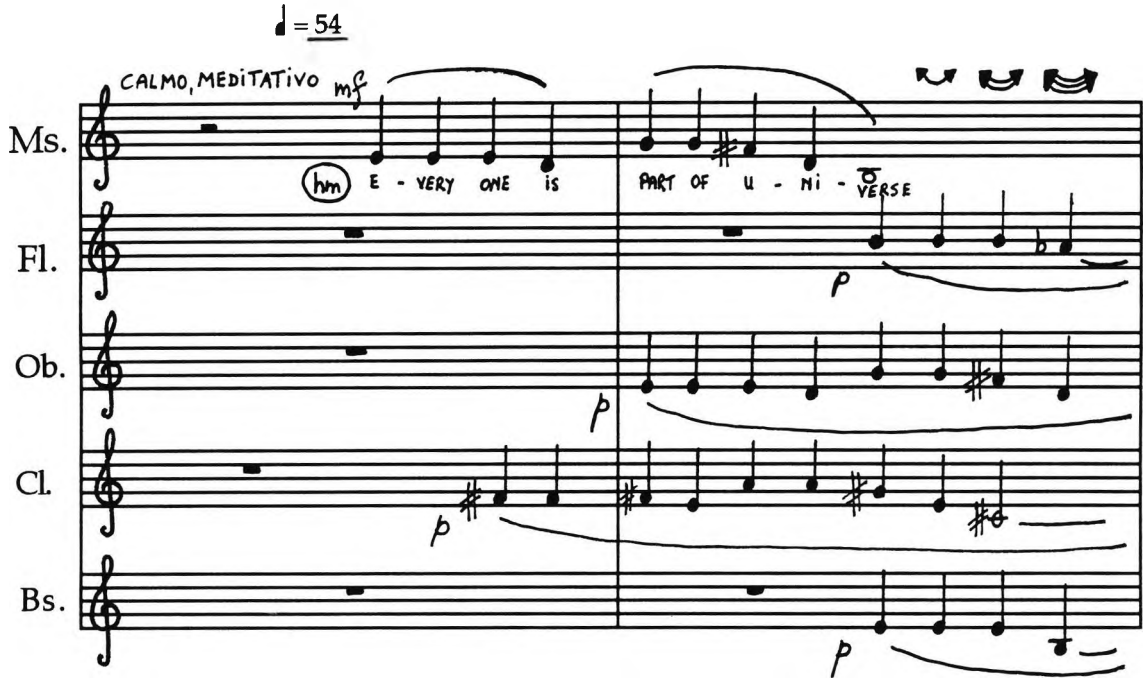


Fig.2.13: *Utopia* : insertion of new elements in bars 115-116

The systematic employment of the pre-planned framework and its exceptions takes place in the central section of the composition, from B to H. The final section (I, pp. 26-27) corresponds to the third area of the work, but is shorter than the originally planned 5 minutes. This palindromic arrangement of sections permitted to define two textural territories:

1) an area at the beginning and at the end of the composition with related references and corresponding character: the introductory section (pp.1-3) which displays the thematic motives out of the given intervals, and the final section (pp. 26 - 27) recalling the melody on page 20 (bars 115-118) with the flute, and the initial sonic atmosphere with multiphonics.

2) a central section, in which the visual appearance of all the instruments on stage is combined with the explication of a

texture mainly resulting from the organization of sound as displayed in Fig. 2.11 and with internal recurring references.

A complete sketch of the interventions in the central section has been included in the Appendix II.

2.3 After *Utopia*

2.3.1 Questions of method

During the composition of *Utopia* I had noticed two main circumstances: the clarity and uniformity of texture produced by the pre-planned infrastructure of actions and, by contrast, my own search for expressivity in the musical work, a search which on many occasions constrained me to abandon the pre-established paths and to create entirely new ones, often out of the framework itself. This situation made me reflect upon the fact that, on the one hand, I was deliberately articulating chosen structures to serve the musical idea, whilst on the other hand I needed to use extra, non pre-established, elements in order to enrich and differentiate the narrative of my discourse. The organization of structure, in fact, evolved from the articulation of the initial idea. Strategies and procedures varied according to the needs of the moment, and the methodology used reflected a musical intention rather than a more or less exact mathematical unfolding of a pre- conceived scheme. Pitch, timbre, dynamics and their sonic shape were elements serving a deliberate musical intention. The dichotomy between the discipline suggested by the formal order and the freedom of spontaneous interventions in the texture was constantly present during the process of composing. This situation drew my attention to the

necessary balance that had to be kept between the two, and incited me to explore this territory further, each time in a different way and with dissimilar musical objectives. The two following works *Concerto in Two Parts* and *Concertino* constitute two further steps in this exploration. I shall, therefore, briefly describe their techniques which led me towards the other orchestral work, *Omen*, which will be discussed in more details in chapter 2.4.

2.3.2 Developing strategies

In order to create a stronger methodological reference to pitch class, I constructed the *Concerto in Two Parts* [6] upon a 12 tone wedge-shaped theme

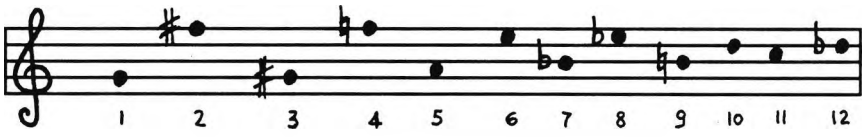


Fig.2.14: *Concerto in Two Parts:* 12 tone theme

and organized the parametrical framework on the same number.

	A	1	2	3	4	5	6	7	8	9	10	11	12
1) TIME 1: sound	1												
2) TIME 2: silence	2												
3) PITCH	3	G	F#	G#	F	A	E	Bb	Eb	B	D	C	Db
4) DYNAMICS	4	*ppp*	*pp*	*p*	*mp*	*sf*			*pp*	*mf*	*f*	*ff*	*fff*
5) ARTICULATION (ATTACK)	5				non legato	normal			*sfz*				
6) TEMPO	6	Largo ♩ = 46		Adagio ♩ =56		Andante ♩ = 72		Moderato ♩ =96		Allegro ♩ =120		Presto ♩ =152	

Fig.2.15: *Concerto in Two Parts:* chart of parameters

[6] The two 'parts' referred in the title are to be intended (i) in the literal meaning of the word, thus two movements, and (ii) in the musical sense, i.e. two melodic lines. In order to avoid confusion in the terminology, I shall use the word 'movement' in its traditional musical meaning.

I extended the framework used in *Utopia* and applied it on 6 different parameters: sound, silence, pitch, dynamics, attack, tempo; 12 melodic rows, each of 12 notes; 12 numerical rows; 4 melodic (directional) forms (O, R, I, RI); and 144 combinations of row, parameter and form (see Appendix III). Only the first 4 parameters were integrally fused with the rows, whilst I used parameters 5 and 6 (attack and tempo) according to a purely musical intuition of phrasing and musical content. I grouped the combinations by four: each row having four different arrangements of parameters and directional forms (O, R, I, RI). In the first movement, I assigned the combinations to each instrument of the orchestra:

Combination 1: Row A; Parameters 1+3+4; Form O

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Fl.	1	2	3	4	5	9	10	11	13	14	18	23		29				
Ob.	1	2	3	4	5	9	10	11	13	14	19	22		29				
Cor An.	1	2	3	4	5	9	10	11	13	15	18	22		29				
Bs.	1	2	3	4	5	9	10	11	13	15	20	23		29				
Hr.	1	2	3	4	6	9	10	11	13	16	20	23		29				
Tp.	1	2	3	4	6	9	10	11	13	16	20	22		30				
Tmb.	1	2	3	4	6	9	10	11	13	14	17	22		30				
S.Sax.	1	2	3	4	6	9	10	11	13	14	17	24		30				
T.Sax.	1	2	3	4	6	9	10	11	13	15	17	21		30				
Harp 1	1	2	3	4	7	9	10	11	13	15	17	21	25 - 26 - 27 - 28	31	37 - 38 - 39 - 40	41 - 42 - 43 - 44	45 - 46 - 47 - 48	
Harp 2	1	2	3	4	7	9	10	12	13	16	19	21		31				
Perc.																		
Vl.	1	2	3	4	7	9	10	12	13	16	18	23		30				
Vla 1	1	2	3	4	7	9	10	12	13	14	18	21		30				
Vla 2	1	2	3	4	7	9	10	12	13	14	19	21		30				
Vc.	1	2	3	4	7	9	10	12	13	14	19	22		30				
Db.	1	2	3	4	7	9	10	12	13	15	19	22		30				
Sop.	1	2	3	4	8	9	10	12	13	15	18	21		30				
Alto	1	2	3	4	8	9	10	12	13	16	17	21		30				
Tenor	1	2	3	4	8	9	10	12	13	16	20	24		30				
Bass	1	2	3	4	8	9	10	12	13	16	20	24		30				
Initial note	G	G	G#	A	Bb	B	C	C#	D	D#	E	F	F#	G				

Fig.2.16: *Concerto in Two Parts*: instrumental assignment of the first combination

I then gradually moved onto a more superimpositional distribution of material by assigning each combination to a reduced number of instruments as in the following example:

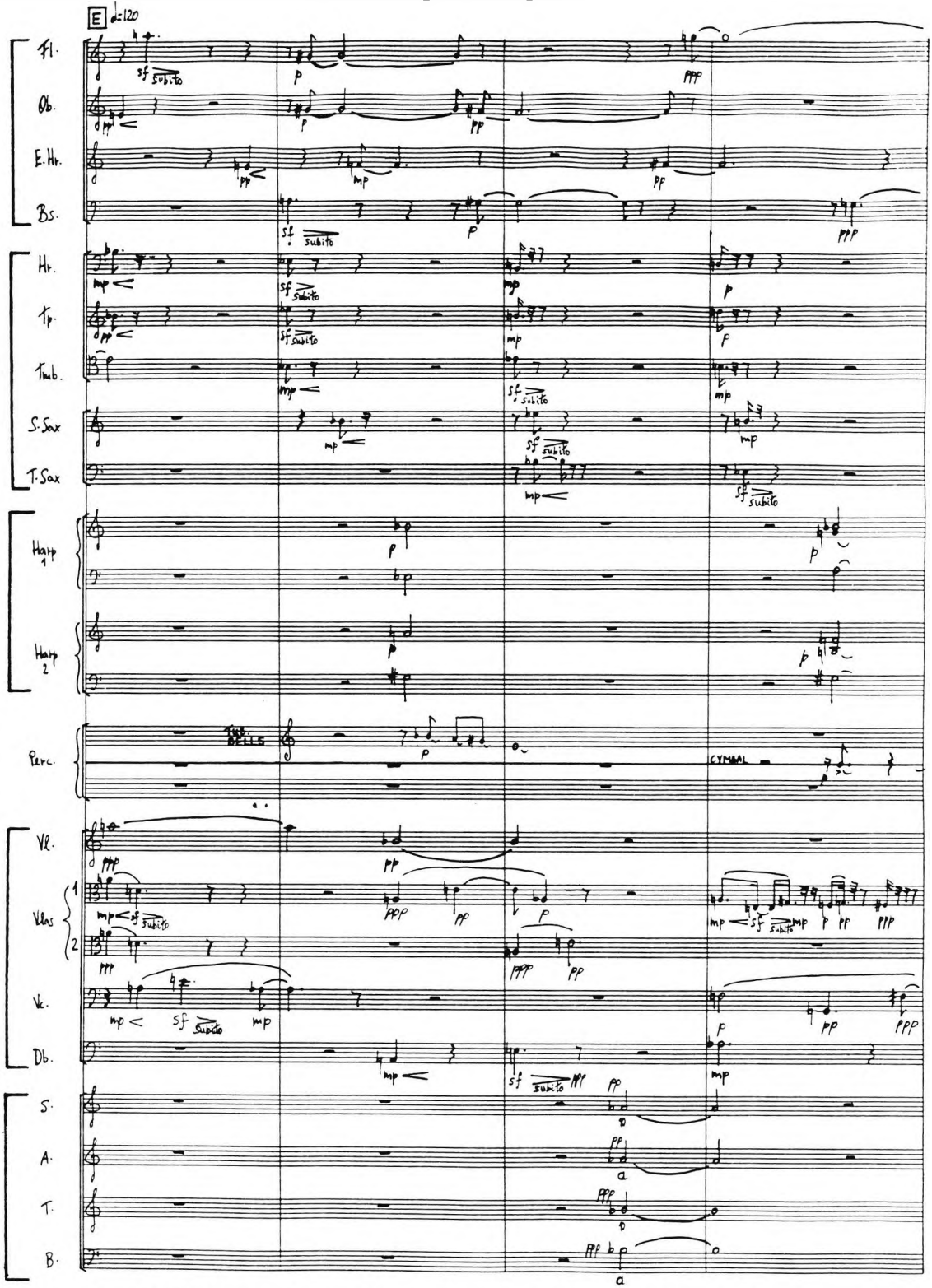


Fig. 2.17: *Concerto in Two Parts* : assignment of combinations 5,6,7,8, p.12

The form of the composition was the result of the 144 combinations between rows and parameters. I used 48 combinations in the first movement and 96 in the second movement. The choice of the instrumental assignment and the textural superimposition of combinations in the instrumental groups was free, although the combinations followed one another according to the pre-planned succession. I began by applying the material of the combinations in a relatively strict realization of each formula. However, throughout the concerto I gave increasing space to spontaneous, non-programmed interventions up to the point at which, towards the end of the composition, the formulas functioned only as mere parametrical suggestions at the disposal of the intuitive realization of the composer.

In the second movement, the succession of combinations was ordered by groups of ten, except the exposition (eight). Each group was displayed within 25 bars, mostly in 4/4 with a few changes of speed. In order to realize a stronger textural configuration, I interrelated the eight groups of the development by means of superimposition. By so doing, I intended to emphasize the link among different melodic passages.

The establishment of a stronger interplay between a precise textural organization and the intuitive development of the thematic material was the main preoccupation of *Concertino* . In this composition I applied both the strict treatment of the theme and its free development in chronological succession. The key number of the concertino was 8 and its divisions by 2. The material was suggested by the combination between a short motif Bb - Db - Eb - Db and my own harmonisation in 4-parts. I contrasted the repetitive character of the soprano part (1st trumpet) with continuous changes of

harmony in the other three parts (2nd trumpet, horns, bassoons). The numerical subdivision of the 4-part exposition provided the procedural scaffolding of the work.

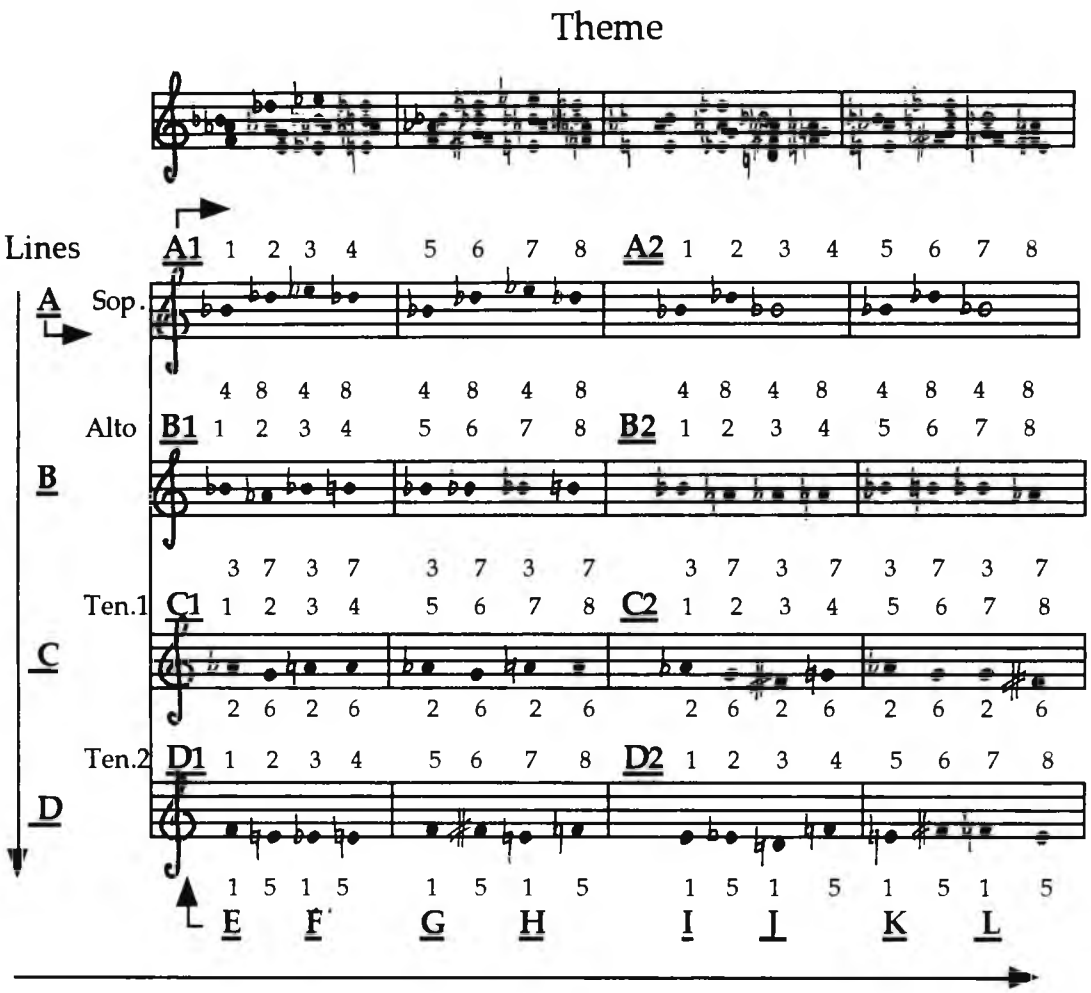


Fig.2.18: *Concertino:* thematic material and its division of parts (lines A, B, C, D).

By so doing, I allowed each note of each chord to become a part of the melodic row. Moreover, I used the rows in two different directions: horizontal (A1, A2, ...) and vertical (from E to L), from bottom to top (Fig.2.18). Throughout the composition the choice of lines was free, therefore entirely suggested by spontaneous musical decisions. The resulting large form was binary (A-B-A1-B1). I assigned to 'A'

the function of the exposition, and divided 'B' into three sections: (i) bars 9-12, where the beginning of the development is strictly organized; (ii) bars 12-68, in which I developed the initial material freely; (iii) bars 68-96 where I took up the strictly organized idiom again. Similarly to the textural superimposition applied in *Concerto in Two Parts*, in order to strengthen textural compactness, a palindromic device depicted this section and was applied with the instruments shared in two groups: 1) strings, 2) wind, brass, percussion.

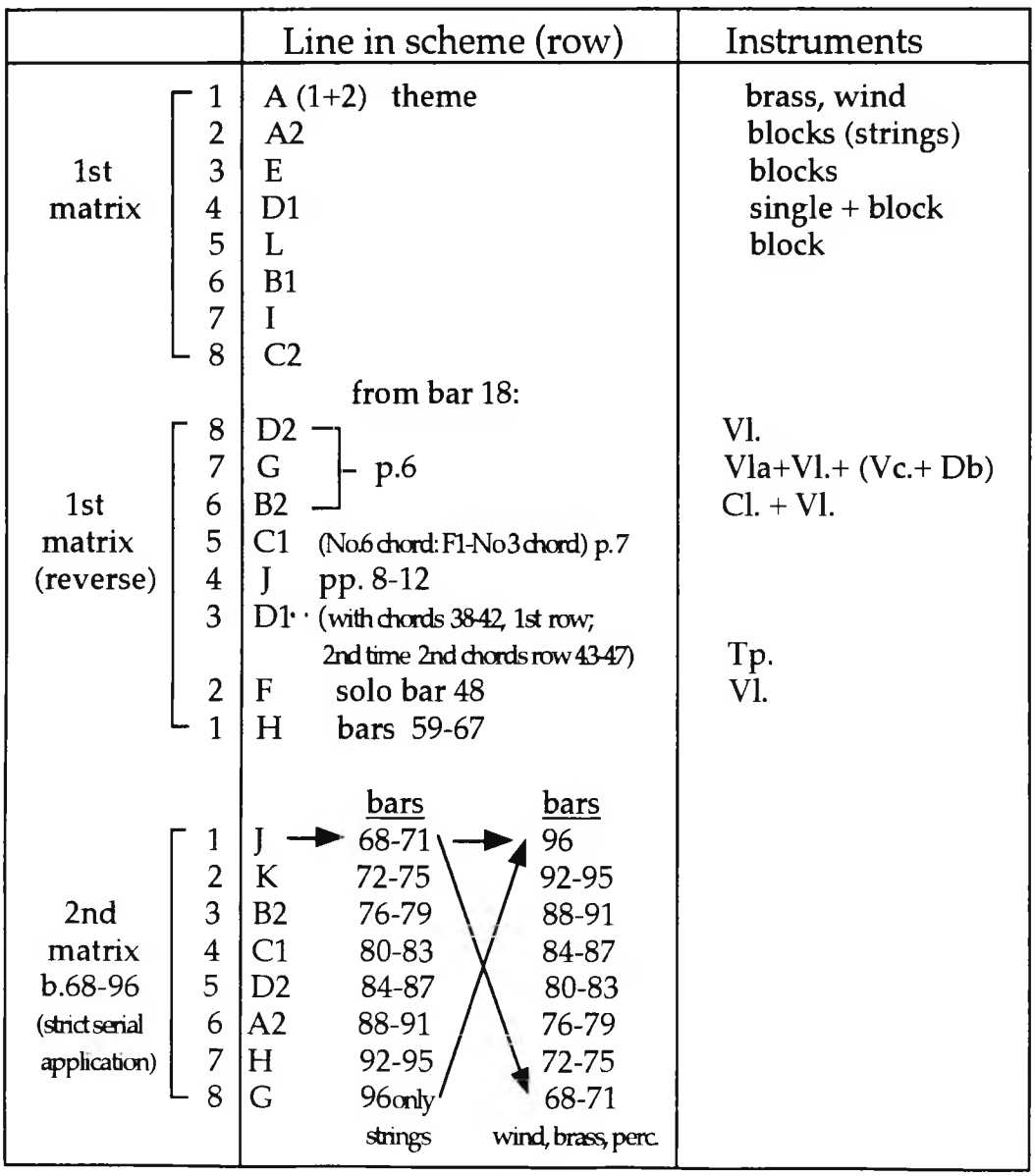


Fig. 2.19: *Concertino* : palindromic design of succession of lines

Thus, the material of the strings in bars 68-71 would correspond to the same material of the brass and wind instruments in bar 96; the material of the strings in bars 72-75 is the same material of the brass and wind instruments in bars 92-95, and so forth.

Despite its brief appearance within strict texture in bars 9-12 a *repeat-formula* plays an important role in this composition: I added it as a repetitive element within the framework with the scope of rendering the texture more varied in character. The repeated number, whenever it occurs, simply extends the duration of the event by repeating the note 2, 4, 6 or 8 times. The formula conceptually generates all the following repetitions of notes in the composition.

These were, in brief, the formal strategies that naturally followed the morphological preoccupations of *Utopia* and that inevitably led me towards the construction of a totally numerical organization of texture, as applied in *Omen*.

2.4 *Omen*

2.4.1 Background

The starting point of this work was strictly linked with the previous works described in this chapter. I felt impelled to challenge the danger of a daunting production of music based on mere explications of mathematical calculations with a contrasting poietic element of autobiographical nature. This work represents an attempt to unite a highly methodical compositional procedure with a most personal psychological and metaphysical sensation which occurred

to me in 1992. I tried to depict this dichotomy by expressing my personal state of mind in musical terms through a highly organized musical material in order to transcend the subjective experience with an objective architectural design and, on the other hand, to transcend the methodic arrangement of sound through a narrative containing a strong personal reference. I was interested to see how far I could use a strict organization of sound without falling into the trap of producing a dry piece of music. I wanted to avoid creating an *a priori* system without taking in consideration the poietic motivations that induced me to compose, and for this reason I tried since the first moment to exclusively accommodate the system I was creating to my own sensations and artistic objectives.

The musical idea came after hearing a joint composition by composers Art Lande and Mark Isham called *Surface and Symbol* .[7] This work had particularly impressed me for the very economic treatment of the musical material which was largely based on an over-repetitive four-notes melody and a predominant semitone almost throughout the piece. The atmospheric qualities of this composition inspired me to extend a similar idea to a large vocal and instrumental body and to produce a sonic carpet of timbral transformations. The psychological effect I wanted to convey was a feeling of static, continuous and especially suspended musical dimension, an immanent stasis which would prevail despite the interventions of blocks of sounds sparse throughout the texture. I was also aware that I needed a simple harmonic scheme with a well-defined quality able to contrast the static identity of a pedal point that I intended to use on alternating instruments.

[7] Both musicians are well known in the jazz scene. The composition *Surface and Symbol* was recorded in the album *We Begin*, released in 1987 by ECM Records, LP 831 621-1 or CD 831 621 - 2.

2.4.2 Numerical proportions

The entire organization of form and texture in this composition is centred on the number 7 and its division into 4 and 3, whilst the musical material is based on two chords constructed on intervallic relationships of 7 and 4 .

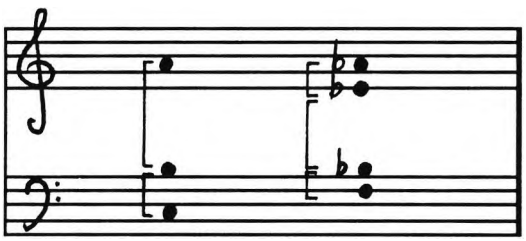


Fig. 2.20: *Omen:* harmonic material

The first chord is formed by two 7th intervals (the major seventh C-B, and the minor seventh B-A); the second chord is formed by three perfect fourths (F-Bb, Bb-Eb, Eb-Ab). By fusing the two chords and leaving each note at its given height (see Fig.2.21) the resulting scale (see Fig. 2.22) is ordered in a succession of seven notes.

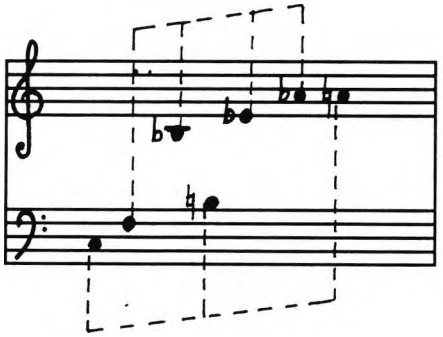


Fig. 2.21: *Omen:* chords fusion

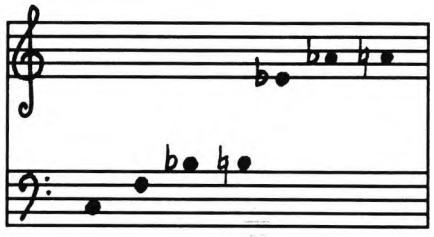


Fig. 2.22: *Omen:* resulting scale

I then ordered the succession starting on the note C and, later, on different key-notes out of the same scale.

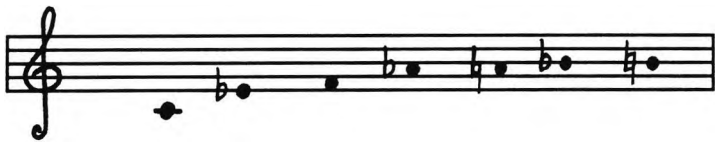


Fig. 2.23: *Omen*: resulting scale in C

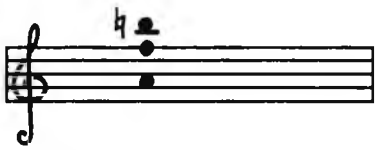
The figures 7 and 4 play a predominant role throughout the work:

1) The basic duration of the work was planned as seven minutes, that is to say without the following additional elements which I added to the framework at a later stage, during the final adjustment of the work (activity no. 4 of the compositional process mentioned in chapter 1.3):
   i) the 14 seconds pause on page 1,
   ii) the 7 seconds pause on page 35,
   iii) the extended finale of 24 seconds
2) A seven-notes scale is employed throughout the composition
3) Only seven vowels and seven consonants are sung by the singers
4) Twenty-eight (7 x 4) instruments are used in four groups: wind, brass, strings, voices
5) Seven musical elements constitute the entire scaffolding
6) An extra motif occurs seven times
7) Seven exceptions are allowed in the composition (only once).

2.4.3 The organization of events

I established seven sonic events (elements), each one differing from the other, which I spread throughout the seven minutes of the work:

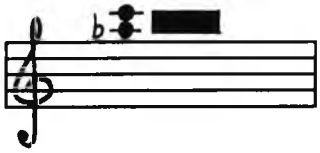
1) The first element is the chord A-F-B. I made up a list of interventions in which the instrumental entries are precisely marked. The order of the entries was suggested by intuition in the initial two minutes of the composition (group 1). Group 2 & 3 show the same temporal order of entries with the only exception of a gap in the middle of group two, which excludes a slice of time from 3'26" to 5'11". This corresponds to the central part of the composition largely dominated by the chromatic effect of a crescendo - diminuendo alternation of the notes B and Bb, and played by the trumpet and the saxophone at regular entries of 14" each, except the initial one.



1	2	3
1 = 1'15" Flutes	1 = 3'15" Strings	1 = 6'15" Woods-high
2 = 1'26" Brass	2 = 3'26" Strings	2 = 6'26" Brass
3 = 2'11" Flutes	3 = 5'11" Harp	3 = 7'11" Vibraphone, Celesta
4 = 2'16" Brass	4 = 5'16" Vibraphone	4 = 7'16" Brass, Woods (bass)
5 = 2'36" Woods (high)	5 = 5'36" Strings	5 = 7'36" Harp
6 = 2'48" Woods (bass)	6 = 5'48" Voices	6 = 7'48" Strings
7 = 2'54" Woods (high)	7 = 5'54" Celesta	7 = 7'54" Strings

Fig. 2.24: *Omen:* the first event

2) The second element is a cluster (Ab to C) occurring seven times (six times in the strings); the grouping of entries is concentrated on the first two minutes (4 entries) and in the final two minutes (3 entries) according to a palindromic design.



1 = 1'13" Strings
2 = 1'22" Strings
3 = 2'18" Woods
4 = 2'34" Strings
5 = 6'13" Strings
6 = 6'22" Strings
7 = 7'34" Strings

Fig. 2.25: *Omen:* the second event

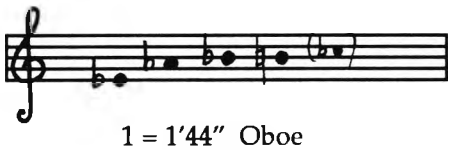
3) I called the third element *continuum.* This is a pedal point occurring eleven times (7+4), distributed in the four instrumental groups and the timpani. Its standard duration is 28 seconds. The first *continuum* in the timpani is asymmetrically shared into two entries, 15" at the beginning and 13" at the end of the composition (15+13=28); the second pedal occurs in the strings and is 56 seconds long (28+28); I assigned to the brass, woodwinds and voices the standard length of 28"; and an 84 seconds long *continuum* played by the trumpet and the saxophone (28 x 3) starting on the third minute. In the second half of the composition, I disposed the entries in a palindromic form.

4) The fourth element is the production of multiphonics, mainly in the woodwinds, with the purpose of strengthening the degree of tension through their harsh, piercing sounds at loud dynamics. Most of the time, they build up gradually to the highest overtone of the instrument and return to the initial note. This effect is clearly seen on page 18, at 4' 27", spread over the wind section with the horn and the saxophone.

1 = 1'03" Bs + Cl
2 = 2'29" Bs + Cl
3 = 3'03" ┐
4 = 4'27" ├ Woods, Brass
5 = 5'03" ┘
6 = 6'29" Woods
7 = 7'03" Woods

Fig. 2.26: *Omen:* entries of the fourth event

5) The fifth event is a short motif with its tonal centre in Ab.



1 = 1'44" Oboe
2 = 2'07" Woods
3 = 2'58" Strings
4 = 3'12" Horn
5 = 4'05" Bs,Hr,Tmp
6 = 4'45" B.Cl,Hr,Tmb
7 = 7'04" Ob,Hr,Tmp,Tmb

Fig. 2.27: *Omen:* the fifth event

6) The aeolian sounds[8] constituted the sixth element. I located most of them towards the end of the composition, in order to add more timbral variations and reinforce the aethereal atmosphere in the final section of the composition.

1 = 1'38"
2 = 3'28"
3 = 6'42"
4 = 7'27"
5 = 7'39"
6 = 7'49"
7 = 7'56"

Fig. 2.28: *Omen:* entries of the sixth event

8 As in *Utopia,* played by the flutes and here amplified.

7) The seventh event was a rhythmic motion , extended on a larger group of notes as at 2'31" (the harp) and 2'53" (harp and strings). At 4'29" it was extended by the timpani to support the wavering carpet of sound created by the multiphonics. At 6'04" I assigned it to the whole orchestra with the exception of the voices.

1 = 2'30" Brass
2 = 2'36" Strings
3 = 2'51" Strings, Harp
4 = 4'29" Timpani
5 = 6'04" Orchestra (no voices)
6 = 6'56" Strings, Harp
7 = 7'44" Harp, Celesta

Fig. 2.29: *Omen:* entries of the seventh event

2.4.4 The extra material

Beside the seven above listed elements, I introduced a musical element extraneous to the original material of the work; a sort of *idee fixe* in the form of a chromatic wedge-shaped tune with the note D as its tonal centre stated by the bassoon after the pause at 6".

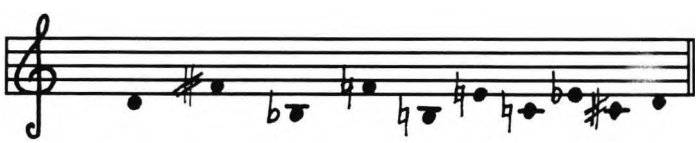


Fig. 2.30: *Omen:* the 'extra' motif

The oboe melody at 3'17" is a microtonal variation of the chromatic melody. I used the vague character of microtones in order to

emphasize the misty, enigmatic quality of this melody, whose tonal material, being an extra compositional element, added four new notes to the texture, namely, C, D, E, F. The succession of the 'extra' motif is the following:

1 = 1'06" Bs
2 = 1'17" Ob
3 = 3'17" Ob
4 = 4'16" Ob
5 = 6'55" Sax
6 = 7'23" Bs
7 = 7'44" Ob,Bs

Fig. 2.31: *Omen:* entries of the 'extra' motif

I considered a similarity between the recurrence of this chromatic passage and the short motif in Fig. 2.27. The psychological effect I wanted to convey was a sense of reminiscence through a repetition of similar events, despite their different musical character. The resulting minor chord of the fifth event represented to me an enigmatic calmness, whilst the chromatic motif and its microtonal variations suggested to me a more tense state of mind, an undefinable perception of danger.

2.4.5 The exceptions

I included a systematic organization of exceptions in the general framework of the composition and distinguished seven exceptions divided into three categories:

1) The first involved the intervention of new notes, i.e. the use of notes which did not belong to the original material of the composition. These exceptions are four. I defined this group as

the melodic and harmonic group.

1 = 1'01" Strings (the D in the violas)
2 = 2'29" Strings (the notes E in the violas and Db in the cellos)
3 = 7'44" Cellos
4 = 8'01" Strings

Fig. 2.32: *Omen:* entries of the first group of exceptions

2) I considered the second category as temporal, since it referred to the addition of extra time to the initially planned seven minutes of the total duration. I added two pauses, one of 14 seconds, the other of 7 seconds.

5 = 1'06" (14")
6 = 7'60" (7")

Fig. 2.33: *Omen:* entries of the second group of exceptions

3) The third category of exceptions included both extra-time and extra-notes. An extra-time of 24 seconds was added at 8'01", whilst the extra-notes I inserted in the texture were D in the first violas and G in the cellos. This group was the result of the fusion of the first two groups.

7 = 8'01"- 8'24"

Fig. 2.34: *Omen* : entry of the third group of exceptions

2.4.6 The vocal element

The vocal element was mainly focused on the reinforcement of harmonics amplified and projected by microphones in order to blend with the rest of the orchestra. This effect is widely used

throughout the work. I employed seven vowels throughout the composition, whilst I used seven consonants only once at 1'26" as a rhythmic reinforcement of the general texture. Both vowels and consonants are phonetically notated according to the International Phonetic Alphabet [9]. In order to create a richer vocal sonority, I allowed a gradual timbral transformation to take place from one vowel to another. This I indicated with an arrow between the two vowels. The effect is of great importance for determining the timbral qualities of the composition and must be emphasized by the singers assisted by the amplification.
The selection of the consonants consists of:

1 labiodental = *f*
1 palato-alveolar fricative = ʃ
1 alveolar fricative = *s*
1 palato-alveolar affricative = *dz*
1 velar-plosive = *k*
1 bilabial-plosive = *p*
1 alveolar-plosive = *t*

The selection of the vowels consists of:

1 cardinal vowel No. 5 = æ (as in *car*)
1 cardinal vowel No. 2 = *e* (as in *bed*)
1 rounded cardinal vowel No. 2 = ø (as in French *peu*)
1 open rounded cardinal vowel No.5 = ɒ (as in *dog*)
1 cardinal vowel No. 1 = ɪ (as in *see*)
1 rounded cardinal vowel No.1 = *y* (as in French *du*)
1 cardinal vowel No. 8 = ʊ (as in *do*).

[9] Revised 1979, London. I also consulted the studies of J.D. O'Connor, 1973 and A.C. Gimson, 1969.

2.4.7 Final considerations

In *Omen* the most important aim was to convey an imaginary landscape where a variety of tone-colours would characterize its sonic fields. In its musical properties, I consider this work a timbral organism characterised by an insistent recurrence of related musical gestures. On the one hand, the composition represents the culmination of formal strategies based on numerical proportions, on the other hand, in my development as a composer, it marks a significant change of direction towards a syntactic framework based on a more changeable and varied use of parameters, particularly of pitch.

I conceived and wrote the first score in space-time notation marked in seconds. This was necessary in order to gain a precise control over the distribution of time and musical events throughout the composition. I subsequently produced a second score in metric notation in order to facilitate the performance and particularly the conducting. The original score in space-time notation is included in this thesis as a separate Appendix VIII. It is recommended to use it as an easier reference to all the examples given in this essay which are indicated in time. [10]

10 *Omen* was first-prize winner of the 1992 Lucerne Composition Contest.

3. Intertexture

3.1 Discussion

The compositional methods employed in my works are, I believe, in constant motion. I vehemently agree with Witold Lutoslawski's statement that *"it is a very dangerous moment indeed in the life of an artist when he imagines he has finally arrived at a formula which defines his technique or system of composition"* (Kaczynski, 1984:48). In my experience as a composer, I have always found that technique is but the necessary layout that permits the composer to realize those constantly diverse imaginary landscapes he/she perceives. The dissimilar circumstances that inspire the production of a work of art inevitably set in motion a body of poietic imagination which is continuously adjusting to the initial proposition and directly influencing the choice of compositional methodologies. Furthermore, as Gyorgy Ligeti puts it, *"techniques and imagination influence one another in a constant interchange. Every artistic innovation in the craft of composition ferments the whole spiritual edifice, and every change in this edifice demands constant revision of compositional procedure"* (Ligeti, 1960:5) .

In this chapter I shall investigate the technical developments following the composition of *Omen* with reference to the former techniques and the creative process involved in the evolution of my formal strategies. The logistics derived by the numerical procedures used in the four works discussed earlier[11] proved to be a valuable acquisition for my compositional discipline. I became particularly aware of the importance of the chosen material and the accurate overseeing of its unfolding during the process of

[11] i.e. *Utopia* and *Omen* (submitted), *Concerto in Two Parts* and *Concertino* (not submitted).

composition. The self- imposed restriction of a scheme based on a selected numerical material had enhanced my control of the general form and the syntactic interrelations of the sonic events at a more textural level. I felt that at this stage I needed to face two major issues :

1) The established numerical relations had directly affected the constitution and character of the melodic and harmonic configurations. I was interested in finding a similar methodic approach that would not so strongly influence the nature of the music, since I now wanted to treat this in a less restricted fashion.

2) The distribution of musical events in the texture of *Omen* suggested to me a possible elaboration of this principle through a continuous change of elements at a syntactic level.

Both considerations reflected my interest for a new objective: the establishment of a system based on interchangeable elements. I decided to tackle this question by unifying the two previous considerations rather than by isolating them. Therefore, I felt confident that by combining an arrangement of melodic material with an interchangeable principle of textural distribution I would have found the new territory I was looking for.

3.2 First applications in *Jeu de Mort*

The best way to test my intentions, I thought, was to apply the new criterion on an already existent material. One of my earliest

works, the string quartet *Jeu de Mort* written in 1986, was one of those typical enthusiastic early works in a composer's output showing an over-production of ideas and lacking a solid supporting structure. I, in retrospective, was critically unsatisfied with this work and decided to use it as a test for my experiment. I began by cleansing the texture in that I removed all those events which I saw as superfluous. By so doing, I selected only what I considered the most essential and appealing material for my present musical purposes. The selection consisted of the following pitches:

1st Violin	C#, D#, E, F#, G, G#, A, A#, B	(9 notes)
2nd Violin	C#, D, E, F, F#, G#, A, B	(8 notes)
Viola	D, E, G	(3 notes)
Cello	D, A, B	(3 notes)

Fig. 3.1: *Jeu de Mort:* selection of pitches

Having designated the material, I created a system of *swap-matrixes* which enabled me to exchange it by segments of five or ten bars in different places in the composition and according to a programmed succession of sections, see chart.

Swap Matrices

Original (for **A & B**)

Vl 1	a	b	c	d	e	f
Vl 2	g	h	i	j	k	l
Vla	m	n	o	p	q	r
Vc	s	t	u	v	w	x

for **C** (5 bars)

Vl 1	g	h	i	v	w	x
Vl 2	s	t	u	p	q	r
Vla	a	b	c	d	k	l
Vc	m	n	o	j	e	f

for **D** (10 bars)

Vl 1	g	h	i	v	w	r
Vl 2	m	n	o	j	k	x
Vla	s	t	u	p	q	f
Vc	a	b	c	d	e	l

for **E** (5 bars)

Vl 1	f	l	r	x	e	k
Vl 2	q	w	j	d	p	v
Vla	o	c	u	i	n	b
Vc	t	h	m	a	s	g

for **H** (10 bars)

Vl 1	g	b	v	k	s	n
Vl 2	p	e	a	i	d	x
Vla	m	n	j	r	h	c
Vc	w	l	t	o	q	f

for **I** (5 bars)

Vl 1	s	d	h	q	b	g
Vl 2	n	x	c	f	l	p
Vla	k	i	r	o	u	m
Vc	v	a	j	t	l	w

for **L** (5 bars)

Vl 1	j	a	v	r	i	k
Vl 2	c	x	n	h	d	s
Vla	t	l	w	f	e	p
Vc	o	u	m	g	b	q

Fig.3.2: *Jeu de Mort*: original matrix & swap-matrices

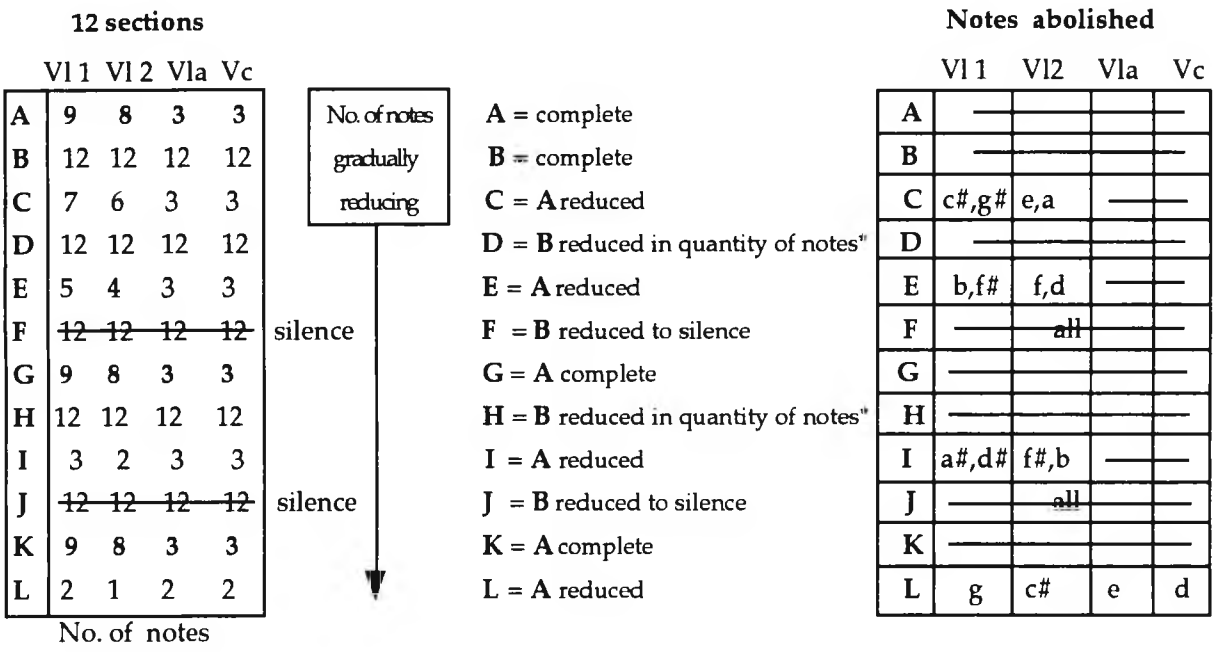


Fig.3.3: *Jeu de Mort* : succession of sections

The textural melodic disposition, which I called the *substratum* , was free to be developed without any pre-established scheme, but I was now creating a textural *superstratum* of harmonic significance, by swapping chunks of five or ten bars among the four instruments as in the two following examples:

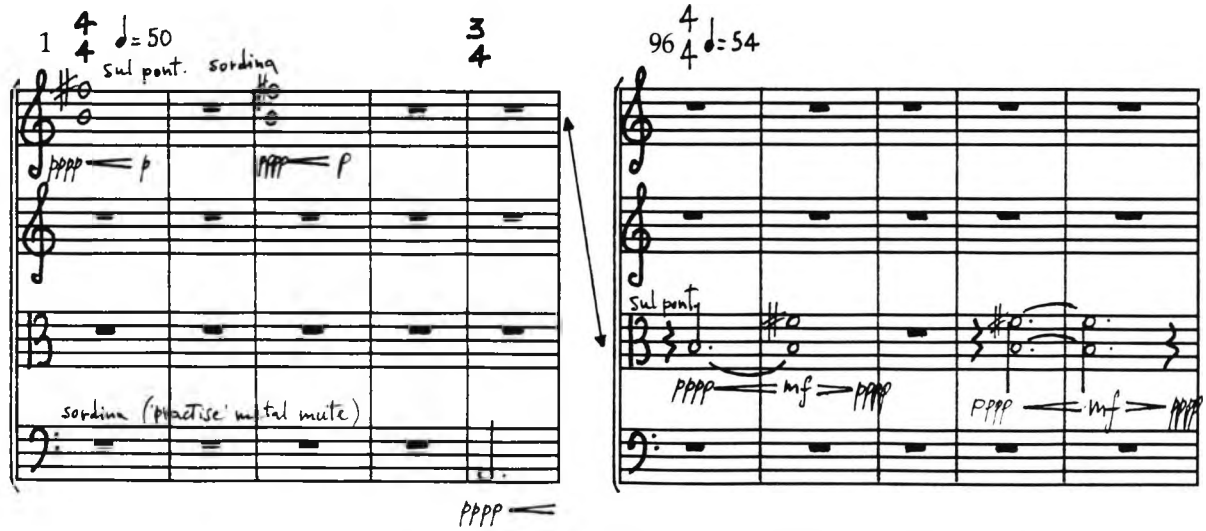


Fig.3.4: *Jeu de Mort:* ex.1, bars 1-5 (A) & 96-100 (C)

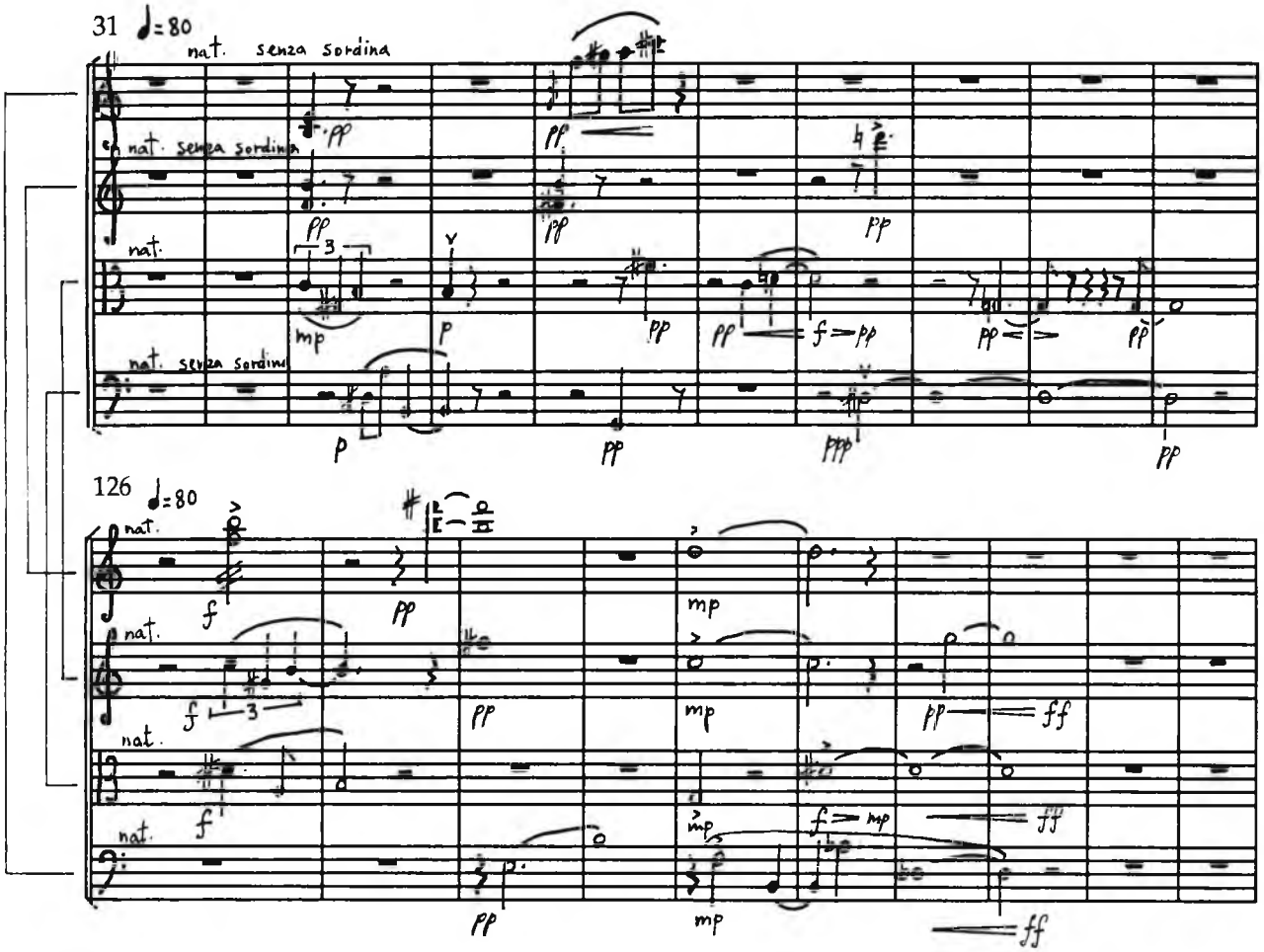


Fig.3.5: *Jeu de Mort:* ex.2, bars 31-40 (B) & 126-135 (D)

The slow and meditative nature of this composition (it is an epitaph) facilitated the control on the sound distribution throughout the texture.

During the period of experimentation with *swap-matrices*, I was struck by the resulting textural congruence and the transparent clarity of the intertwined gestures constituting the *superstratum*. I became fascinated by the idea of extending this technique to a more varied melodic and rhythmic environment and to apply it to a detailed division of note-values in order to gain a more diverse rhythmic landscape. The result of this preoccupation was the composition *Interchanges.*

3.3 *Interchanges*

3.3.1 Composing by interchangeable routes

Interchanges is a composition for clarinet and piano. The initial idea of writing a work for trumpet and piano was soon confronted with my technical demands of rhythmic configurations, respirational stamina and instrumental intonation which appeared to be unsuitable for the technical and sonic properties of the trumpet. I therefore decided to substitute the trumpet with a rhythmically more agile wind instrument instead of compromising my concept for the technical limitations of this instrument.

In *Interchanges* I was interested in moving from an event to another by continuous melodic and harmonic variations of an initial theme. The process of transformation I had in mind was one which never loses the original identity, rather than a metamorphosis into a new musical object. In order to realize this plan I needed to work with a structure in which the original melodic material would be set in motion internally, i.e. by a continuous interchange of its original notes. Thus, I wanted to create a circular variation of the initial object, instead of a departure from it. The resulting motion was not intended to indicate a particular direction but, on the contrary, to rotate around its own axis through recurrent mutations. I was interested in the effect of a variation occurring repetitively but in continuous modification. This would, perhaps, cause an illusion of departure from the starting point. In reality, however, the new configurations resulting from the swapping formulas were constantly gravitating around the same point. I believed this would have assured not only a melodic and harmonic coherence in the

texture, but also a constant uniformity of the musical discourse.

3.3.2 The melodic material

I divided the 12 tone chromatic scale into three unequal sections: one of six notes (a), one of 4 notes (b), one of two notes (c).

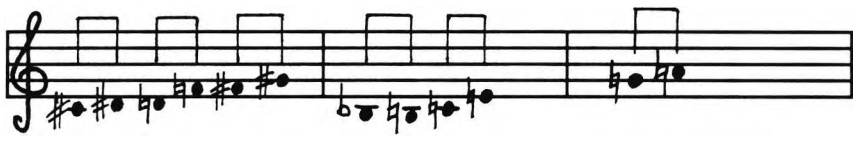
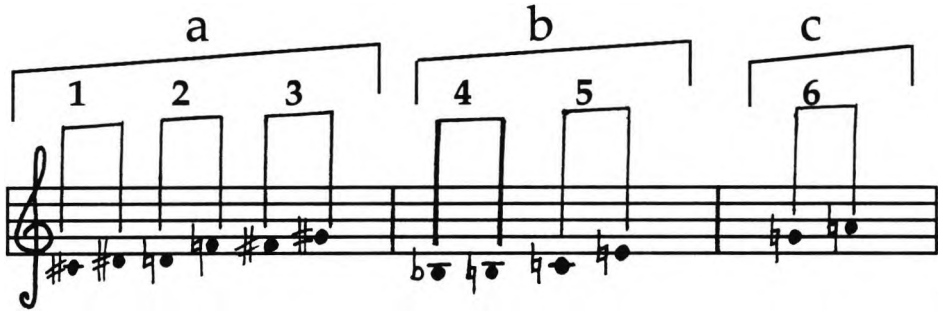


Fig. 3.6: *Interchanges:* 12 tone scale

The identification of two distinct dimensions which I defined in the composition of *Jeu de Mort* (the *sub-* and the *superstratum*) was the incentive that made me assign each of the three melodic sections of *Interchanges* a bidimensional property: a macro- dimension, i.e. the group of notes as a melodic conglomerate *per se*` and a micro-dimension, i.e. the further division of each section into smaller groups of two notes. In the case of section c, both macro- and microdimension corresponded to the same material: the notes G and A. I constructed the thematic material on a restricted intervallic relation of 2 and 3, the minor and major second and the minor and major third.



Section	Macrodimension	Microdimension
a	1 group of 6 notes (1+2+3)	3 groups of 2 notes (1,2,3)
b	1 group of 4 notes (4+5)	2 groups of 2 notes (4,5)
c	1 group of 2 notes (6)	1 group of 2 notes (6)

Fig. 3.7: *Interchanges:* macro- & microdimension

3.3.3 The matrix

The matrix I devised was founded on three elements, i.e. numbers for the following reasons:

1) I deliberately wanted to use a simple structural proportion in order to gain a cohesive texture and avoid an overprolific production of melodic patterns.
2) The initial division of the 12 notes in three subgroups urged me to keep the same ternary relation for the distribution of the material.
3) Similarly, I applied the 3:2 proportion, which I had previously used for the intervallic relations, to the instrumental parts. I considered the two instruments as three melodically interdependent layers, thus dividing the piano part into two regions: bass and treble.

Having determined the basic aggregate, I considered the numerals

1, 2 and 3 as the generating proportional measurements and formulated the swap-matrix as follows:

3	2	1
2	1	3
1	3	2

Fig. 3.8: *Interchanges:* swap-matrix

3.3.4 The resulting schemes

Once the matrix was established, I dealt with two main concerns:

1) to apply it to an equivalent system of note-values in order to obtain the rhythmic configurations essential for my purposes.
2) to unfold its numerical succession and to produce two schemes, one for the macrodimension, the other for the microdimension. Eventually, the two resulting schemes, each containing three layers, would be superimposed for the general framework.

I started by establishing three equivalences out of the matrix as follows:

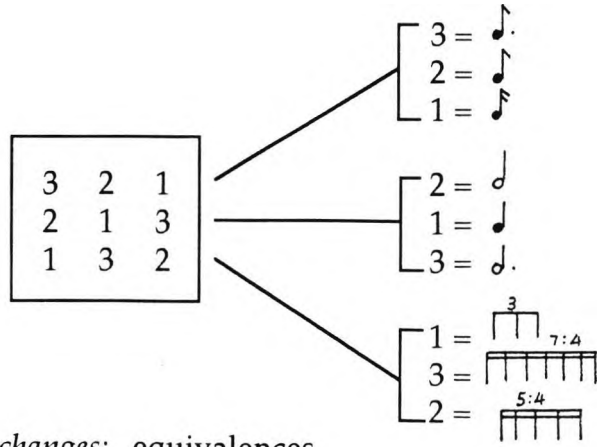


Fig. 3.9: *Interchanges:* equivalences

I then organized the values according to the above numerical succession:

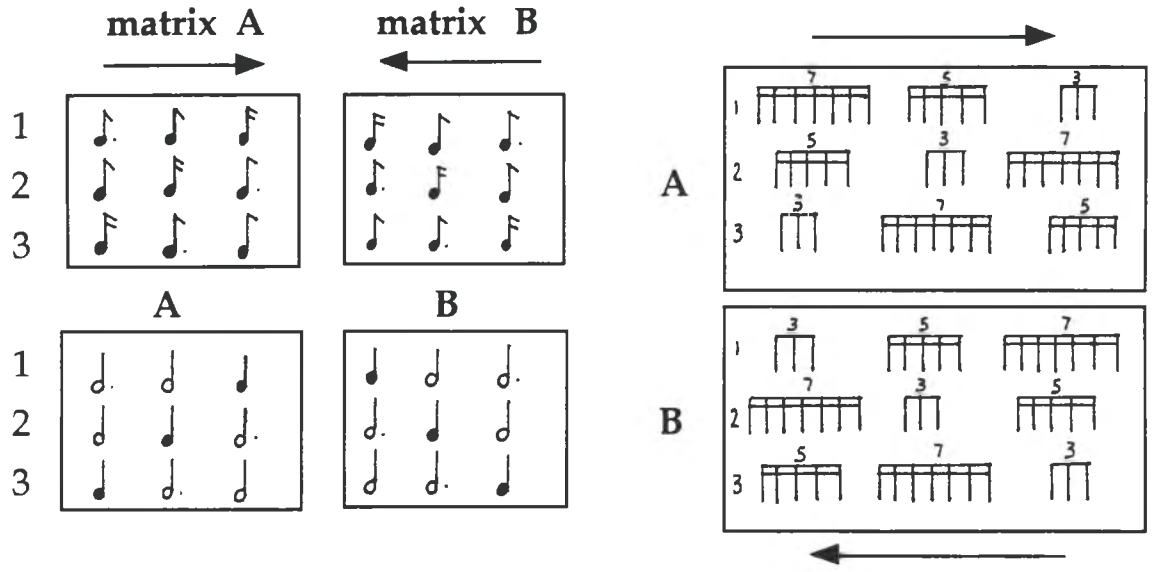


Fig. 3.10: *Interchanges:* organization of notes values

As soon as the durations were defined, I decided not to use them in a serial succession, but to treat them according to my own musical instinct. By so doing, the only parameter I kept under a pre-planned order was pitch. The matrix's outcome for the macrodimension produced the following framework:

3			2			1	
a b c	b a c	a c b	c a b	b c a		c b a	
3 2 1	2 3 1	3 1 2	1 3 2	2 1 3		1 2 3	

2			1		3		
c a b	b c a		c b a		a b c	b a c	a c b
1 3 2	2 1 3		1 2 3		3 2 1	2 3 1	3 1 2

1		3			2	
c b a		a b c	b a c	a c b	c a b	b c a
1 2 3		3 2 1	2 3 1	3 1 2	1 3 2	2 1 3

Fig. 3.11: *Interchanges:* matrix's outcome for the macrodimension

The matrix produced the following scheme for the microdimension:

		3			**2**			**1**
314625		251364		425316	631524		146235	543216
	2			**1**			**3**	
631524		146235		543216	314625		251364	425316
1				**3**			**2**	
543216		314625		251364	425316		631524	146235

Fig. 3.12: *Interchanges:* matrix's outcome for the microdimension

The superimposed arrangement of macro- and microdimension produced three charts (see Appendix. IV, a,b,c) which determined the entire length of the composition. The first and the third chart contained 12 layers, whilst the second chart contained 24 layers.

3.3.5 Textural correspondences

I assigned each macro- and micro-group to a defined number of bars at irregular pace. For instance, the clarinet opening **'a b c'** corresponding to bars 1- 7:

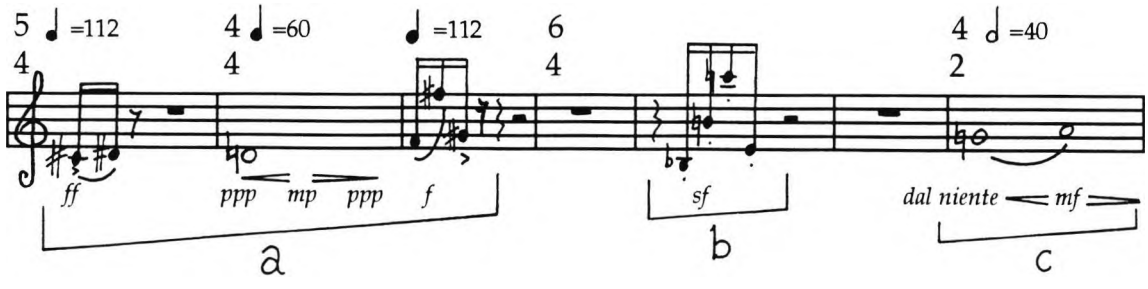


Fig. 3.13: *Interchanges:* bars 1-7, clarinet

or the third group (vertically, in the chart displayed in Appendix IVa) comprising the three layers and generating bars 14-21, and so on.

In the first two groups of rows XVI, XVII, and XVIII I converted the distribution of the material in vertical disposition in order to create a series of alternating gestures between the wind instrument and the piano. I unified the two initially separated regions of the piano in order to gain more variety:

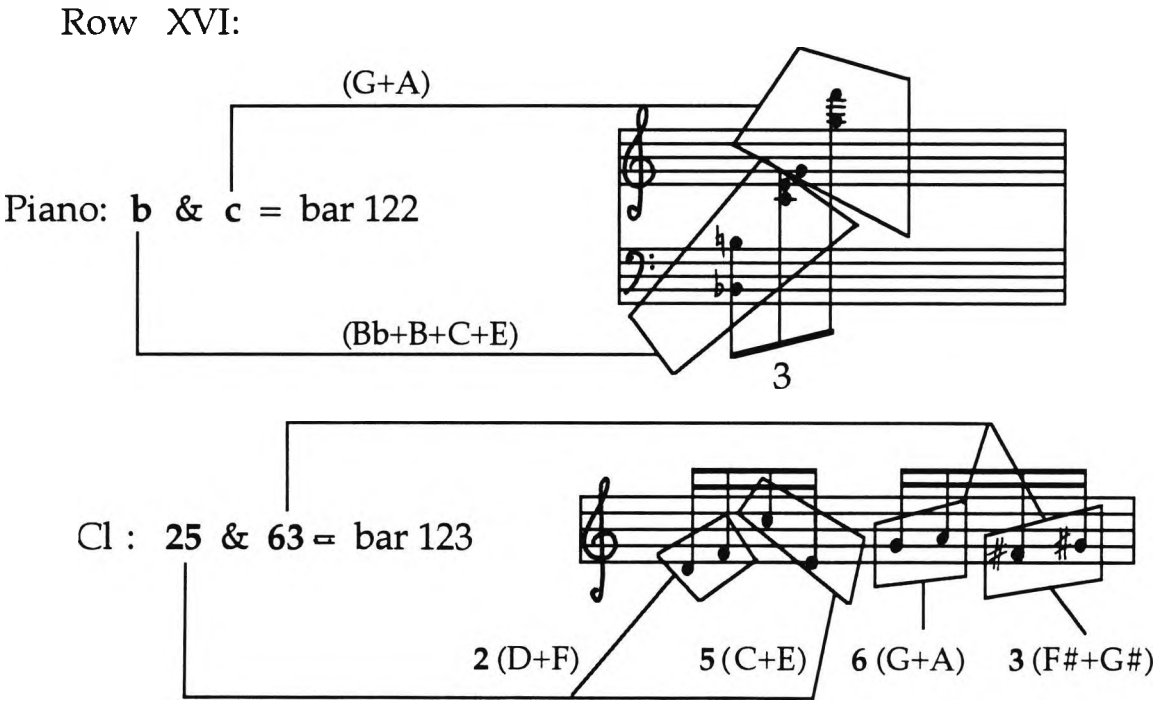


Fig. 3.14: *Interchanges:* application of row XVI in bars 122 & 123

From bar 156 onwards, I began to distribute the groups in a less strict procedure and more sparsely.

XXV b a b

XXVI c b a

XXVII a c c

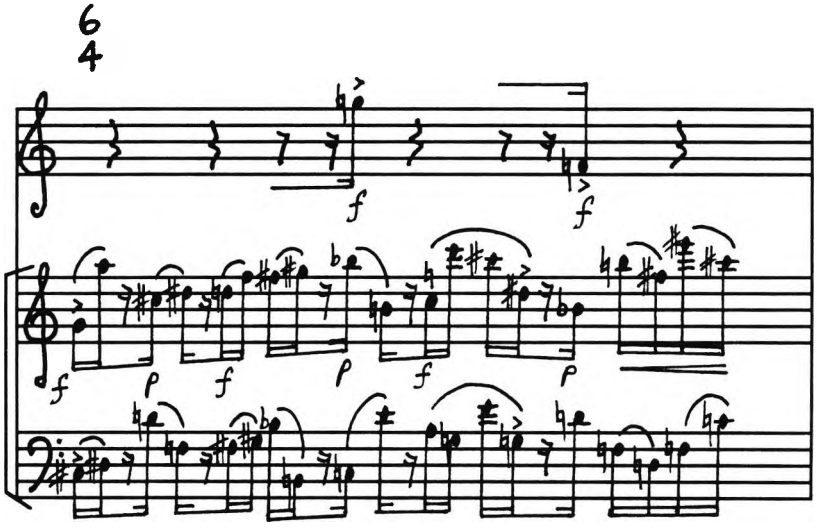


Fig. 3.15: *Interchanges:* application of rows in bar 156

In the third chart (see Appendix IVc) rows XXXXVII and XXXXVIII are assigned to bar 234, where group **b** is applied to both instruments.

b (Bb,B, C, E)

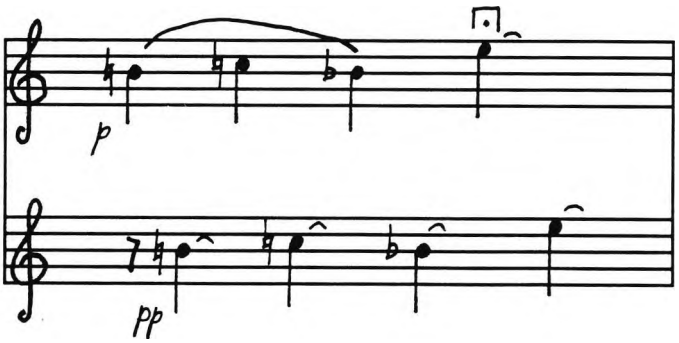


Fig. 3.16: *Interchanges:* application of rows in bar 234

Having exhausted all the rows at bar 241, I decided to start again from row I, this time treating each instrument more separately and continuing the increasingly freer approach to the material indicated by the chart. For instance, bar 242 (the piano) corresponded to rows

I, II and III, (groups **a, b, c**) and to the same melodic material which had initially generated bars 1-7 in the clarinet part, but was now producing the following result:

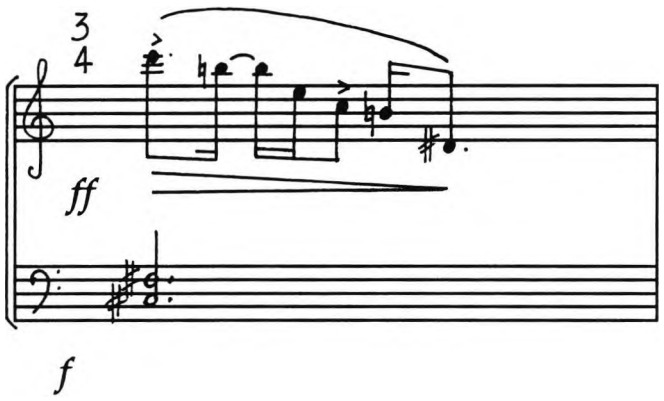


Fig. 3.17: *Interchanges:* application of rows in bar 242

3.3.6 Final considerations

Despite the similarity of techniques applied in more than one work, for me, every composition is a new adventure, a new journey through an unprecedented musical landscape. I consider *Interchanges* a three-part instrumental dialogue between two instruments denoted by an undulating flow in parallel motion. The activity of interchangeable melodic segments, and their resulting harmonies, became the predominant catalyst of the piece and defined its own form. The application of an established system to only one element (pitch) gave me the opportunity to handle all the other parameters according to my own musical intuition. This was the decisive technical factor that led me towards the subsequent search for compositional strategies that would entirely rely on musical intuition.

4. Intuition

4.1 Discussion

Following a control of compositional procedures suggested by numerical proportions as discussed in chapter 2, I felt that critical questions could be resolved only through an examination of different possibilities, and that an extensive inspection of compositional strategies had to be tested on different musical situations and structural demands. For this reason, I extended my investigation to a number of dissimilar territories in order to be able to compare different results and their musical significance. Common to the various procedural techniques exploited in this study is the notion of order as a necessity of musical form in my work. I considered this as a degree of permitted justification that exists between the structural components of a composition, whilst the controlling principles are derived from the general musical proposition to which the behaviour of all technical constituents would therefore conform. Without an ordering principle, I believe, the various textural elements of a composition would fight each other chaotically.

I reconsidered my instinctive sense of balance and logical thinking, not supported by any preconceived structural framework, as the main generative principle of textural organization. I wanted to enhance my awareness with respect to morphology by observing and correlating the effects of instinctive interventions to the texture and the whole form of the composition. Composing without pre-established schemes, I thought, would also directly confront me with the degree of my intuition and inspiration as reflected in the chosen musical gestures and 'unfiltered' through predetermined schemes.

It is not that a non-predetermined composition would not imply outlining principles, since these are intrinsic to the very act of composing. As Schoenberg puts it: *"... since music is assembled with notes, i.e. composed, it seems unthinkable that such assembling should not be based on constructional principles"* (Schoenberg, 1975:107). My primary purpose was, therefore, not to deny morphological procedures, but (i) to leave them taking their course spontaneously during the process of composition according to my own intuition of the moment, and (ii) without a pre-planned procedural scheme. Again, according to Schoenberg *"The inspiration, the vision, the whole, breaks down during its representation into details whose constructed realization reunites them into the whole"* (Schoenberg, 1975:107). I was interested in letting the inspiration affect directly the musical writing, therefore construct its own musical realization instinctively, without the establishment of a system. Ultimately, spontaneity, intuition and even improvisation are but the result of the composer's own musical logic, and I wished to exploit this logic without 'interference' of systematic configurations.

Deryck Cooke described the musical conception as arising in four main ways: 1) from a literary text, 2) from a literary idea, 3) from an ideal or concept which the composer feels an urge to use as the basis of a purely instrumental work, 4) from a purely musical impulse (Cooke 1959: 169). It was interesting for me to notice that most of my compositions (38 to the present day) belong to the third of Cooke's categorization. This fact indicates that an idea or a concept has so far proved to be my major and most productive source of inspiration. Therefore, I might describe my music as functional, with the exception of one composition, *Spirits* (1990), which is the exact reproduction of a music I heard in my dreams,

without conscious intervention of my own stylistic inclinations. As Morton Feldman states: *"We are taught to think of music as an abstract language - not realizing how functional it is, how related to that other spirit, whether it be literary or a literary metaphor of technique"* (Feldman, 1985:103).

The four compositions of this group are: *Eternity, He, You* and *Reflections* . These works present features which can be subdivided in the following manner:

1) Form resulting from an interpretation of a text *(Eternity, He, You)*. In this case the words themselves provided both the conceptual and the structural framework of the composition.

2) The inclusion of an extra element: the distribution of space *(He, Reflections,You)* .

4.2 An approach to texts

The creative process of my composing is sustained by a conceptual impulse that manifests itself in evocative sensations; whether an idea, a concept or a written text, it is this generative impulse that produces the final musical result. My inspiration is but a musical reshaping of already existing concepts and ideals within my mind. For this reason, the contents of my chosen texts have always been of a metaphysical and philosophical nature. I believe there is an apparently hidden, yet strong symbolism which links the musical with the verbal, and that both are manifestations of fundamentally the same images and archetypes of the mind.

In order to avoid what I consider superfluous repetitions or over -

associations of symbols and ideas, I have always shown a certain reluctance to work with texts, whilst on those few occasions in which I have used them, I have naturally looked for short and concise poems in order to reduce the verbal discourse to the essential. I have found that paucity of text inevitably presents a heightened challenge to the composer's imagination and constrains the mind to concentrate more on the significance of individual words. Apart from two compositions, namely, *The World* , on a poem by Kathleen Raine and *Eternity* , on a poem by William Blake, all the other texts employed in my works have been written by myself. The composition *He* is certainly the most extreme example of textual paucity; 'he' being the only word used in the composition. This work was written in memory of John Cage, whose personal friendship illuminated much of the past years of my life. As soon as I heard of his death, I wanted to write an epitaph in which the pronoun 'he' contained a strong relevance to the person, and for this reason I decided to keep it as the only word of the text. The form consists, therefore, of one single section, and is entirely based upon a six minute long development of the initial note E , symbolically associated by the composer with the word 'He' (see Appendix V).

4.3 The voice

4.3.1 Background

In my compositional output up to 1991 the voice had been used either exclusively in its traditional function (in works such as *In Memory of a Friend* , 1988, for mezzosoprano and piano and *The World*, 1991, for two sopranos and two percussions) or as a pure

musical instrument, without a text (as in *Prelude* , for orchestra, 1989, and *Sun And Earth,* for ensemble, 1990). In *Utopia* , apart from the short text *'everyone is part of universe'*, I was working with single sounds and words without syntactic links, using them as pure timbral sources. In this sense, this composition represented the first attempt to combine the two vocal techniques, the verbal and the timbral, within the same musical work. I also used a variety of vocal effects, among which a gradual timbral change from one vowel to another.[12] In the late 1980's I had come across the vocal work of Michael Vetter and Joachim Berendt which was strongly linked with the overtone - singing of Tibetan monks, and this had impressed me profoundly. But the indisputable breakthrough which radically changed my entire musical perception occurred in the winter of 1991 when, for the first time, I listened to Jonathan Harvey's *Bhakti* . In the first movement of this work I was enchanted by the wizardly refined variety of timbral transformations that was taking place on a single note G, and with a continuous blend of acoustic and electro-acoustic sonorities. This unforgettable experience marked a radical change in my musical sensitivity in general and, moreover, opened the gate of my interest for electro-acoustic music.

4.3.2 Phonetic developments

After the experience of *Utopia* , I became interested in extending the timbral transformation of vowels to an entire composition in order to exploit the gradual sonic mutation between two phonetic events and to create a stronger blend between voices and instruments. I then felt the need to gain a basic knowledge of the entire spectrum of phonetic sounds and symbols and decided to

[12] My fascination for tone-colour as a musical element of particular beauty was historically rooted in my predilection for works such as Schoenberg's *Farben*, Cage's *First Construction in Metal*, Boulez's *Le Marteau sans Maitre*, and others.

attend a course on Phonetics at the University of London (Royal Holloway & New Bedford College). The two following orchestral works *Concerto in Two Parts* and *Omen* represent the first results of this study. In *Concerto in two Parts* (chronologically the first of the two) the voices blended with a chamber orchestra, whilst the gradual timbral passage from one vowel to another still always went through an *u* sound. In these works, I replaced the international convention based on the Italian-German pronunciation of *a, e, i, o, u,* (corresponding to five of the primary cardinal vowels) which I had already used in *Utopia*, with the standard International Phonetic Alphabet (IPA, London, 1979). This was, of course, a specialised classification of scientific precision. In *Omen* I went a step further by (i) blending the voices with the entire instrumental body of a symphony orchestra, (ii) extending the number of the vowels to 7 with the addition of the neutral cardinal vowels *ø* and *y*, thus extending the timbral range, (iii) requiring a direct timbral passage from one vowel to another (and not, as I did earlier, via *u*).

Whilst I was composing the two orchestral works I had been singing the vocal parts several times in order to acquire a first-hand cognizance of the sounds I wanted. It was during a run-through of *Omen* (in which the sustained vocal sounds were much longer than in *Concerto in Two Parts*) that, all at once, I noticed that I was producing reinforced harmonics, particularly during the *u - y - i* passages. The connection with Karlheinz Stockhausen's *Stimmung* was immediate, and I promptly decided to look at the details of this work consulting Gregory Rose.[13] The major clarification resulting from these consultations was the

[13] whom I knew had performed the piece on many occasions with his group *Singcircle*, and whom I greatly admired as a specialist in this field. His recording of *Stimmung* is released on CD by Hyperion CDA66115.

delineation of labial and lingual movements and their effects on both the production of harmonics and timbral sonorities. In addition, a critical analysis of Stockhausen's indications for the performance of *Stimmung* made me aware that in order to produce as many reinforced harmonics as possible and in the most natural way, the most appropriate technique for my purposes was to determine only the main timbral objects (the vowels) and indicate with an arrow the passage from one vowel to another, as I had instinctively done in the previous works, without further technical requirements. The specialist singer would have then found the appropriate lingual movements which would have ensured the clearest and richest production of harmonics. Finally, the combination of both labial and lingual movements seemed to me to offer the most musical solution for timbral modifications. I subsequently transferred the same vocal technique to choral and chamber music without premeditation. In the succeeding works *He, Eternity* and *You* all the discussed achievements have been consciously integrated in the technique used.

4.4 A sense of space

4.4.1 Historical background

The idea of a spatial distribution of sound has been present in the history of Western music since its earliest days.[14] In the 20th century, the disposition of performers in different places was one

[14] I had always been interested in the antiphonal singing of the Orthodox and the Roman church, but particularly Adrian Willaert's *Salmi a Coro Spezzato* (Venice, 1550) and other works of the Venetian school. Subsequently, I was extremely fascinated by Andrea Gabrieli's polychoral writing which went far beyond the simple antiphony of Ruffino and Willaert. In some of his works, Gabrieli used 3 four-part groups differentiated by pitch (high, medium and low), instrumental body, and location (the position of the groups in the church of St. Mark). Moreover, Gabrieli was using up to 4 choirs opposing each other, letting them 'converse' animatedly and create echo-effects by interrupting or repeating the text in works such as *Benedictus Dominus a 8* , *Deus misereatur a 12* and others.

of many techniques fostered by many composers. I had been particularly struck by the spatial effects created in Charles Ives' *The Unanswered Question* (1906) and Vinko Globokar's *Hallo, do you hear me?* . Furthermore, I had noticed that from the double orchestra of Gagaku court music in the Far-East to the military parades and religious processions in the West, spatial effects had been widely included in compositions from different styles, cultural backgrounds and for dissimilar purposes.

4.4.2 Spatial distinctions

I was interested in two aspects of space in music:

1) The arrangement of instruments in different but fixed locations during the performance: I found particularly imaginative to use an off- stage sonic source, invisible to the audience, to be related to an instrumental 'visible' group playing on-stage. Indeed, this effect which I first experienced live in a performance of *The Unanswered Question* in 1986, had struck me profoundly.

2) A mobility of sound in space created by kinetic actions integrated in the composition such as walking musicians with or without the inclusion of visual/theatrical elements as reinforcement of gestural symbolism during performance,[15] or pan-effects in electro- acoustic sources (although at the time of this compositional phase I was not involved with electronics).

[15] Stockhausen's *Michaels Reise* (from *Donnerstag aus Licht*) had been a significant influence.

4.4.3 Previous works

In *Sun And Earth* (1990) I had dealt with a bidimensional distribution of sound: a static sonic source in the middle of the audience (the harp, representing the sun) and three positions for three mobile musicians (soprano, flute, clarinet) linked by a circular corridor circumscribing the audience. The three standing performers would each occupy a different position in the imaginary circle and interchange locations whilst playing/singing, thus 'carrying' the sound around the audience (this being a symbolic depiction of the earth's motion around the sun, see Appendix VI). Further, each of the three spots represented a different human character to be musically interpreted by the instrument that was momentarily occupying it. The frequent interchange of instruments around the audience produced (i) a constant timbral mutation of the sonic source in space, (ii) a recurring circular motion of sound, (iii) a continuously varying degree of dynamics according to the instruments' vicinity to the audience. These features emphasized, by contrast, the kinetic dichotomy between the constantly mobile sonic periphery and the persistent immobility of the harp in the middle of the hall.

In *Dialogue* (1991) I was exploring communication as a main feature of a discourse among five musicians (flute, oboe, clarinet, trumpet, piano) which started verbally with aid of phonetics, gradually moved into the instrumental and finally went back to the verbal. This idea led me to the following spatial arrangements: (i) to begin the verbal dialogue off-stage, behind a door in the hall, (ii) to keep it on whilst the group is walking to the stage, gradually converting it from phonetic to instrumental sounds, (iii) to define its instrumental proportions on stage, (iv) to reconvert to the verbal whilst the

musicians leave the stage and walk back to the initial off- stage position.

4.4.4 Recent applications

The spatial elements in *Utopia* , as those of the previous works, were strongly suggested by the conceptual symbolism inherent in the generative idea of the composition. First of all, I created three different fixed locations:

1) the stage, dominated by the presence of the singer (Utopia in form of a muse) on which the 'reunion' of the five musicians takes place.

2) a hidden position for the wind instruments at the back of the stage used for projecting multiphonics at the beginning and the end of the work.

3) a position for the flute on the front left side of the stage where the instrument, at the end of the piece, recalls the tune which had previously marked the musical climax in the middle of the work .

Towards the end of the work, the three spatial dimensions are used within a short amount of time, spreading the sound from the centre to both sides of the stage (the oboe, clarinet and bassoon hidden on the right side, the flute appearing later on the left side). This final ramification of events is extended by the group in the right side as the three instrumentalists walk away in order to obtain a spatial diminuendo, a processional *allontanandosi* effect

taking place in the back stage area. A minor additional scenic element in the work was the gradual appearance of the instrumentalists on stage with the intention to intensify the increasing building up of events in the beginning of the central section.

The 8 voices version of the composition *He* exploits a spatial arrangement of the locations suggested by pitch (the vocal ranges of the eight singers). The idea of the work was to create a 'fluorescent' sonic dimension, a 'cloud' of delicate, tiny particles of sound (the harmonics) vibrating in the air. The soloistic function I intended to assign to the voices made me treat each of them as an individual source of harmonics. One of my aims was also to separate the alto and tenor from the soprano and bass, in order to gain a clearer distinction between middle, high and low ranges and to emphasize the changes of register in space. In order to realize this plan, I distributed the eight singers in two imaginary squares of different sizes: the big square, comprising the two basses on the back and the two sopranos on the front, circumscribed the little square, containing the two tenors and the two altos, which I located in the centre of the big one (see Appendix V).

The composition *You* illustrates a spatial division between two instrumental groups: the main group performing on stage and a hidden trio playing off- stage. I conceived the spatial immobility between the two groups because I wanted to put in evidence the recurring perennial dichotomy between the sensorial and the spiritual dimension of life. The discourse conducted by the main group is therefore frequently interrupted by what I consider a static (because symbolically 'perennial') reminiscence of the other invisible dimension as if coming from nowhere, which to me

symbolizes the endlessness of time metaphorically contained in the word *you* .

Similarly to *Dialogue* , in *Reflections* I combined spatial motion with static location. On the one hand the piano, as the visible source, defining the visual focus on the stage, on the other hand the tape and the trumpet as an imaginary landscape of sounds reflecting each other and the piano. In order to achieve a stronger division of the two sources, I decided to hide the trumpet by locating it on the right side corridor outside the hall and to amplify it, so that its sound would be heard by the audience through the loudspeakers, together with the tape, but at the same time also from their right side as a separate acoustic source. The kinetic gesture occurring in the middle of the composition was meant to clarify the instrumental distinction by momentarily establishing the 'traditional' order of instruments: the trumpet player, whilst playing, walked to the stage, thus appearing to the audience, initiated an antiphonal dialogue with the piano at a fast tempo (playing into the piano) and, later on, left the stage returning to the initial position while holding a sustained note.

The main characteristic of all the discussed spatial actions is that they were born and developed simultaneously with all the other components of composition, and therefore constitute an essential element in no way less important to the other morphological features of those works.

4. 5 *Eternity*

The generative idea of this composition is a well known poem by William Blake called *Eternity* , whose text is the following:

He who bends to himself a Joy
Does the winged life destroy;
But he who kisses the Joy as it flies
Lives in Eternity's sunrise.

None of the following textural decisions has been predetermined. The tonal material of the composition is centred on one note, namely F# . It gradually expands upwards with the voices in bars 7 and 8, thus forming the chord F# - G# - A# - E,[16]

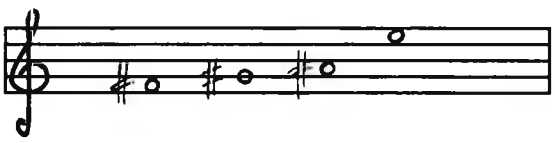


Fig. 4.1: *Eternity:* thematic material

and it is promptly contrasted in bar 10 by the harmonic extension C# - B - D - Eb played by the piano and the vibraphone.

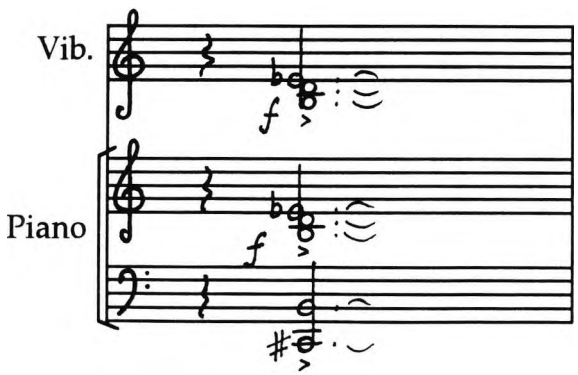


Fig.4.2: *Eternity:* additional material in bar 10

[16] I did not, at this stage, consider the D# in bar 1 and the D in bar 5 (both in the piano part) as notes belonging to the thematic material.

I associated the F# to the idea of eternity and therefore kept it as the central note throughout the piece. Apart from a few passages on pages 4-5 supporting the word *destroy,* the texture presents a deliberate sparseness of gestures. I treated the instrumental texture merely as a timbral background to the text and did not want it to overshadow the voices. Therefore, the role of the instruments has delineated a primarily supportive, rather than leading, function. Each note has been conceived as a single musical world on its own; consequently, each melodic and harmonic event is relatively short. Apart from singing the text, the voices have been treated instrumentally, to reinforce the timbral texture with their own sonic mutations. The unequivocally tonal idiom has not been consciously predetermined.

4.6 *You*

4.6.1 Genesis

I started writing the composition *You* during a course in advanced composition with Vinko Globokar.[17] Originally this work was scored for soprano, sop. saxophone, trombone, violin, cello, piano and a viola playing off-stage. The performance of this first version took place at Dartington with the Composers' Ensemble, Vinko Globokar (trombone) and myself (piano) and was conducted by Peter Wiegold. Unsatisfied with the results of the performance, I decided to revise the piece and to extend the instrumentation in order to create a more varied timbral domain. I enlarged the ensemble by adding a soprano and a violin to the 'invisible' viola, thus forming an off-stage trio. Similarly, I expanded the main 'visible' group with one more soprano, an alto flute, a violin, percussions, harp, celesta and

[17] At the 1992 Dartington International Summer School.

harpsichord. The doubling of the soprano was intended to emphasize the text harmonically by using two parallel melodies, to enhance the production of harmonics, and to contribute to a richer variation of timbre by combining two different vowels simultaneously. The text, which I wrote in 1981, consists of the following words:

You
timeless
quintessence
always
transcendence
since ever
for ever

Again, my main preoccupation was to leave the responsibility of the musical discourse entirely to my own perception of the poem; each word of the text, therefore, generated a distinct musical gesture.

4.6.2 Sectional description

The initial Eb, played off-stage, generates the first harmonic field in the opening chord Eb,E,F,G,Bb,B stated by the three keyboards. The initial section A (pp.1-3) is a constant timbral variation centred on the word *you* and carried out by the two sopranos, texturally supported by the remaining instruments. The following instrumental section B (pp.4-7) is a reflection on the symbolism I associated with the word *you* . The piano develops and extends the initial tonal material, centred on the semitone Eb - E, and provides a

material which will be used on several occasions later on in the piece. Generally, the developmental attribute which characterizes the main group is contrasted by the recurrent interventions of static blocks of sound played by the off- stage group, as it can clearly be seen at the end of p.7. The next section C (pp. 8-10) derives from the words *timeless quintessence* and is contrasted by the off- stage group (p.11) singing *always* . *Transcendence* is the following key word which intuitively generates the harmonic field of the next section D , from page 11 to 13, characterised by the parallel singing of the two sopranos. The off-stage group continues the discourse with the words *since ever* in section E (p.14) and this time is reflected by the main group in a joint constellation of harmonics. This is followed by an instrumental development on the initial phrase of the piano on page 5 that links the previous event to the next one, section F (pp.16-18), based on the word *forever* and echoed by the off- stage trio (p.19). The piano, again, with additional instrumental tone - colour, leads to the final section G (pp.20-22) suggested by the word *you* , in which the hidden group contributes with the conclusive chord.

Once the composition was finished, I became interested in delineating the outcome of the resulting sectional form, which can be seen in the following figure.

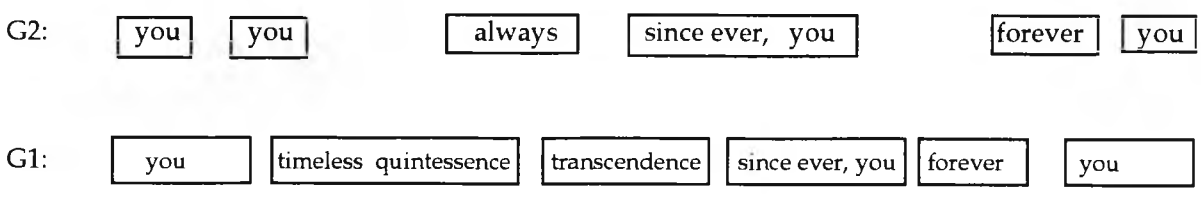


Fig. 4.3: *You:* distribution of sections

4.7 *Reflections*

4.7.1 Background and concept

This composition for trumpet, piano and tape was composed during January and March 1993, immediately after *Interchanges* and as a continuation of my collaboration with the British trumpeter Simon Lenton. In the previous months, Simon had advised me on the technical features of the trumpet and expressed the wish for a piece which would have exploited the lyrical character of the instrument particularly in relation to the piano, whereas the electronics would function as an amalgam between the two acoustic sources. The new work would have been included in a programme of mainly acoustic compositions for trumpet and piano and this meant that I had to keep the electronics simple by completely avoiding the use of effect processors in real time. The mutual relations between two acoustic instruments interconnected by a third electro-acoustic source formed a very attractive subject of thought. My starting point was the idea of reflection as the main feature of the work: the projection of a melodic statement initiated by the trumpet and reflected by the other two instruments in a continuous interchange of actions including the trumpet itself. The character of the entire piece would have relied on the continuous transformation of the initial statement, whose melodic identity I intended to retain throughout the piece. Since I have always been fascinated by the etymology of words and their ambiguity of meanings, I wished to consider the idea of a reflection not only in its physical sense, but also as the mental faculty of pondering.

4.7.2 Compositional strategies

In order to stress the reflection as a process of inward motion (i.e. a process leading to the centre of thought) I decided to create two spatial dimensions (rather than three) out of the three instruments. Considering the conceptual background previously discussed, my general approach to *Reflections* has been largely melodic. Since I wished to have a bright and settled thematic character, I decided to make a large use of the major third (which I personally perceive as an interval fulfilling those attributes) in the construction of the two themes. I set an initial melody (a) out of six notes and contrasted it with a second melody (b) made by the remaining six notes.[18]

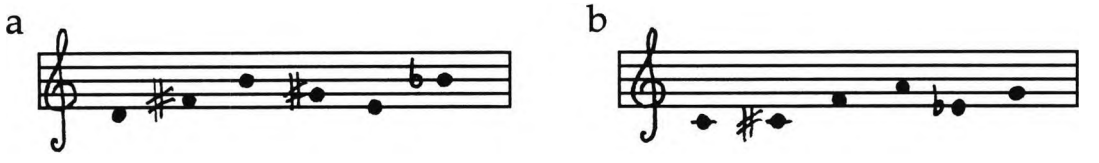


Fig. 4.4: *Reflections:* the two themes

By fusing the two melodies I produced six additional melodies.

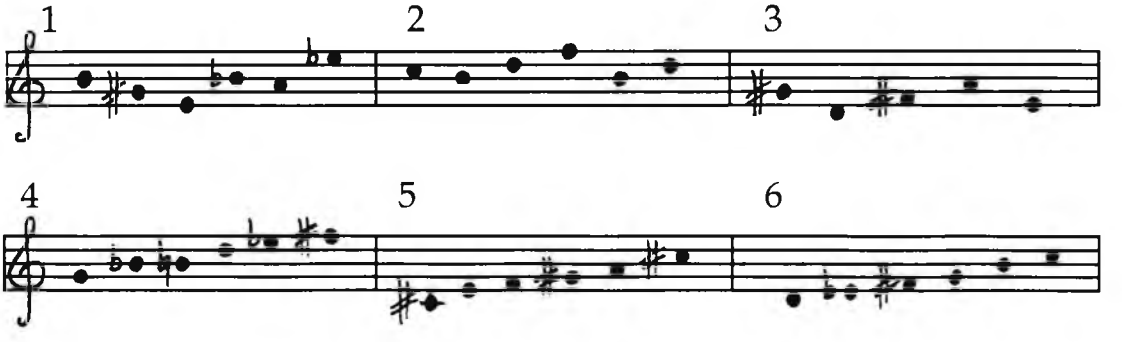


Fig. 4.5: *Reflections:* the six additional melodies

[18] The intervals I used were: 1 minor second, 1 minor third, 5 major thirds, 1 perfect fourth and 2 tritones.

Apart from the thematic arrangement of the chosen intervals, in this work there is no predeterminate compositional procedure. The rest of the texture comprises reflections of melodic phrases distributed among the three instruments. The predominant slow pulse, in my perception, helped to emphasize mental images and the atmosphere of fantasy which I wanted to convey in the piece. However, I interrupted it twice: the first time with a faster tempo and a three-part polyphony distributed in both tape and live trumpet (bars 55-99), the second time by breaking the spatial interrelation of the two sources with the appearance of the trumpet on stage culminating in an animated dialogue between the two acoustic instruments (bars 168-277). I finally restored the initial order of instruments towards the end of the work (bars 318-366).

The function I assigned to the tape part was one of a primarily instrumental relation to the other two live instruments. As a fully integral part of the instrumental dialogue, I decided to write it in metrical notation in order to gain as much precision as possible among the three instruments. I also saw the tape part as an extension of the timbre and range of the two acoustic instruments and as an area of timbral ambiguity by mainly using electronically edited trumpet and piano sounds. I realised the tape in the internal sequencer of a Yamaha SY-77 synthesizer with the addition of a trumpet recording made in the studio at City University.

4.7.3 The resulting form

At the end of my composing I analysed the form of the whole work and identified the following sections:

1) bars 1-31: embellished exposition of the initial motives
2) bars 32-167: extension of previous section, divided into three sub-sections:
   a) bars 32-54
   b) bars 55-99
   c) bars 100-167
3) bars 168-277: climax of the work; the trumpet appears on stage
4) bars 278-366: back to initial order of instruments and space.

4.8 Final considerations

The techniques and compositional preoccupations discussed in this chapter represent a significant phase in my evolution as a composer. I was increasingly looking for a balance between intuition and rationality as an ideal state of affairs for my artistic expression. In these compositions I deliberately wanted to reconfront myself with a consciously extremely minimised structural thinking during the process of composition in order to be predominantly led by my intuitive sense of musical shape and formal proportions, and finally examine its musical results. My attention focused particularly on a bidimensional relationship between two separate, yet integrated layers: (i) the large constitution of a composition, that is to say its macro-dimension, for example the articulation of its sectional proportions related to its general duration and of course musical content, (ii) the design of phrases and smaller configurations within a section, their interrelations and distribution within the texture, a micro-dimension. At this stage, it became clear to me that the experience gained with these works had already laid the foundations for another approach to compositional strategies which I shall describe in the next chapter.

5. Towards a multidimensional form

5.1 Form in progress

My concept of form is continuously evolving in the progressive unfolding of my musical development. Therefore, at a certain stage of my composing, I felt impelled to clarify those formal elements I was already using in my compositions in order to expand my vocabulary with the addition of new morphological constituents. A larger approach to a systematic identification of formal components would have furthermore enhanced my awareness of compositional procedures. The next objective was to denote the unfolding of forms developed from the unification of the previous achievements. On the other hand, the idea of superimposing different sections within the same composition had become a strong necessity in order for me to expand the configurational panorama of my own musical language. I also wanted to achieve a clearer and more objective command of my own formal strategies on a larger scale, and I therefore thought that a comprehensive system might have provided a better control of the parallel motion of two or more independent and simultaneous textural conformations.

As a result of the experience gained in the preceding work, two complementary perspectives appeared:

1) The idea of a single extended form which is articulated not only horizontally, as a linear succession of sections, but also vertically.

2) The disposition of two or more superimposed horizontal formal layers running simultaneously. A 'multi-horizontal' extension of form.

Both angles suggested the same idea of an extended form in space. The following organization of formational components is meant to be a flexible framework adjustable to different conditions and individual requirements in composition. It is not, as no previous procedure was, a suggested standard configuration to be applied to every compositional situation, nor is a process of separational categorization.

5.2 Structural identifications

These identifications of formal elements in composition concern the composer, and not necessarily the apprehension by a listener. We shall examine:

a) three general manifestations
b) two principles of motion
c) two orders of proportional distribution
d) two configurational correspondences

a) Three interdependent manifestations of form:

1) Outer form, the general external structure that holds the piece together; its largest formal unit.
2) Inner form, the architectonic organization that subdivides the outer form into smaller sections.
3) Design, the inner profile of the music; the arrangement of the details such as themes, motives, rhythms leading to the organization of the content.

b) Two fundamental principles of motion:

1) Action
2) Reaction by
   i) Contrast
   ii) Periodicity (of action)
   iii) Transformation
   iv) Growth

c) Two orders of proportional distribution:

1) Symmetry
2) Asymmetry

(I assigned an equal conceptual value to both)

d) Two configurational correspondences:

1) Syntactic (parametric)
   i) melodic-harmonic
   ii) rhythmic-durational
   iii) timbral
   iv) dynamic

2) Morphological (sectional), referring to outer and inner form.

I primarily regard composition as the musical representation of an idea, and the inner world of the artist. In order to unveil its content and to unfold it to the 'outside' world, it has gradually become more and more important for me to supply the audience with comprehensible, recurrent cues, which I have called 'reference points'. Their function being to render the musical discourse more compact and comprehensive, and to facilitate the 'decipherment' of the

adopted musical code. These references would therefore function as morphological and discursive orientation- points and as syntactic connections within the composition. Since I consider both the idea and its manifestation of equal importance, my endeavour in compositional thinking is to render the idea as clear as possible throughout the composition. In this sense, I regarded the 'reference points' as necessary for the achievement of formal clarity; I felt impelled to consciously include them in the planning of the composition and to treat them with the same attention as any other important procedural element.

According to the fundamental parameters of music, I distinguished the reference-points as:

1) melodic - harmonic
2) rhythmic - durational
3) timbral
4) dynamic

and beyond:

5) morphological; i.e., referring to sections of the composition

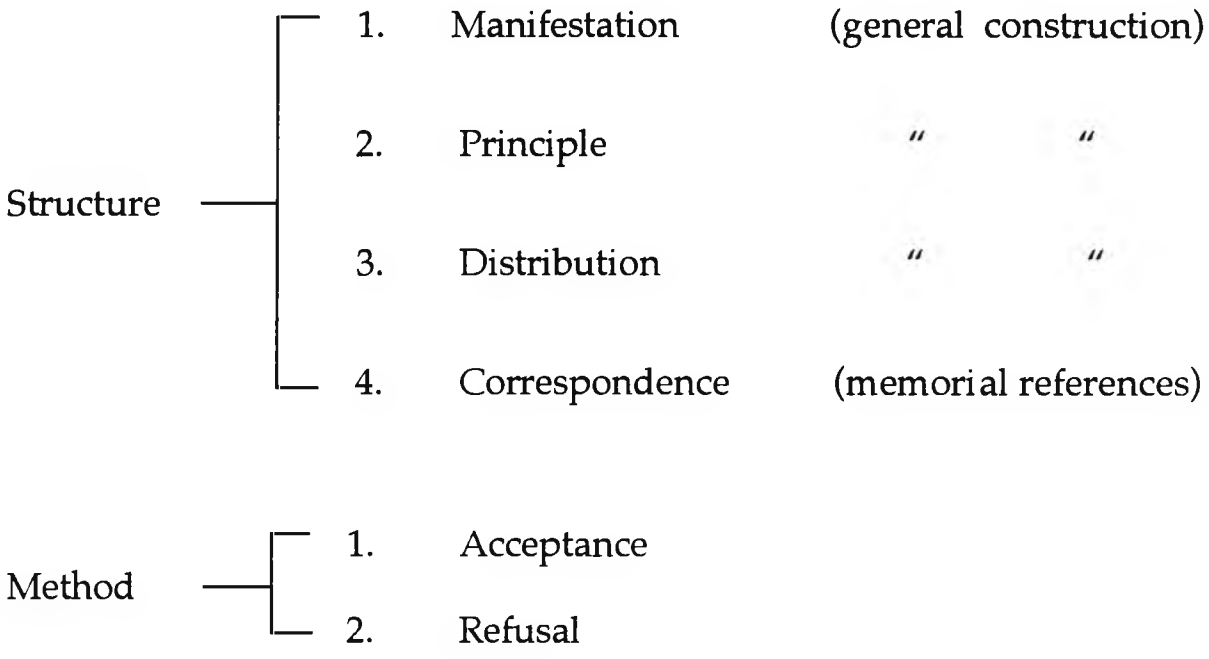
The present categorization was primarily intended to render the structural elements of formal construction visible to me during the process of composition, in order to achieve a higher and more conscious degree of morphological unity and textural cognition.

5.3 **Compositional procedure** (a morphological chart)

An essential difference was delineated between structural components and a basic methodological choice. I shall therefore begin by representing the following separation:

a) Structure b) Method

Let us unfold the above distinctions according to the general identifications cited earlier with the addition of the methods of decision:



Acceptance represents a positive choice, whilst refusal represents a negative one. I considered positive and negative criteria as two different but equally important manifestations of the same event, which is choice itself. Having represented the initial differentiation, I proceeded with enlarging the illustrative outline. In the following chart I have included all the components so far identified:

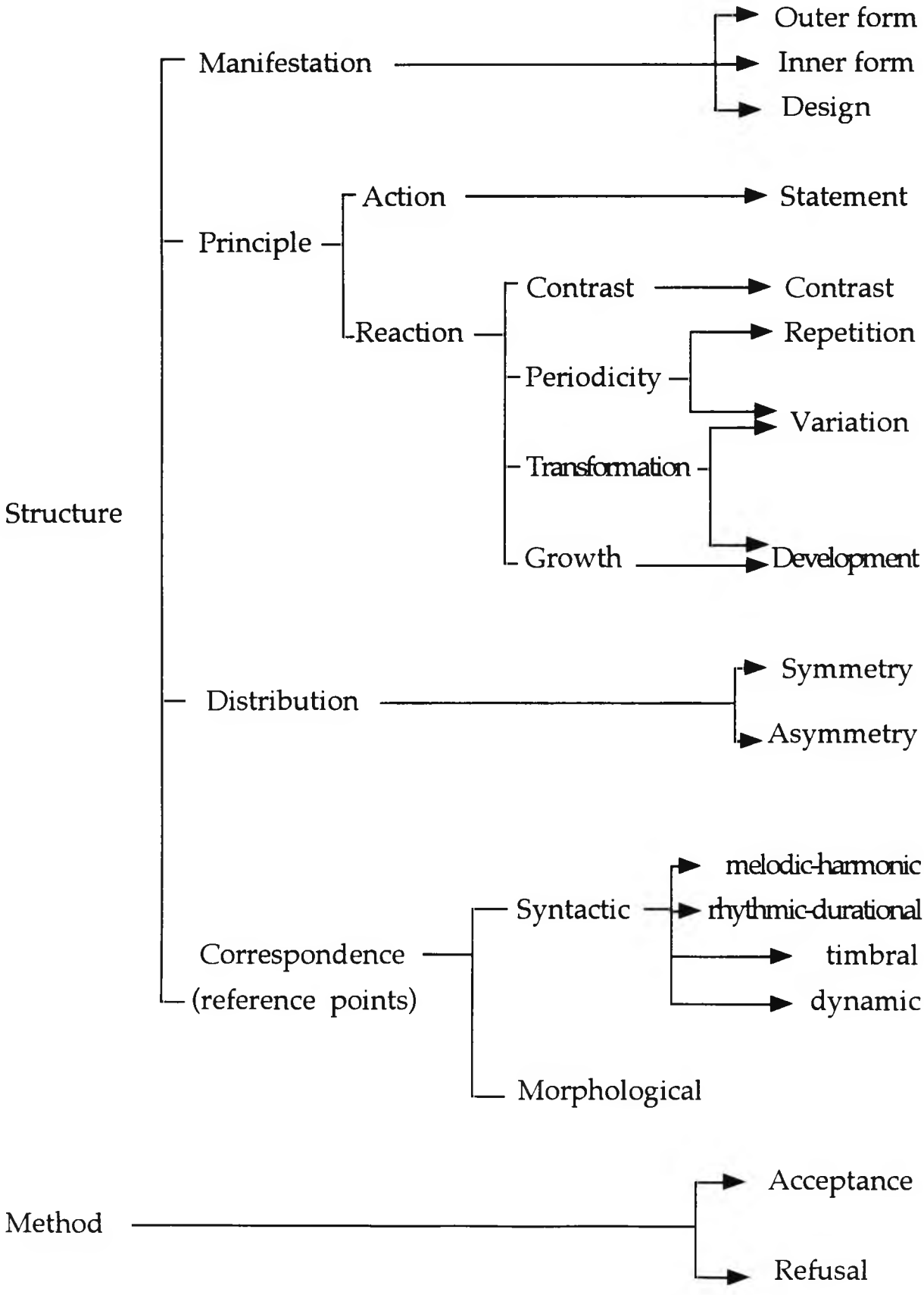


Fig. 5.1: Compositional procedure: suggested chart

The identification of the formal components was organized within a framework which I intended to apply to the process of composition. In the following chart I delineated a compositional procedure arranged in three steps, according to the three manifestations of form (outer form, inner form, design) in order to facilitate the decisions to be taken at each single phase of work.

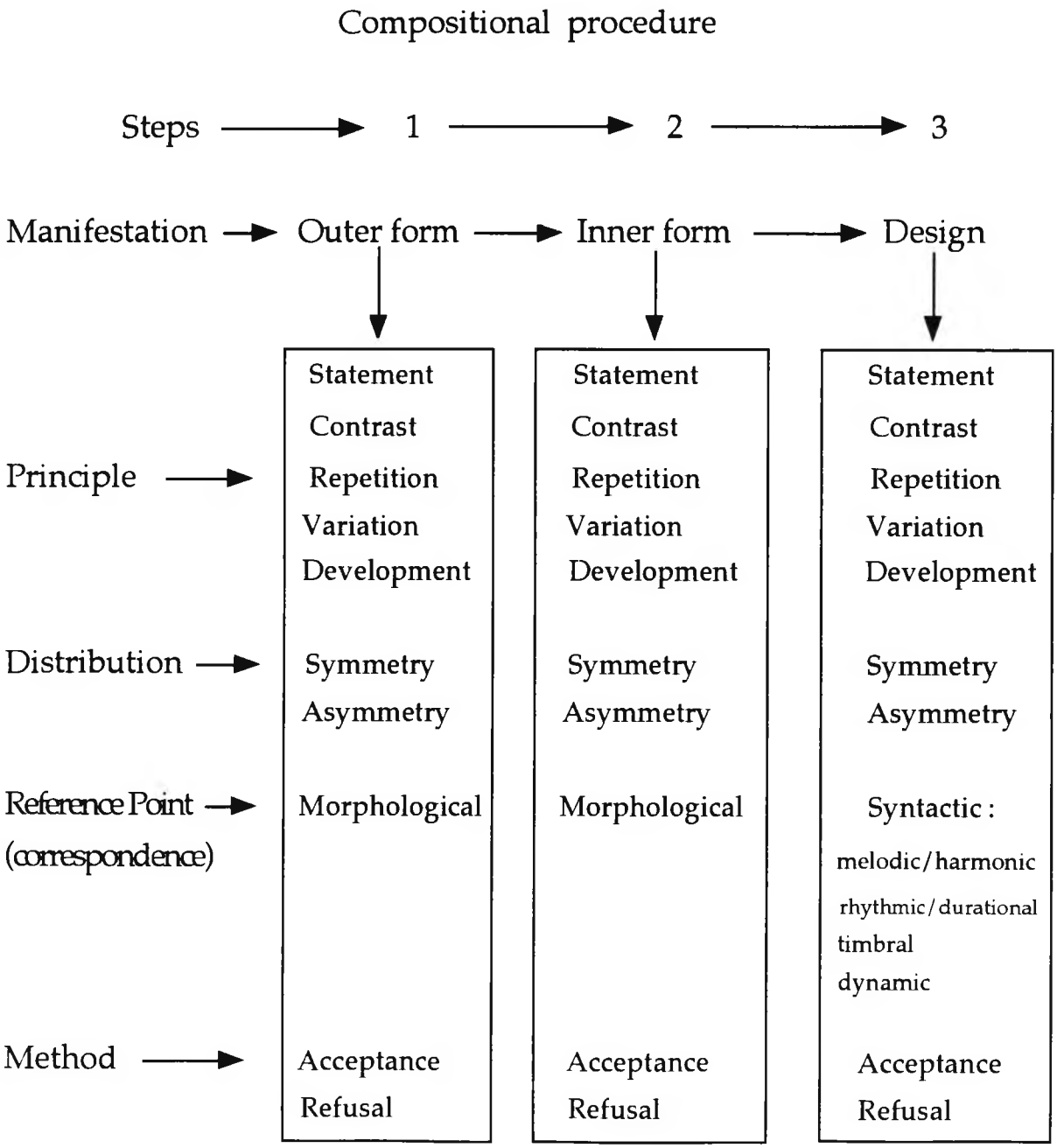


Fig. 5.2: Chart delineated by the three manifestations of form

5.4 Renge - Kyo

5.4.1 Background and concept

The establishment of a theory does not necessarily imply an immediately successful result. Very often a satisfactory outcome is but the final stage of several more or less successful attempts and experiments. I was aware that having designated the systematic procedure illustrated in the previous chapters, I was only on the threshold of a compositional method whose results might have been quite different from that which I would have originally expected. I took for granted that experimentation was to be the major key to a satisfactory result and that consequently the first composition produced according to this methodology might well have to be written twice, as proved to be the case. The experience gained with previous electro-acoustic works such as *Reflections* made me increasingly aware of the importance of the interaction between acoustic and electro-acoustic sources, and this seemed to me an important issue that needed exploring and integrating within the newly established compositional procedure. I also felt that stylistically, in *Renge-Kyo* , I wanted to have an improvisatory character in the piano part built on a simple horizontal melodic layer. Furthermore, given the experience with *Reflections* , I also became more sensitive to the musical constraints imposed by the use of a tape, particularly with respect to the limitations of metered notation, and I therefore felt impelled to use spatial notation to enable the pianist to find more freedom of action and expression. *Renge - Kyo* is therefore the first composition in which I dealt with the preoccupations stated above.

The concept of this work is the principle of causality. In Mahayana Buddhism *Renge* (lotus flower) symbolizes the ability of self -

purification (the blossoms in the muddy swamps). *Kyo* means *Sutra* (teaching) and sound as a vibration, and it also represents the thread, the continuity of anything. The beautiful lotus blooming in a muddy swamp symbolizes the emergence of one's Buddha nature from everyday problems and desires, but since the lotus puts forth its flower and seedpod at the same time, *Renge* also stands for the simultaneity of cause and effect. According to the orthodox school of Nichiren Daishonin's Buddhism cause and effect is a principle which we take for granted in our lives and whatever we do an expectation of cause leading to effect underlies our actions.

> *"Even if we are not always consciously aware of it, we assume that every effect has been produced by a cause and, as often as not, work back from effect to cause before repeating the cause in the expectation of producing a similar effect. This relationship of cause and effect is the basis of the scientific method that now lies at the heart of our society and is so obvious that we probably do not give it very much thought"* (Causton, 1988: 165-166).

5.4.2 The first version: a critical view

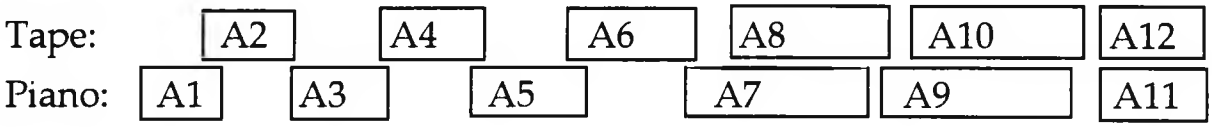
In the first version of *Renge-Kyo* [19], I symbolised the principle of cause and effect with the piano, the cause, and the tape part, the effect. The main concept was delineated by a continuous textural crescendo throughout the piece, whilst the form was based on the principle of superimposition of two separate layers, and it reflected the gradual crescendo of actions and interactions between the two parallel instrumental lines of the piano and the electronics. Thus, the initially strong dichotomy would gradually decrease as the two instruments became more and more unified and, towards the end of the piece, totally fused together. The outer form consisted of one single section which was the result of only one chosen principle

[19] whose first performance took place at Lucerne in January 1994.

(statement) and the inclusion of both acceptance and refusal as methodological procedures. The establishment of the inner form was based on the selection of the following parameters:

Principle: statement, variation and development
Distribution: asymmetry / symmetry
Method: acceptance / refusal

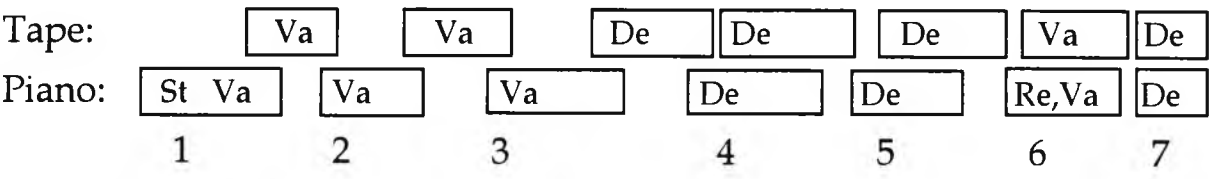
The resulting form took this shape:



The design relied upon the following selected parameters:[20]

Principle: statement, contrast, repetition, variation, development
Distribution: asymmetry
Reference points: melodic/harmonic, rhythmic/durational, timbral, dynamic.
Method: acceptance.

Therefore:



An additional section (No.6) not belonging to the pre-planned scheme was inserted between the two final sections (No. 5 & 7)

[20] In order to emphasize the original idea of a gradual intensification of musical actions (the effect) I enhanced the number of variations and developments and reduced repetition to a minimum. Therefore in the following layout of the planned design there appear 1 statement, 1 repetition, 7 variations and 7 developments.

since I felt impelled to create a poetical moment of static character to break the prevalent chain of developments from section 4 onwards.

In order to keep a conceptual and methodological unity in as many aspects of the composition as possible, I decided that instead of creating a theme according to my own musical inclinations, I would prefer a theme which was the result of a one-to-one procedure directly applied to the very names *Renge* and *Kyo*. In order to do so, I had to invent a comprehensive system of bilateral equivalence between the letters of the alphabet and the notes within an octave.[21] To each letter of the alphabet I assigned a corresponding note including its quarter-tones subdivision in order to cover the entire set of signs (see Appendix VII). The two words *Renge* and *Kyo* produced the following notes in tempered adjustment:

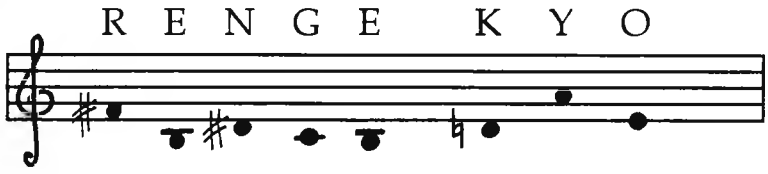


Fig. 5.3: *Renge-Kyo:* thematic material

The resulting duration of the piece was 13'25". The live-electronics consisted of 15 programmes on the LXP-15[22] to be activated by the pianist through two external pedals during the performance, the idea being to give the pianist direct control over the entire sphere of the live performance. This proved to be an extremely demanding task for the pianist who had to keep under control

[21] I had already used similar techniques in some of my works of the late 1980's when much of my compositional thinking was influenced by some of John Cage's procedural techniques of the 1940's, as for instance in *Two Piano Pieces (1946).*

[22] Lexicon effect processor.

altogether five different pedals during the performance while playing the piano. Apart from this technical- pianistic problem, I was not satisfied by the actual musical results of the composition for the following reasons:

1. The duration of the work was too long and I felt that this was seriously damaging the effectiveness and the intensity of the intended musical discourse.

2. The idea of a bidimensional form, i.e. the two parallel layers represented by the piano and the tape, I believe, had not produced an interesting musical result because the interaction of the two discourses was too conceptual to create a dynamic instrumental interplay, and therefore the definition of the two roles seemed to be too strict to generate an attractive musical intertexture (the piano was constantly 'causing' an electronic effect throughout the work). The music sounded to me too stagnant and obvious to keep alive its imaginary vitality.

3. The gradual increase of musical gestures in the composition had produced a far too busy tape part. The superimposition of tape and piano was therefore creating an exuberant, over- prolific and ultimately unclear 'texture' of doubtful musical qualities.

5.4.3 The second version: inner form

Apart from the questionable addition of the external pedals to the pianist, the other problems discussed in chapter 5.4.2 were all relating to formal aspects of composition. The new compositional strategies would have dealt with the problems by :

1) reducing the total duration of the work in order to obtain a more self - contained and incisive musical discourse.

2) reshuffling the arrangement of the inner form in order to create a more varied sectional structure, thus eliminating the textural crescendo of the work and the two parallel layers of piano and tape.

3) rearranging the overall design of the composition in order to obtain a more diverse and texturally less obvious interaction of cause and effect, particularly within the same piano texture, but also within the live-electronics, between the piano and the live-electronics, and still between the piano and the tape.

4) reshaping the end of the composition and avoiding any over-prolific writing during the piano cadenza by significantly reducing the tape part.

To fulfil the new requirements I decided to completely rewrite the piano part, the live electronics and the tape still using the same original material of the first version. Having left the outer form as it was in the first version, that is to say one single section, I began to 'squeeze' the 12 sections of the inner form, including the additional section no. 6 of the design, by superimposition. I then established a new order of sectional and textural actions (inner form and design), started to merge the old sections and cut what I considered the unnecessary material.

A1: a new section renamed A1 comprises the former piano sections nos. 4 and 5 , now merged in one region. Since both old

sections contained development, the new piano part now begins immediately with the development (the effect) of an unheard statement, rather than with the more obvious initial statement of the theme (the cause). By accepting this new state of affairs I became aware that I was implicitly abandoning the strict and inflexible succession of cause and effect which I had applied throughout the first version. This appealed to me particularly for the diversity of gestures that it would have caused in the texture of the composition. I then merged the former tape sections 2 and 4, reduced their original durations to 30", and located the new part at the opening of the composition. This represents a new initial variation of the yet unheard theme. The duration of this section is 2'15".

A2 : for the new second section I used the former section no. 6 including both the piano and the tape, with the addition of a short rewritten idea from the former tape section no. 7 considered as a variation rather than development. I fused the former regions 1 and 2 of the piano leaving the original idea of the interplay between piano and tape intact. The statement appears in the piano part after 2'15", yet processed through the live-electronics. I kept the rest of the section as a variation. Having decided to reduce the tape part, I increased the live-electronics applied on the piano, in order to render a varying interaction between short phrases quoted by the instrument (the cause) and their constantly changing electronic effects. The duration of this section is 3'55".

A3: still kept as the final development including the piano cadenza, I merged the piano material of the old sections 3, 4, 7 and assigned it to the new piano part. Likewise, I merged the tape

material of the old sections 4 and 7, but drastically reduced it in order to gain more clarity in the general texture and, for the piano, to take on the predominant role. The sparse tape part is therefore intended to support the piano rather than match it. The duration of this section is 2'35". [23] Thus summarised :

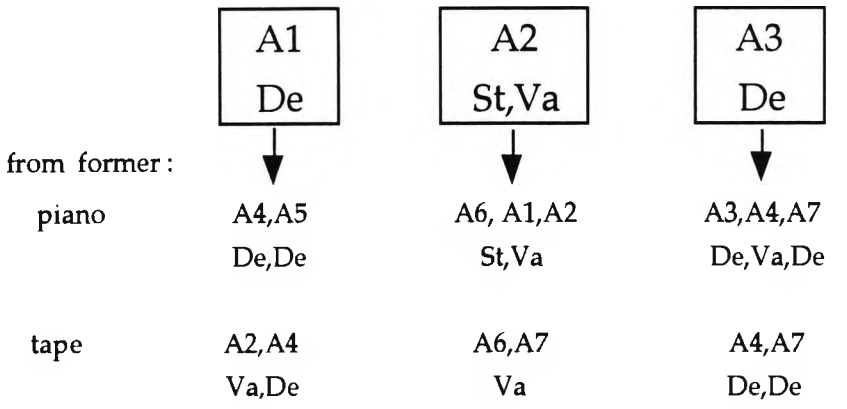


Fig. 5.4: *Renge-Kyo:* new inner form

5.4.4 Design: the piano part

The elements of the new textural design remain as in the first version :

Principle: statement, contrast, repetition, variation, development

Distribution: asymmetry

Reference points: melodic/harmonic, rhythmic/durational, timbral, dynamic.

A1 (0'00"- 2'15"): this section consists of 13 blocks of notes, each one being a development of various durations of the theme stated later in A2, at approximately 2'17".

[23] The total duration of the new version is 9 minutes.

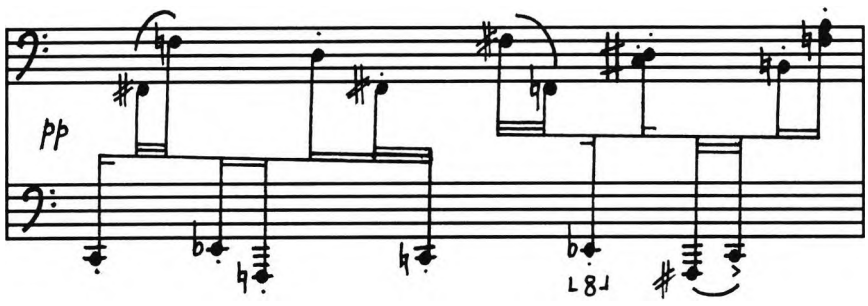


Fig. 5.5: *Renge-Kyo:* first block of development

The predominant principle is development, whilst repetitions of smaller groups of notes are used as incentives for different resolutions of new phrases. The subdivision into two creates an asymmetric distribution of 7 and 6 groups. Each of the first 7 groups has to be played within approximately 4" and is an original development of the theme. Blocks 8 to 13 are built on the material exposed in the first 7 groups by (i) repetition (first half of 10), (ii) extended repetition with little added material (variation) at the end (8, 9), (iii) by a new development with or without 'passing' references (notes) to the previous material (second half of 10, and 11, 12, 13). The reference points in this section are melodic, durational and dynamic.

A2 (2'15"- 6'25"): the statement of the theme is succeeded by 23 short phrases .

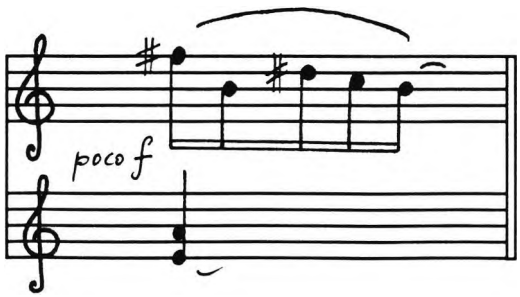


Fig. 5.6: *Renge-Kyo:* statement

The first phrase, after 2'30", is a melodic contrast to the theme. I wanted to have a contrasting phrase to the theme for two reasons:

1) in order to expand the melodic spectrum of the theme by adding four new notes to the material which I intended to vary.
2) in order to gain a larger sense of space built on wide intervals (the ninths) in opposition to the rather narrow range of the theme. The 22 following phrases are but short variations of different duration which reflect the fused character of both the theme and its 'contrast-phrase', whose textural input can be clearly noticed in the frequent use of wide intervals, particularly sevenths and ninths.

A3 (6'25"-9'00"): the distribution of the final section is asymmetrically shared into three parts. The first one, from 6'25" to 7'20", is a new development with repetitions as melodic reference points; the second one, from 7'24" to 8'00", is a two-phrase calm thematic variation intending to contrast the previous and the preceding areas and to create a morphological reference point with the character of former section A2; the third part, from 8'00" to 9'00", is a compressed version of the first minute of A1 at a faster tempo (repetition) leading towards the final development (the piano cadenza).

5.4.5 The electronics

When I conceived *Renge-Kyo* I wanted to convey two major interrelated ideas, one conceptual and the other instrumental, which I could more clearly see as strongly complementary in the new context. The conceptual source of the composition was to be the principle of causality which I have discussed in chapter 5.4.1. The

instrumental idea involved timbral transformations of the piano sound and was rooted in my predilection for the traditional instrumental music of Japan, particularly the sound of the koto, and much of John Cage's music of the 1940's, particularly the sonorities explored by the use of the prepared piano. I intended to convey this musical character in two different ways:

1) pianistically, by creating short phrases followed by a long resonance throughout the entire section A2.
2) timbrically, by using electronic forces as a timbral variation on the material of the piano.[24] Occasionally, I wanted the electronic variation to anticipate its originating pianistic gesture (its cause), as for instance in the opening 30" of the composition where the initial gesture of the tape derives from the theme stated much later at about 2'17".

The parameters of each distinct patch used in the live-electronics have been carefully prepared during many hours of experimentation spent in my own electronic studio. I soon found out that I was dealing with 5 major regions: Delay, Reverb, Pitch shift, Ring modulator, and Phaser. The combination, and often the fusion, of these effects provided me with the necessary material I needed in order to explore the sonorities I had in my mind. I proceeded by assigning the main function of the delay and reverb effects to the LXP-15 for its well-known Lexicon sound quality in these areas, whilst the pitch shift, the ring modulator and the phaser were clearly the strongest assets of the SE-70.[25] In the first and third section of the composition, the piano part was written before I started to work with the electronics. While I was applying the live electronics to the piano, however, I became aware that this method,

[24] Processing the sound of the piano in real time and by adding a tape part with few pre-recorded synthetic sounds produced on a Yamaha SY-77 synthesizer.

[25] The Boss effect processor.

which I thought was working well in this particular circumstance (the piano part was clearly dominating the musical discourse), would have been inappropriate for the second section, mainly for two reasons: (i) the very different nature of the piano texture, (ii) the different response of the sound processors to the different octaves of the piano, i.e. pitch, which I had noticed during my previous work on the first version. I therefore decided to change strategy for the middle section by rewriting the piano part and the live-electronics. By so doing, I would exploit a stronger interaction between each single note of the piano and its effect, and assured a full integration of the two sonic sources. I also became interested in the idea of causing different sonic stimuli by continuously changing effects and by superimposing them in a way that they would clearly contrast with the short and static phrases of the piano.

The tape part was produced in my studio : I worked with sounds generated synthetically from the SY-77, edited according to my sonic requirements and finally processed by the two sound processors. For the reasons discussed in 5.4.3, I felt impelled to dramatically reduce the tape part after having heard the results of the first version. Each event had to be designed only to fit into the timbral and textural domain dominated by the piano; the function of the tape would have therefore been one of a more responsive reaction to the instrument. I used 7 synthetic sounds and edited them through the six operators in the synthesizer. I then mixed those patches with the following samples of digitally recorded instruments: piano, voice, trumpet, bells, koto, drum set, and established 13 different patches, each with different sonic attributes. Thereafter, I assigned each patch to 13 tracks of the internal

sequencer of the synthesizer in order to superimpose them according to the timbral properties I wanted to create throughout the composition, and finally processed them through the two effect processors.

5.4.6 Final considerations

In *Renge - Kyo* my aim was to compose a musical work where a comprehensive formal procedure would have served the musical discourse by facilitating sectional, intersectional and textural interrelationships. As I said at the beginning of this chapter (5.4.1) I was aware that experimentation was the only way to reach a satisfactory result. In the case of *Renge-Kyo*, it seems to me that the morphological procedure suggested in 5.3 proved to be effective enough to supply a clear control of formal relationships during the process of composition.

If, on the one hand this work has not produced a flamboyant example of superimposed form, due, I think, to a deliberately diluted interrelation of 'textural' projections between the piano and the electronics, on the other hand the procedural scheme has provided a significant example of flexibility and adaptability to different compositional needs. As a composer, it seems to me that a way to convey a coherent musical discourse is to supply the listener with a comprehensible musical landscape, without compromising the composer's own stylistic and aesthetic dialectics. Finally, I consider *Renge - Kyo* an illustration of causality as an interrelation of musical events on three different, yet integrated domains: the piano, the live-electronics and the tape.

6. Extension

6.1 A sense of Time.

"... if nothing passes away, there is no past time, and if nothing arrives, there is no future time, and if nothing existed there would be no present time. Take the two tenses, past and future. How can they 'be' when the past is not now present and the future is not yet present? Yet if the present were always present, it would not pass into the past: it would not be time but eternity."
(Augustine, Confessions)

A philosophical debate about the existence, or non-existence of time is beyond the scope of this dissertation. Nevertheless, I feel compelled to explain those considerations which, at a certain stage of my composing, have led to the inclusion of a more conscious handling of time as an important component in my compositional procedures and consequently affected the composition of *Beyond The Bridge*. During the composition of *Omen* and *Eternity* , I noticed that despite the diversity of the rhythmic configurations that I was using, an almost implacably persistent flowing of time was constantly dominating the discourse. It then occurred to me that I was experiencing time both as an imaginary continuum and as a measurable transience. I also observed that no matter how exact my notion of chronometric time was, the main factor upon which my own sensation depended was motion. If the present was only a static present and would not move into the past, there would no longer be time, but complete stasis as a negation of time (Augustine's eternity). The determining cause of time, I noticed, was the very moment in which the present became past, for example the passage from the beginning to the end of a musical action, or the passage from the end of a phrase to the beginning of a new phrase. Robin Maconie describes music as *'an experience of transience'* (Maconie, 1990:66) and specifies that a strategy indicating a sense of time is produced by an action which causes a dying or recurring sound. He also writes that the decay

of sound is *'a measure of the influence of time '* and that *'the renewal of sound is a token of the persistence of life and measure of the passage of time'* (Maconie,1990:66). A present that was constantly becoming the past was giving me the sensation of time; however, what I was actually hearing was not the past, but a continuous present.[26] Neither the past, nor the future *were* since the past was a reminiscence of the previous present (activated by memory) which I no longer heard (thus did physically not exist) whilst the future was but an imaginary projection of the mind towards a moment that had yet to come, and that I could only suppose, but not hear (on the other hand the expectation of a future event was strictly moulded to the nature of the sonic information received).

The experience of my own perception of *Omen* and *Eternity* indicated an evident affinity with some of the issues discussed by Karl-Josef Mueller in his well known analysis of Bernd Alois Zimmermann's *Photoptosis* (Mueller,1974: 322-323). In relation to the perception of time, Mueller refers to Edmund Husserl:

> *"when we hear a melody, that is because we perceive it as such, for hearing is perceiving. While the first note resounds, the second note follows, then the third and so forth. Would we not say that as we hear the second note sounding we don't hear the first note anymore, and so on ? In reality, I do not hear the melody, but only the single current tone"* (Husserl, 1928: 385).

I was particularly interested in Husserl's description of the *now* (the current event) as a process of appearance and transformation (Mueller,1974: 323): *"As a new Now always appears, it transforms itself*

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26 As Augustine puts it: *"What is now evident and clear is that neither future nor past exists, and it is inexact language to speak of three times - past, present, future. Perhaps it would be exact to say: there are three times, a present of things past, a present of things present, a present of things to come."*

into a past, whilst at the same time the continuity of the past's course of the preceding points [the preceding 'nows'] *shifts constantly down into the depth of the past"* (Husserl,1928: 389). The continuous transformation of the present into the past I saw as a reversible element (the conversion of the past into the present) that I could exploit in my work by deliberately recalling single events or even larger sections at some points in the composition.

The reminiscence of time past in music (the already heard) is often related to a present element which evokes it, thus implying a relation with a present, recalling action. At the same time the present event may be experienced as the realization of a past prediction of the future, that is to say, the present may be experienced as the future of the past, and also as the past of a future action. Since the musical experience is essentially temporal, the faculty of memory occupies the central role in the process of recognising structural interrelationships in the musical work. By connecting each single event one to another, memory facilitates the reconstruction of sonic references in the composition. I therefore regarded it as the major link between the recognition of time and the interrelation of textural correspondences. As the reconstruction of temporal references takes place during the execution of a musical work, I considered the three tenses as compositional correspondences [27] and assigned to them a parametrical function in composition equal to any other more traditional component, such as pitch, duration, etc. I also distinguished two kinds of time:

1) absolute; the chronological time, still as a physical perception
2) relative; the individual's own perception or sense of time, depending on internal psychological and emotional factors of the individual, and/or on external stimuli (musical effects)

[27] The *reference points* mentioned in chapter 5.

caused by the generative source (the composition).

The conscious identification of time (particularly of relative time) during the process of composing *Beyond The Bridge* and during the revision of *You* was a highly interesting experience which provided me with a much more critical approach to the distribution of sound in those two works.

Finally, since the perception of a composition is but a highly subjective matter linked to the individual's own cultural, spiritual and technical background, the above considerations solely reflect my own 'conditions' and experience with regard to my musical exigencies. The following distinctions are therefore based on my sensorial, i.e. physical perceptions. I established them in order to enhance my own temporal awareness during the process of composition and treat them as textural constituents, with the intention to create a more effective net of references in the texture:

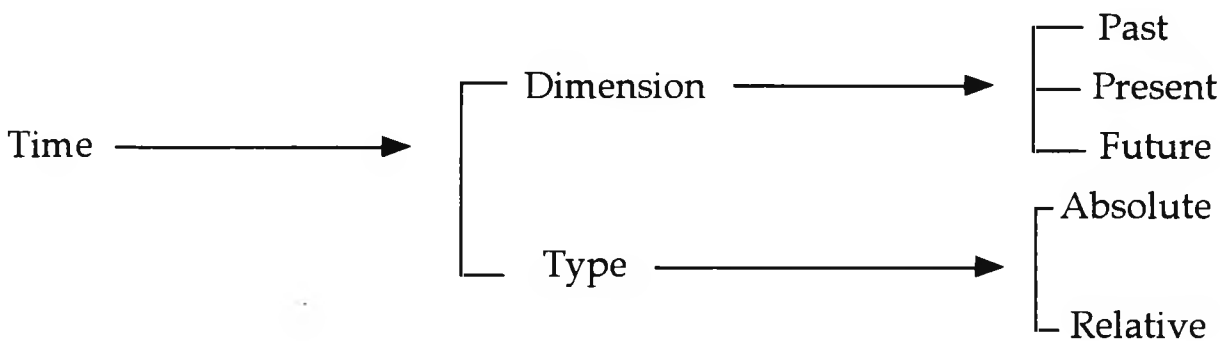


Fig. 6.1: Distinctions of time

6.2 A sense of space

One of the features described in chapter 3 was the utilisation of

spatial elements in my compositions. I also considered form as an arrangement of spatial configurations, proportions and expansion of musical objects in space. As Gyorgy Ligeti states,

> *"when listening to music, where the sonic process is primarily temporal, imaginary spatial relations come into being at different levels; above all at the associative level, where the pitch alteration evokes a vertical dimension of space, whilst the persistency of the same note evokes the horizontal spatial dimension. The alteration of dynamics and timbre, such as differences between open and muted sounds, produces an illusion of proximity and distance, and in general of spatial depth. Musical shapes and events are then imagined as if they would take place in an imaginary space, feigned by themselves"* (Ligeti,1966: 291).

In *Omen* I had tried to depict imaginary spatial relationships mainly through dynamics' nuances and the continuous recurrence of 'harmonic spaces'. Similarly to Ligeti's description, in this composition my abstraction of the pitch-space association was not due to the pitch as such, but to the harmonic relationships among the pitches simulating the space.

Apart from the timbral and harmonic sense of space explored in *Omen* , in chapter 4 I described the increasing awareness of the other, perhaps more obvious, spatial elements and their application in some of my works. Eventually, I felt the necessity to consider the spatial element in general as a component of no less importance than the other parameters and to include it within the systematic organization of compositional components which I have displayed in chapter 5. Particularly, I wished to insert (i) a *textural* space, i.e. a space suggested either by pitch (the vertical distance between two or more sound events, both in a single instrument or in a group of instruments), or by a horizontal, thus temporal,

distance between two or more notes, chords or sonic events; (ii) a *locational* space, that is to say, 'geographical' arrangements of instruments in space, spatial distribution of sound in the hall, but also *locational* at a textural level, in relation to entire sections of the musical work and their horizontal/vertical distribution within the composition.

6.3 Extended procedure

The additions of temporal and spatial constituents in a systematic formulation of compositional strategies enhanced my awareness and control of form. It also seemed to me that the inclusion of musical manifestations of time and space significantly increased the interrelations among the single components of the composition. The most evident link was between *reference points* and *time* . Each recollection of time past caused by a present similar or repeated event suggested a morphological correspondence in time.[28] I defined any temporal decision made for the *outer* and *inner form* as a morphological *reference point* , whilst I considered those temporal decisions relating to *design* as syntactic *reference points* (see Fig. 6.2).

6.4 Beyond the Bridge

6.4.1 The concept

After the inclusion of space and time in my procedure, I was interested in composing a music which would exploit three main interrelated features: (i) a construction of superimposed and multi-dimensional form that would emphasize (ii) three independent

[28] Namely, a temporal *reference point* .

spatial layers and (iii) a recurrence of events (similar or repeated) distributed throughout the composition. I therefore used the following extended procedural framework:

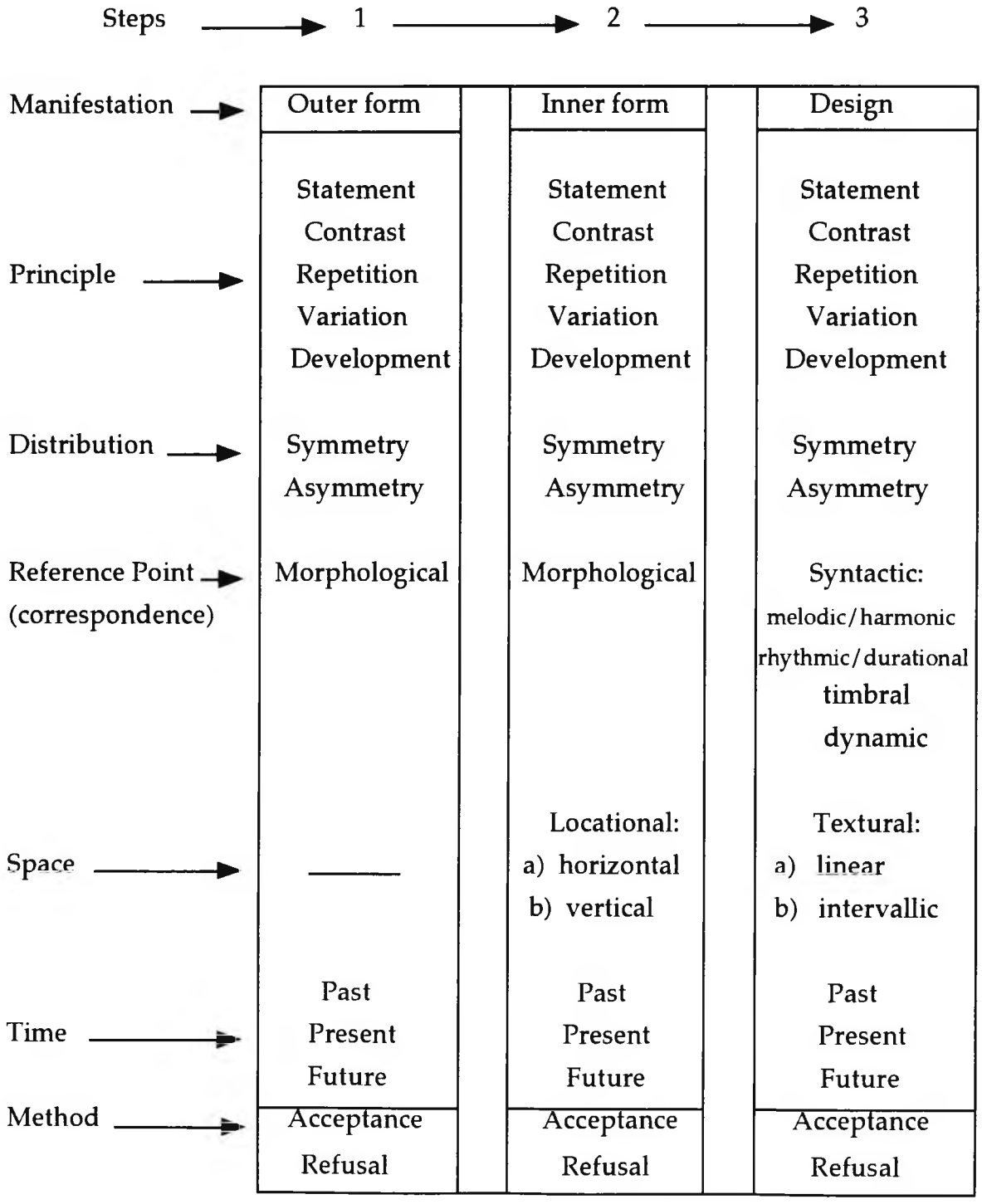


Fig. 6.2: *Beyond The Bridge:* extended compositional procedure.

I wished to illustrate a journey[29] in which an initial imaginary place seemingly almost impossible to reach, became possible through a symbolic route undertaken by the cello and projected on two different spatial dimensions (the two tapes). I associated the imaginary place with the note D, three octaves above middle C, to be played beyond the bridge of the cello, in order to instrumentally and visually stress the *almost impossible*, and yet possible, objective.

6.4.2 The musical material

In order to *'create an entire universe out of a single note '* (J.M. Hauer), I considered the note D as the generating formula of the entire piece. I therefore displayed its harmonic series corrected to the nearest tempered pitch from 1 to 16 in order to gain the material for the development.

Fig. 6.3: *Beyond The Bridge:* approximate harmonic series from 1 to 16 on D

I then improvised on the series until I chose the following succession of notes:

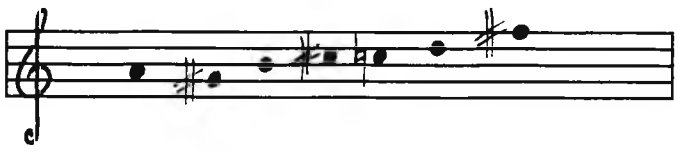


Fig.6.4: *Beyond The Bridge:* selected succession of notes

[29] A journey that had begun far away (on tape 2), gradually come nearer, and finally returned to its initial place.

6.4.3 Outer Form

The first decision regarding the general form of the piece was to define a large triadic structure to be shared among the three sources and to appear in superimposed combinations of three independent spatial layers. In order to fulfil this task I worked with two principles, *statement* and *contrast*, and distributed them according to both symmetric and asymmetric assignments:

Statement = the generating note D assigned to section A.

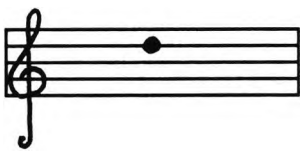


Fig. 6.5: *Beyond The Bridge:* generating material of section A

Contrast = I opposed the static character of A with two rhythmic themes; one purely rhythmic and emphasized by the pizzicato playing of the cello, assigned to section B,

Fig. 6.6: *Beyond The Bridge:* generating material of section B

the other rhythmic and melodic, emphasized by the arco playing of the cello and assigned to section C.

Fig. 6.7: *Beyond The Bridge:* generating material of section C

The two rhythmic themes, as a contrast to A, were the result of an asymmetric numerical distribution that I wanted to create in the initial layout of the outer form (2:1), whilst I considered as symmetric (1:1:1) their proportional and sectional importance. The resulting outer form was therefore a ternary configuration (sections A,B,C) reflecting not only three different themes, but also three dissimilar musical characters.

Outer form - *Distribution:*
Asymmetry; applied to numerical proportions
Symmetry; applied to proportional thematic importance

Fig. 6.8: *Beyond The Bridge:* selected *distribution* in outer form

6.4.4 Inner form

I chose an asymmetric distribution of superimposed sections as morphological correspondences related to the three sections A ,B and C, arranged them in order to create sectional correspondences (temporal links) and spatially distributed them among the live cello, tape 1 and tape 2.

Distribution = asymmetry
Reference points = morphological (and spatial)
Space = locational, 3-dimensional: live cello, tape 1 (near), tape 2 (distant).
Time = past, present, future

Fig. 6.9: *Beyond The Bridge:* selected parameters in inner form

6.4.5 Design

The parameters used within each section (design) were the result of the following pre-determined plan of action:

Principle = statement, contrast, repetition, variation, development.
Distribution = symmetry, asymmetry.
Reference point = syntactic: melodic/harmonic, rhythmic/durational, timbral, dynamic.
space = locational, textural.
time = past, present, future (I considered every syntactic and sectional recurrence as a manifestation of the three tenses).

Fig. 6.10: *Beyond The Bridge:* selected parameters in design

I shall now proceed by demonstrating with a few examples how I unfolded the selected principles :
Ex.1: in the first section (A) the 30 seconds long statement (A1) on tape 2 (the note D) is followed by an instrumental timbral variation of the cello (A 2) and an electronic timbral variation on tape 1 (A 3), whilst it is developed by the cello with material taken from the

harmonic series of the note D (A 4). In section A 4 I applied the parameter of *textural space* thus creating wide intervallic distances in the cello part from 1'20" to 2'20". The notes are played at irregular pace and are sustained by reverberation.[30] Thus summarised:

Statement = A 1
Variation = A 2 and A 3
Development = A 4

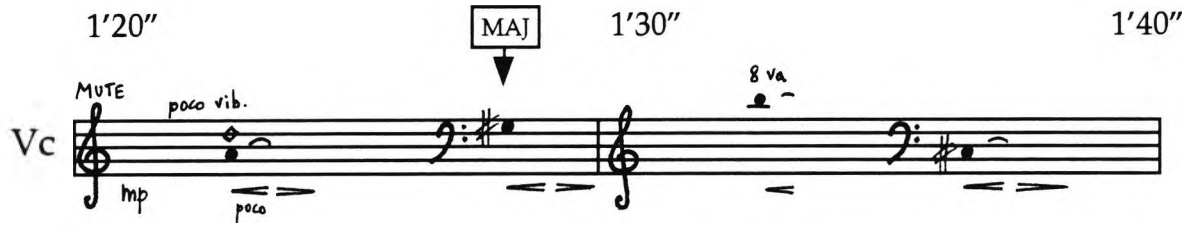


Fig. 6.11: *Beyond The Bridge:* A 4, development with textural space from 1'20" to 1'40"

Eventually, the initial material was freely expanded to the entire chromatic range of the octave.

Ex. 2, section B: As I mentioned earlier, the second theme (the rhythmic object ⊓⊓) never appears but immediately functions as the inspirational source for the pizzicato rhythmic and melodic development, and for the sparse electronic gestures enriching the sonic vocabulary, on tape 1 from 1'50" to 3'30" (B 1). Thus:

Statement = not appearing
Development = B1, B2 & B3

[30] I have occasionally 'expanded' the notes with chords produced by the VHM-5 effect processor.

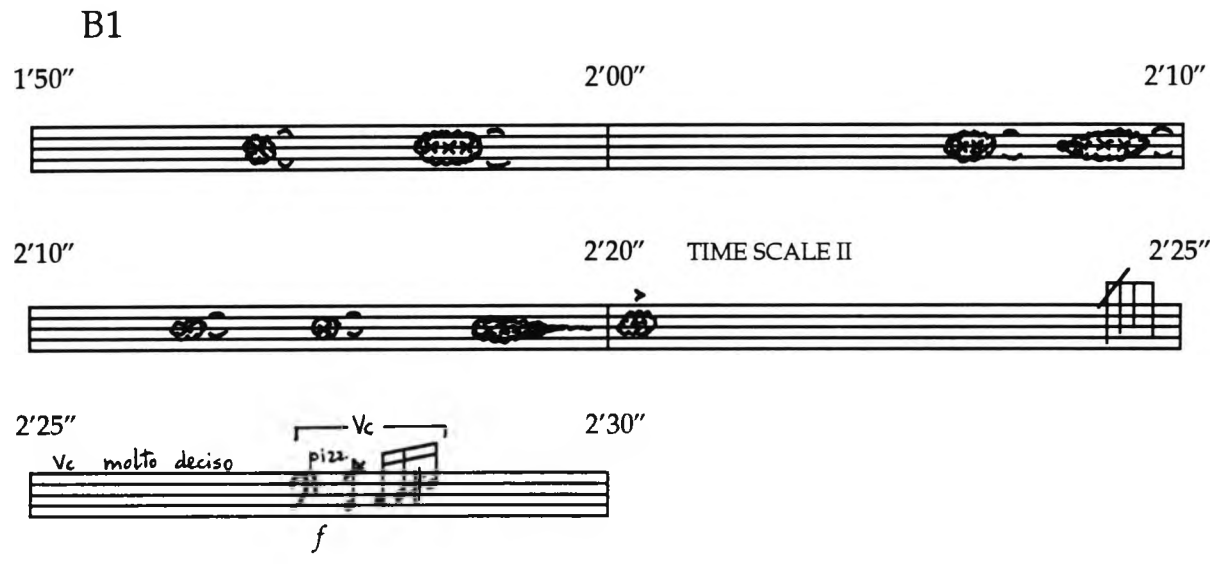


Fig. 6.12: *Beyond The Bridge:* beginning of B 1 from 1'50" to 2'30"

The short development (B 2) in the cello part, from 2'20" to 2'40", is intended to strengthen, with a live-gesture, the pizzicato development carried through tape 1, shortly before the beginning of the third theme at 2'40". I conceived this supporting gesture as a rhythmic and melodic *reference point* linking B2 to B1.

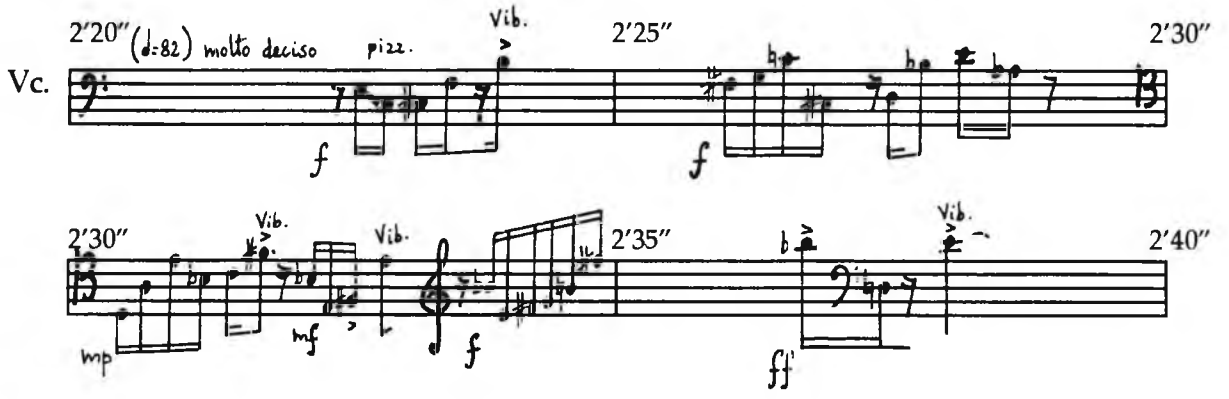


Fig. 6.13: *Beyond The Bridge:* B 2

From 3'55" to 6'35" the live cello, after having exposed and developed the third theme from 2'40" to 3'40" (C 1), continues with a longer gesture the development of B , alternating from 4'55" onwards

both pizzicato and arco techniques (B3). As I did in B3, I constructed this section on rhythmic and melodic *reference points* to B 1.

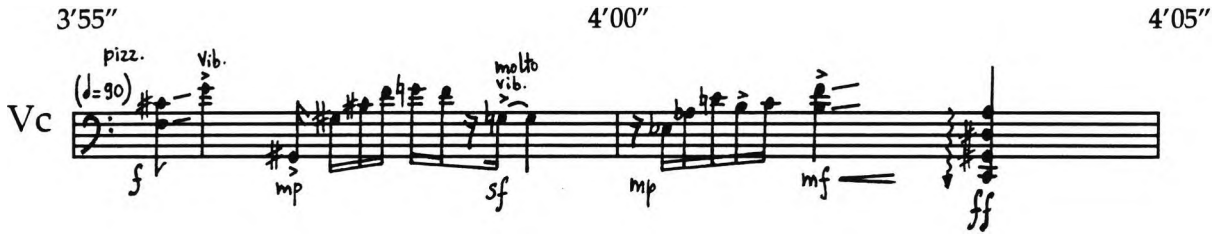


Fig. 6.14: *Beyond The Bridge:* beginning of B 3, from 3'55" to 4'05"

Ex. 3 (section C) Statement & Development = C 1
Development & Contrast = C 2
Variation & Contrast = C 5

The third theme is stated by the cello at 2'40" and it is immediately developed, from 2'40" to 3'40", by keeping and extending the wide intervallic range as *textural space* (C 1):

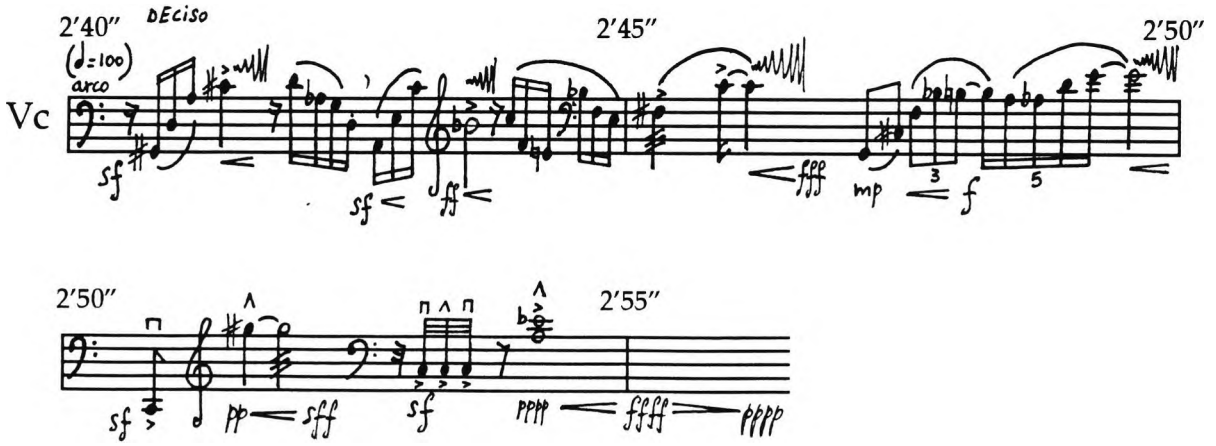


Fig. 6.15: *Beyond The Bridge:* C 1, from 2'40" to 2'55"

Section C 2 , on tape 1 and from 3'45" to 6'00", includes both Contrast and Development. The vigorous and decisive character of the third theme, developed in this section with the initial elan, is contrasted by :

(i) the harmonic block emerging at 3'45",

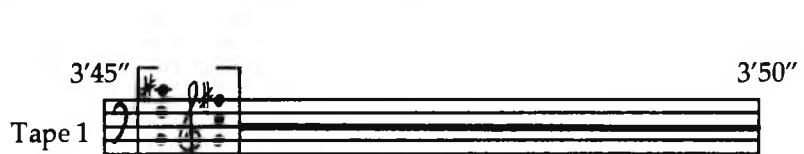


Fig. 6.16: *Beyond The Bridge:* C 2, contrasting material at 3'45"

(ii) the reproposed static quality of the background melody of the opening A 1 section, at 4'20",[31]

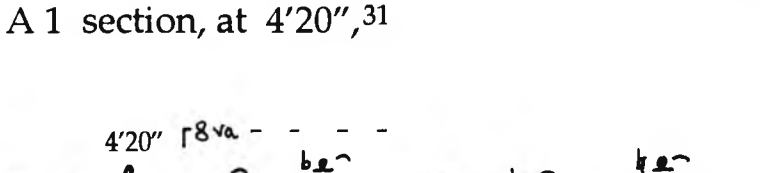


Fig. 6.17: *Beyond The Bridge:* C 2, contrasting material at 4'20"

(iii) the percussive sonic event at 5'24",

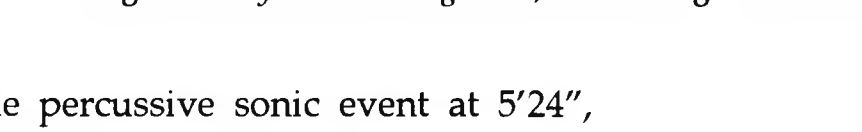


Fig. 6.18: *Beyond The Bridge:* C 2, contrasting material at 5'24"

Variation and Contrast are the two principles I selected for section C 5, from 9'30" to 10'20". I chose a single note as an effective contrast to the emphatic third theme. The selected note D would function

[31] Contrasting at every parametric level, except *textural space*, since it contains a wide intervallic range.

as a departure point for a series of variations of contrasting character to the theme. Since I wanted to establish a temporal *reference point* with a former section (as the *past*), I reproduced a part of the texture used in C 3, namely from 7'50" to 8'15" with a few changes.

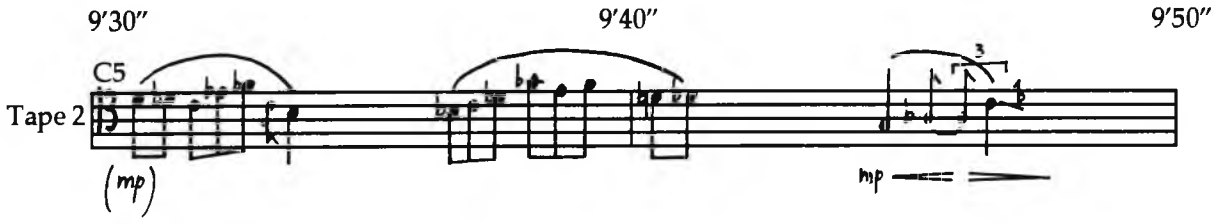


Fig. 6.19: *Beyond The Bridge:* C 5, contrasting material from 9'30" to 9'50"

This is, in short, the procedure I have used for the construction of the entire work. The complete chart with the application of the extended compositional procedures in *Beyond The Bridge* is displayed as Fig. 6.22. Further, two examples of syntactic *reference points* :

1) the rhythmic references at 5'54" and 6'15" (tape 2) and 6'20" (cello)

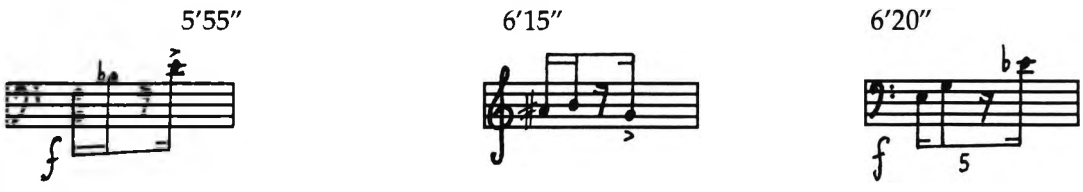


Fig. 6.20: *Beyond The Bridge:* example of rhythmic *reference points*

2) the melodic references at 2'40" (cello), 4'03" (tape 1), 11'00" (cello) and 11'10" (tape 2).

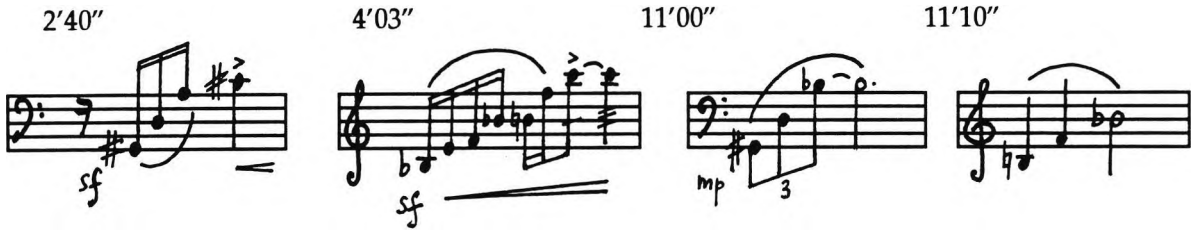


Fig. 6.21: *Beyond The Bridge:* examples of melodic *reference points*

6.4.6 Final considerations

In its technical domain, I consider *Beyond The Bridge* an extension of those morphological preoccupations I had dealt with in *Renge-Kyo*. I tried to produce a musical discourse spread on three distinct layers projected on a tridimensional space. I was curious to see whether I could propose a sense of temporal and spatial association in musical terms by trying to illustrate a recollection of time through a frequent recurrence of intertwined events distributed on three different locations.

The used compositional procedure has shown to be of great value particularly for the systematic organization of the superimposed sections and the control on their morphological interrelationships. It seems to me that the technique's flexibility and adaptability to dissimilar compositional requirements constitute a valid motive for future explorations and applications also on larger instrumental forces such as the orchestra.

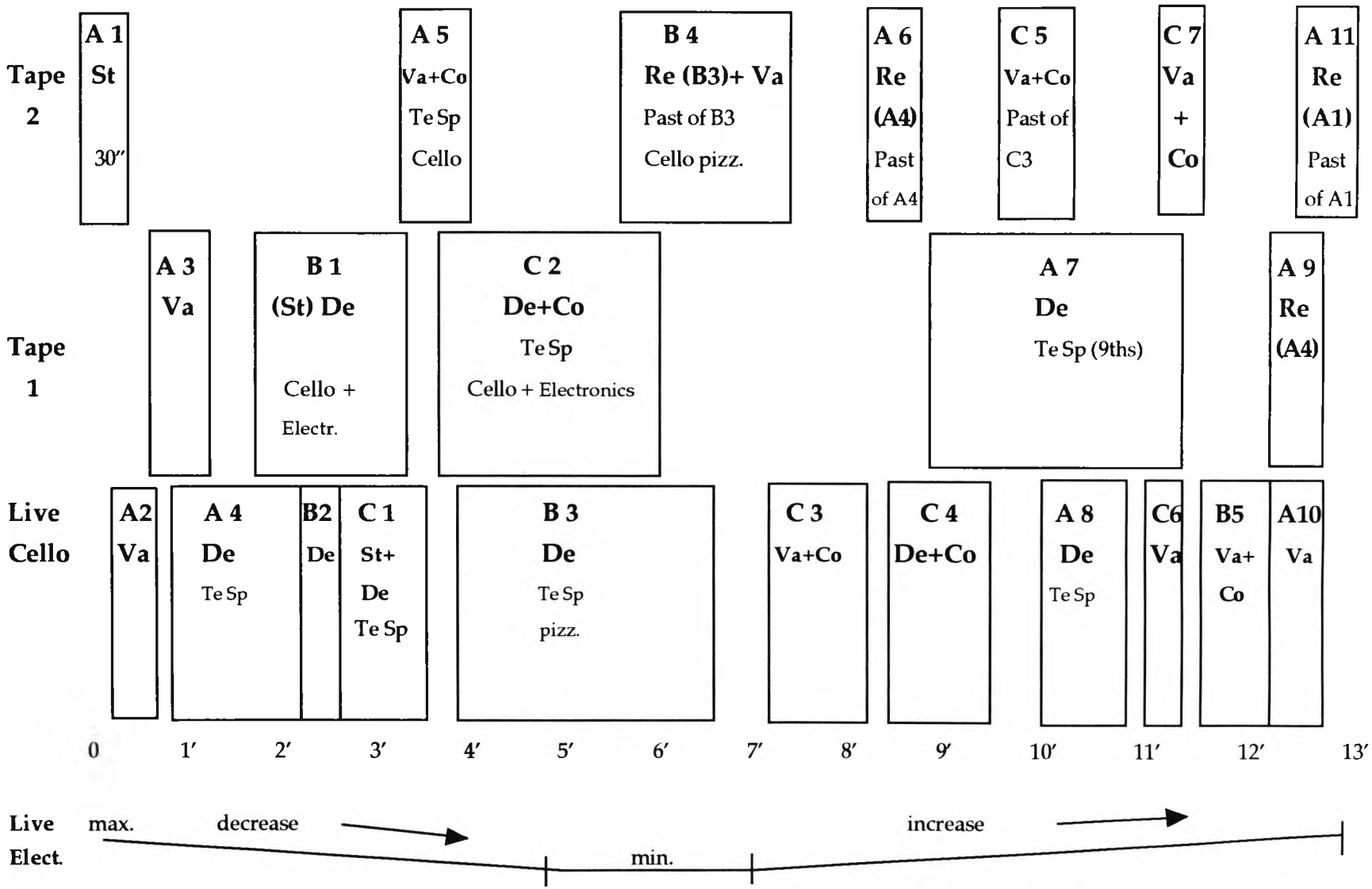


Fig. 6.22: *Beyond The Bridge:* application of extended compositional procedures

7. Epilogue

7.1 A personal view on composition and methodology

Every artistic activity involves a large number of intrinsic skills such as the mental, aesthetic and practical. A composition for me begins with something very vague such as an idea, a sensation or an indefinite musical object. If the initial substance seems to have enough strength to be made into a composition, I decide to materialise it. It can be a conglomeration of a few notes or a shaft of undefinable intuition across my mind. I then experience sensations that sway from side to side, impressions that stay and drag me into a musical image that waits to be unfolded by me. It is a mutual reflection between a sonic proposition and a mental and emotional state generating a story that abounds in prolific associations manifesting themselves in musical images constructed with melodies, rhythms, harmonies and tone-colours. An undefinable motivation sticking out of the unknown sack of the unconscious, whereas the complete winding up of the story is the finished production of the work. Eventually, the primordial, original nucleus achieves form through a system, a web of tactical proportions and correspondences. The sequences of the composition then assume a pattern in accordance with the unfolding configurations, obeying laws born out of my original stimulus and conditioned by the consequently created design.

In the submitted works it is a fact that, to put it in Boulezian words, *"in composing the artist makes use of an ordered complex of morphological and syntactic functions"* (Boulez,1986:56). During the course of this thesis I have attempted to explore the relationships amongst the submitted compositions and the techniques employed,

and tried to expose the foundations of my methodologies from the earliest stage of my composing. The parallelism between the compositions and the methodologies was indeed inevitable; the relevance appears so striking as to be impossible to refute. If sometimes my elucidations have appeared to be too rational to the mind of the reader, I cannot help vehemently advocating the importance of the co-existence of irrational feelings within a rational layout in composition. As far as methodology is concerned, logical principles do not necessarily exclude the intervention of the irrational. Both, the rational and the irrational, are vital components of equal importance and two integral sides of the same event. As Pierre Boulez puts it:

> *"Building the universe within which we are to evolve on logical principles does not in any sense mean restricting the sum total of purely intuitive psychological means at the musician's disposal for ascertaining the efficaciousness of any particular form, for discovering certain means of expression and integrating them in the process of composition because they are genuinely interesting"* (Boulez,1986: 97-98).

I have also tried to focus the discussion on the actual act of unfolding strategies, rather than the aesthetic predicaments which generated the various procedures of composition. This position, I feel, was necessary in order to convey an objective description of the musical works and the technicalities involved; furthermore, I believe that a link between product and intuition is indeed inevitable since the first is but a manifestation of the latter. To put it in Schellingian terms, *" if we know the product of intuition,*[32] *then we know the intuition itself. We therefore need only deduce the product in order to deduce the intuition"* (Schelling, 1964: 362). Such a position may, in our day, certainly appear too categorical and audacious;

[32] Schelling's concept of intuition comprises both the conscious and unconscious activities determining the product of art.

however, I am convinced that apart from the unequivocal diversities intrinsic in the individual's own perception of a composition, there is an objective reality within the music itself that cannot be refuted, and that by *knowing* the product the listener is given the key for the decipherment of the composer's intuition.

A technique as such is neither the scope of a composition nor the determining factor of its artistic qualities. In my experience, formal strategies reflect single choices made out of a myriad of different possibilities and the process of choice itself is at all times linked with the specific and tangible requirements of the musical task undertaken. Yet, I consider the decision making processes employed in composition as self-evident correspondences of an already established *design* at a deeper level of the composer's subconscious, and regard techniques and methodologies as explications of intangible propositions already existing in the mind. In my works, I have tried to express such propositions in a personally satisfying manner and with the intention to fulfil the specific requirements of each different project. Furthermore, I have consciously attempted to define the methodologies in accordance with the requirements of my poietic motives and considered them as manifestations of those a priori directions already present in my artistic intentions. In the same manner, I have regarded the textural roles of the individual musical gestures at any syntactic level as local formations belonging to the general concept of the composition.

If composition was to be restricted to a notion of several elements put together by different means and according to an internal order of architectural correspondences, or solely defined by a construction of different components held together by a general principle of

design, I would no longer be in the position to distinguish an organized succession of sonic events from a work of art. A form may be perfectly constructed and yet totally lacking in artistic attributes since the irrational circumstances to which every form is susceptible have not been taken into account. As for Plotinus, who so emphatically stressed the great significance of inventiveness in relation to the creative gesture, there is an essential element without which artistic creation would be literally non-existent : the power of imagination, a specific strength located between sensoriality and intellect. If, as I think, the definition of art implies an essence of transcendental quality, a special ingredient leading to the experience of aesthetic ecstasy, that quality must rely upon the gift and power of inspiration and fantasy.

7. 2 Significant and signifying form

What then do different compositional strategies and their resulting shapes mean to us ? What do they establish ? What is their common denominator ? A composition, I believe, comprises two simultaneous manifestations of form : (i) a *significant* form, i.e. one which determines a certain meaning for the listener, a significance resulting in a subjective assessment of the work, and (ii) a *signifying* form, i.e. the disclosure of its objective shape and nature related to and as a result of the poietic symbolism that generated it, i.e. its signifying constitution *per se* . I understand the concept of *significant* form as a manifestation of *"arrangements and combinations that move us in a particular way"* (Bell, 1969: 91) and in a rather subjective condition. A certain combination of rhythms, melodies, tone-colours which stir the listener's emotion; relations of form causing mental associations and consequently symbolic significances to the member

of the audience. On the other hand, a *signifying* form appearing in its determined physical shape may be distinguished and assessed as an objective truth and the explication of the composer's metalanguage, thus as a signifying indication of the poietic domain of its creator. The signifying quality, in my opinion, is intrinsic to the structural configurations in composition. How relevant are then musical forms ? As a result of the composer's methods and techniques, I believe forms are conspicuous descriptive devices, structural representations of the composer's own artistic code, *"the passage from the poietic to the esthesic"* [33] (Nattiez, 1990: 99), signs of a more profound philosophical significance than the superficial connotation of more or less interesting artefacts for analytical speculation. However, I should like to stress that as Clive Bell states with regard to descriptive painting *" it is not their forms but the ideas or information suggested or conveyed by their forms that affect us"* (Bell,1969: 91). And the analogy is perfectly valid for music. A strategy produces a methodology whose resulting form is but a representation of the poietic idea. Again, according to Boulez *"all 'abstract' relationships implicit in the idea of form could be defined a priori, and thus give rise to a certain number of schemes or archetypes that existed ideally before being realised in any actual work"* (Boulez,1986:90). Yet *"...if a representative form has value, it is as form, not as representation"* (Bell, 1969: 91). In my opinion, the aesthetic value of the *signifying* is the only reliable and compelling fact for a critical interpretation and evaluation of the musical work. Forms confront us with definite and living organisms whose appreciation parallels the recognition or, at least, an intuition of their articulation in the sonic landscape. Moreover, the fact that musical forms [34] in their reality provoke aesthetic emotions suggests that if it is the

[33] Nattiez's description of musical communication.

[34] Intended as both small and large musical structures.

form that causes such a response in the listener, by the same token form itself must concretely express something. If musical forms bear a similarity to the forms of human feelings, then music must be a sonic analogue of emotive life. Such an analogy in the words of Susanne Langer is *"the prime requisite for the relation between a symbol and whatever it is to mean. The symbol and the object symbolised must have some common logical forms"* (Langer,1969: 176). This evidence, I think, should be seen as a natural state of affairs reflecting the poietic intentions of the composer and therefore intrinsic in the act of composing. To see compositions as pure forms, therefore, does not mean to see them as ends in themselves, but, on the contrary, to experience form as the actual determining factor of musical communication.

7. 3 Towards a metaphysical proposition

Having gone through a selection of dissimilar methodologies in the past few years, I often found myself asking: " out of all these techniques, should I have to choose a particular one which would definitely characterise my own musical style ? " Generally speaking, I have been happily surprised to find one strategy much finer and more flexible than what I had originally supposed, yet again, this was not due to the technique as such, but to my attitude towards it. By frequently changing procedural systems I have certainly discovered a variety of new insights which one technique alone, I am sure, would have failed to provide. Adopting only a single method, I felt would have surely resulted in a disastrous artistic stagnancy. After all, there are certain actions that we take without choosing, at least on a conscious level; likewise, by an unexplainable impulse, we are urged to shape a phrase or an entire musical

configuration in one way rather than another.

I sense a deeper need in addition to my readiness to learn from the past and to hold onto a present situation. Beneath my activities lies a seed of desire to discover for myself who I am and consequently what in my artistic life is important. No matter how many others have asked these questions before me, and no matter how artistically successful they have been, I feel confident to say that every artist has an inner yearning to go exploring for him/herself. This is as true of the beginners who are trying to discover their own styles and idiom, as it is of the experienced artists who have not lost their capacity and curiosity for sustained novelty. It is essential, I believe, that we keep alive within us the desire to search and question, since there is more art in honest doubt than in all the unexamined musical codes and aesthetic dogmas of past and present. In this sense, composers should articulate their own creed, their concept of what is of supreme worth in doing art, their own mode of expressing that concept and their own commitment to the values they believe to be basic to their art. It is only when we discover the depths that lie beneath the differences that we are able to appreciate why there are these differences. We discover that in deep ways all diversities have a common denominator, even though each one is an original.

One of the perpetual wonders in life is that there is always room for another idea, another opinion, another interpretation, and each of them has a chance to fill a place in our artistic 'universe'. I believe there is a 'space' we can build through our aesthetic attitudes in general and our artistic efforts and actions in particular. We could try to wrest a 'space' for our idioms by taking an

attitude of hostility towards other idioms; conversely, we may shy away from the opportunities other artistic expressions offer us and retreat into a rigid system bounded by artistic self-destruction. But we have a third choice: we may greet each possibility of expression with confident and inquiring attitudes. By so doing, we take the chance to learn from any other existing artistic opinion and to expand our own vocabulary. In extending the range of our creative spaces, we cannot help improving the quality of our artistic goals. Indeed, it is quite possible that a composer might learn just as much about the importance of artistic self-knowledge through a deeper study of a single musical idiom. But despite the tendency to defend one's own systems and views, I can see a practical argument for trying to keep one's own cultural horizons constantly open to confrontations with other different perspectives and continuous critical evaluation. Each technique and musical idiom can therefore become a kind of multiple mirror through which the composer learns to see his/her work more fully and objectively. Artistic suicide may occur when we limit ourselves to only one perspective or remain content with the answers and descriptions offered by someone else instead of re-exploring the basic questions and their meanings in the present for ourselves. I believe there are doors to be continuously opened, spaces to be constantly discovered where each style, system and artistic doctrine has a valuable proposition to offer.

In the light of the approach to composition which I have been discussing in this thesis, certain types of musical or aesthetic attitudes may have prevailed upon others. Perhaps the reader may find that some of my musical thoughts or actions have been stressed too emphatically or, on the contrary, not enough to gain

an artistic validity. However, I have tried with good intent to rule out uncritical approaches to any question and postulate that came across during the experience of composing. In the same manner, I have tried to avoid attitudes of coercion and the assumption that there is an 'only way' of going about compositional issues.

Throughout this dissertation I have constantly been aware that parallel to the descriptive realm of the verbal, there was another dimension which I could neither illustrate with words, nor depict with any sort of 'surrealistic' devices. Verbal elucidations and analytical descriptions, as rigorous and precise as they might be, may well deepen the understanding and appreciation of the music in question, but, in fact, they are no substitute for the music itself. As Debussy suggested, theories do not make works of art, and I would go further and say that theories are stimuli which the final work often ignores and sometimes even contradicts.

If I would be asked to conclude this essay with a description of my musical experience, I would promptly reply that to me the actual artistic drive remains a mystery, and that my music reflects a desire to create contemplative propositions through recurrent references to what I consider the cardinal issues of human existence. I experience music as a continuous journey from the finite to the infinite and a 'mystical' revelation taking its shape through sounds. By using the term 'mystical' I am aware of the risk I take in being misunderstood at once. I do not depict this term as 'magical', nor do I imply any sort of deliberate religious or intellectual vagueness, rather I am trying to define an aesthetic experience beyond the pale of the intellect as a sublimation of the senses, an adventure that by its very nature transcends any kind

of rationale and adaptation into the verbal; a reality, and not a mere abstraction. I am reminded of some words attributed to Albert Einstein: *'the more I study physics, the more I'm drawn to metaphysics'.*

Appendix I

List of works composed between October 1991 and October 1994

UTOPIA
mezzosoprano, flute, oboe, clarinet, bassoon

Duration: 18 minutes

CONCERTO IN TWO PARTS
soprano,alto,tenor and bass soloists (amplified with microphones),
1 2 0 1 and 1 soprano saxophone, 1 tenor saxophone / 2 harps,
1 percussion / 1 violin, 2 viole, 1 cello, 1 double bass

Duration: 23 minutes

CONCERTINO
2 2 2 2 / 2 2 0 0 / 1 percussion / strings

Duration: 8 minutes

OMEN
Orchestra & voices
(Winner of the 1992 Lucerne Composition Competition)
2 soprani, 2 alti, 2 tenori, 2 bassi (amplified with microphones)
3 2 2 2 and tenor saxophone / 1 1 1 0 / 1 percussion, celesta, harp / strings

Duration: 9 minutes

JEU DE MORT
String quartet (optional with live electronics)

Duration of version 1: 27′ 50″
Duration of version 2: 14′ 20″

ETERNITY
Alto flute, violin, double bass, piano, soprano, tenor, bass, percussion,
live electronics

Duration: 10′ 30″

YOU
3 Sopranos, alto flute, soprano saxophone, trombone, 2 violins, viola, cello,
percussion, harp, celesta, harpsichord, piano.

Duration: apx. 12 minutes

HE
SATB choir (8 voices) — Duration: 6 minutes

ELECTROPHONY 1
Synthesizer (Yamaha SY 77) — Duration: 9 minutes

INTERCHANGES
Clarinet and piano — Duration: 10 minutes

REFLECTIONS
Trumpet, piano, tape — Duration: 15 minutes

RENGE - KYO
Piano, tape, live electronics — Duration: 9 minutes

BEYOND THE BRIDGE
Cello, 2 tapes, live electronics — Duration: 13 minutes

EPITAPH
Cello, tape, live electronics — Duration: 8 minutes

VISION
Harpsichord, tape, live electronics — Duration: 9'25"

The submitted compositions are:

1) *Utopia*
2) *Omen*
3) *Interchanges*
4) *Reflections*
5) *Eternity*
6) *You*
7) *Renge - Kyo*
8) *Beyond the Bridge*

Appendix II 'Utopia': sketch of interventions in the central section

Appendix III

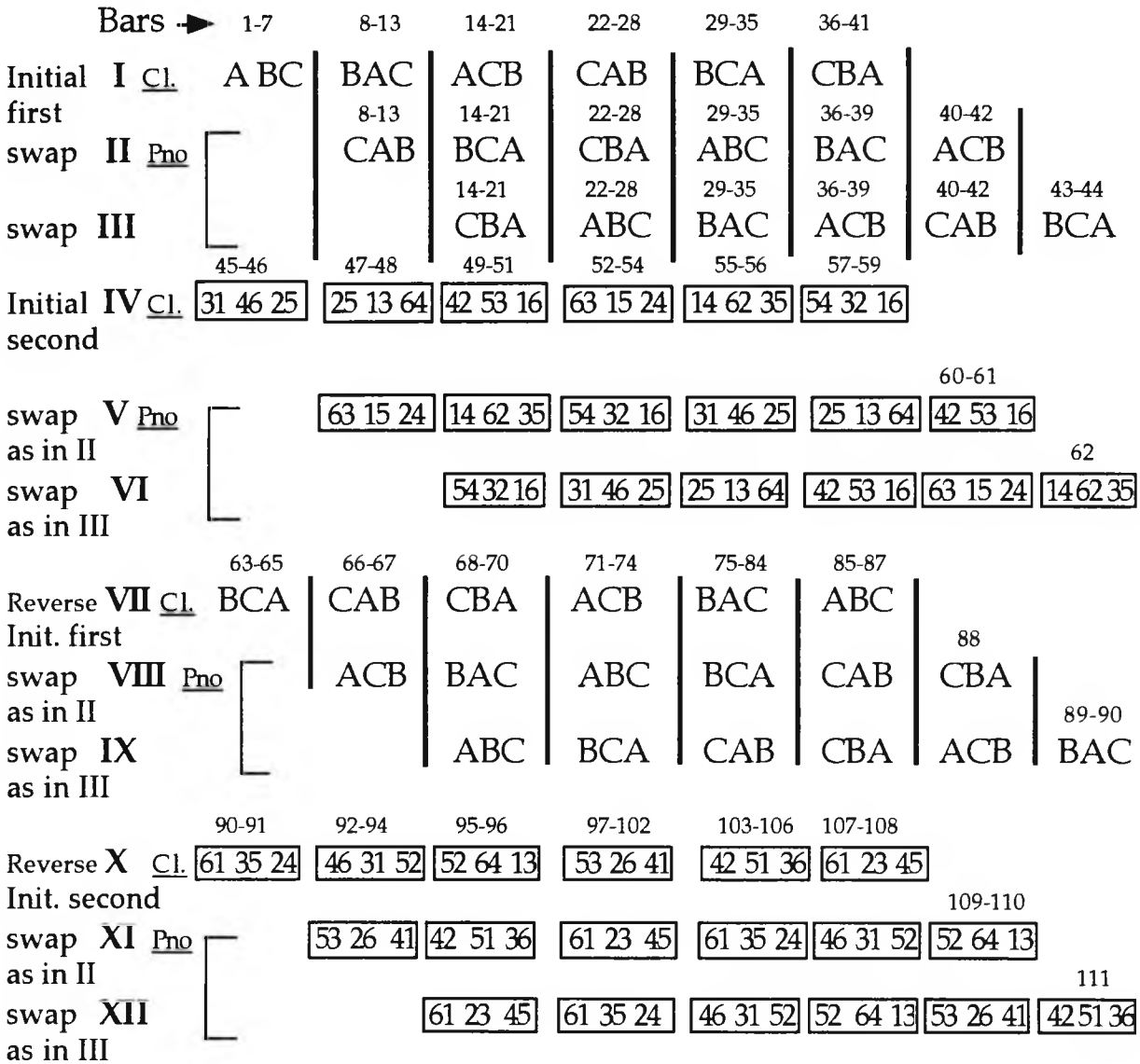
Concerto in Two Parts: chart of combinations from 1 to 48

	Row	Parameter	Form
1	A	1,3,4	O
2	A	2+1+4	O
		3	R
3	A	1+2	I
		(3)+4	O
4	A	1+2,(3),4	RI
5	B	1+2,3,4	O
6	B	1+2,3	R
		4	O
7	B	1+2, (3)	I
		4	O
8	B	1+2,(3),4	RI
9	C	1+2,(3),4	O
10	C	1+2,3,4	R
11	C	1+2, (3),4	I
12	C	3	O np.
		1+2,4	RI
13	D	1+2,3,4	O
14	D	3,1+2	R
		4	O
15	D	1+2,(3)	I
		4	O
16	D	1+2,(3),4	RI
17	E	1+2,3,4	O
18	E	2	R
19	E	1,(3),4	I
20	E	1+2,(3)	RI
		4	O
21	F	1+2,3,4	O
22	F	3	R
		1+2,4	O
23	F	1+2	I
		(3),4	O
24	F	1+2(3),4	RI

		Row	Parameter	Form
Solo 1	25	G	1+2,3,4	O
	26	G	2	R
	27	G	1+2(3),4	I
	28	G	1+2	RI
			(3),4	O
	29	H	1+2,3,4	O
	30	H	1+2,4	R
			3	O
	31	H	2	I
	32	H	1+2,(3),4	RI
Solo 2	33	I	1+2,3,4	O
	34	I	1+2,3,4	R
	35	I	2	I
	36	I	1+2,4	RI
			(3)	O
	37	J	1+2,3,4	O
	38	J	3,4	R
			1+2	O
	39	J	1+2	I
			(3),4	O
	40	J	1+2,(3),4	RI
Solo 3	41	K	1+2,3,4	O
	42	K	1+2,3,4	R
	43	K	1+2.(3).4	RI
	44	K	1+2	R
			(3),4	RI
	45	L	1+2	R
			3,4	O
	46	L	1+2,(3),4	RI
	47	L	2	RI
	48	L	1+2,(3)	I
			4	O

Appendix IV a

Interchanges: chart of superimposed arrangement of macro- and microdimension



The next 24 rows (from XIII to XXXVI) are vertical combinations of the initial 12 rows from left to right.

The final 12 rows (from XXXVII to XXXXVIII) are selected by the matrix.

Appendix IV b

	Bar	Pno	Cl.	Pno	Cl.
XIII	110	A	31	B	61
		Pno	Cl.	Pno	Cl.
XIV	114	B	46	C	35
		Pno	Cl.	Pno	Cl.
XV	118	C	25	A	24

		Pno		Cl.		Pno		Cl.	
XVI	122	B	C	25	63	C	A	46	53
XVII	126	A	A	13	15	A	C	31	26
XVIII	130	C	B	64	24	B	B	52	41

	135			137			140			143		
XIX	A	B	C	42	14	54	C	B	A	52	42	61
XX	C	C	B	53	62	32	B	A	B	64	51	23
XXI	B	A	A	16	35	16	A	C	C	13	36	45

	144			146			150 (151 Cl.)			154		
XXII	C	C	A	63	54	31	A	A	B	53	61	61
XXIII	A	B	B	15	32	46	C	B	C	26	23	35
XXIV	B	A	C	24	16	25	B	C	A	41	45	24

(from 156 onwards freer)

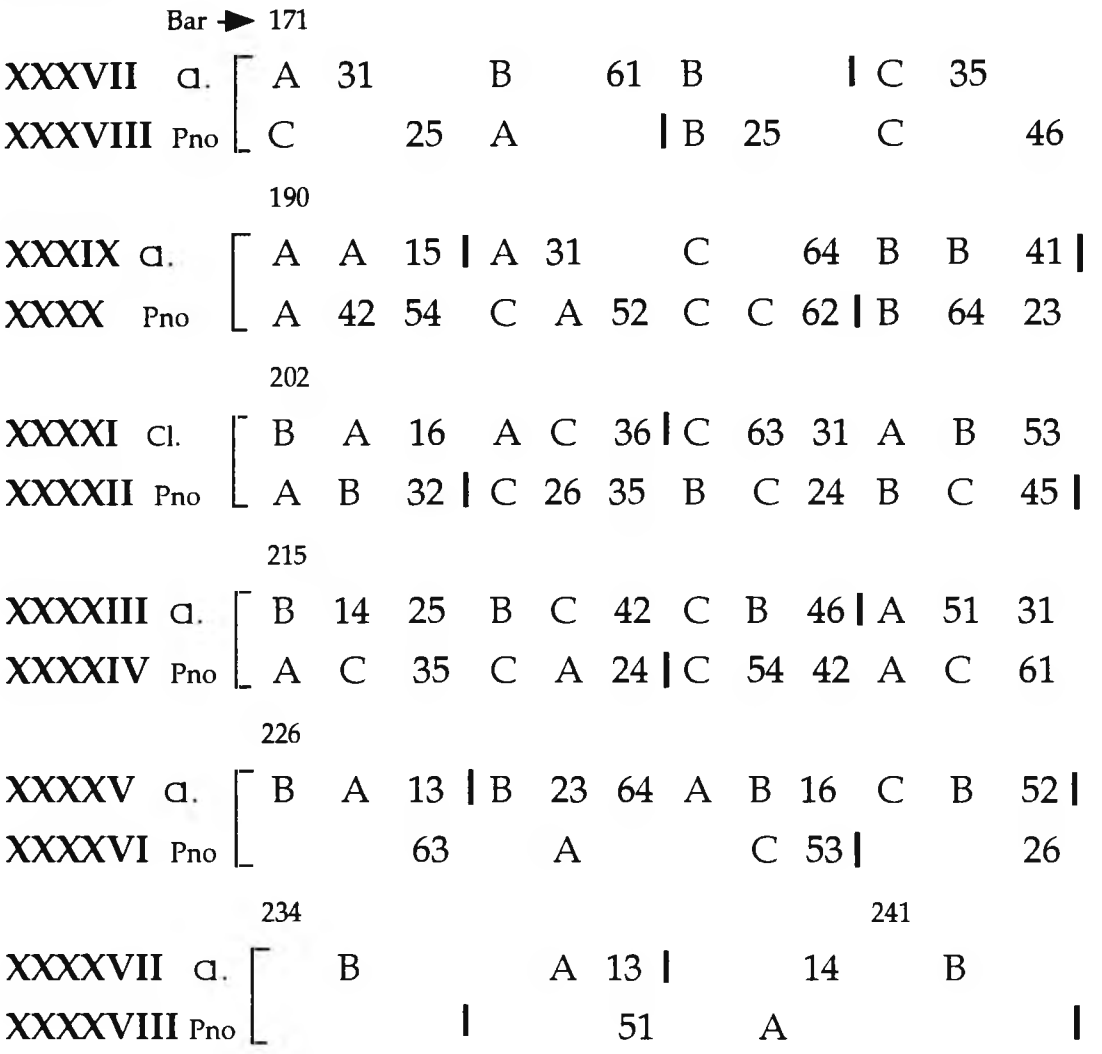
	156											
XXV	B	A	B	14	31	25	B	B	C	42	61	46
XXVI	C	B	A	62	46	13	A	C	A	51	35	31
XXVII	A	C	C	35	25	64	C	A	B	36	24	52

	160											
XXVIII	C	B	A	54	25	42	A	C	C	61	46	52
XXIX	B	A	C	32	13	53	B	A	B	23	31	64
XXX	A	C	B	16	64	16	C	B	A	45	52	13

	163	Cl.			Cl.			Cl.			Cl.	
XXXI		A	C		42	63		C	A		52	53
		Pno										
XXXII		C	A		53	15		B	C		64	26
XXXIII		B	B		16	24		A	B		13	41

	167	Cl.			
XXXIV		B	14	B	42
XXXV	Pno	C	62	A	51
XXXVI		A	35	C	36

Appendix IV c

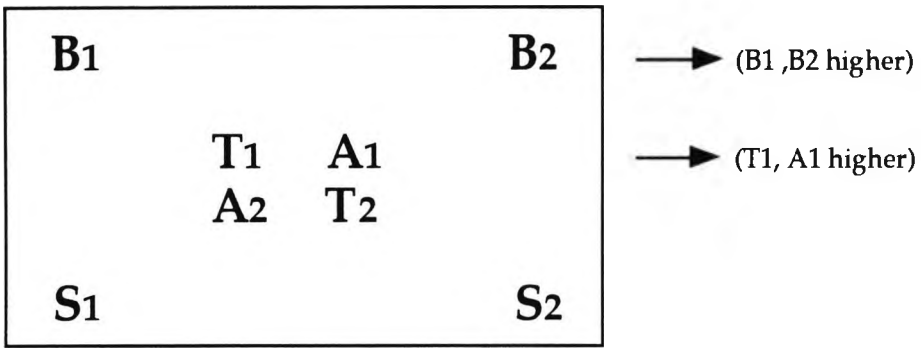


(if the three pages do not suffice to complete the work, each instrument will repeat the rows from the beginning, but this time separately).

Appendix V *He:* performance instructions and score

Performance instructions

Spatial distribution of voices:



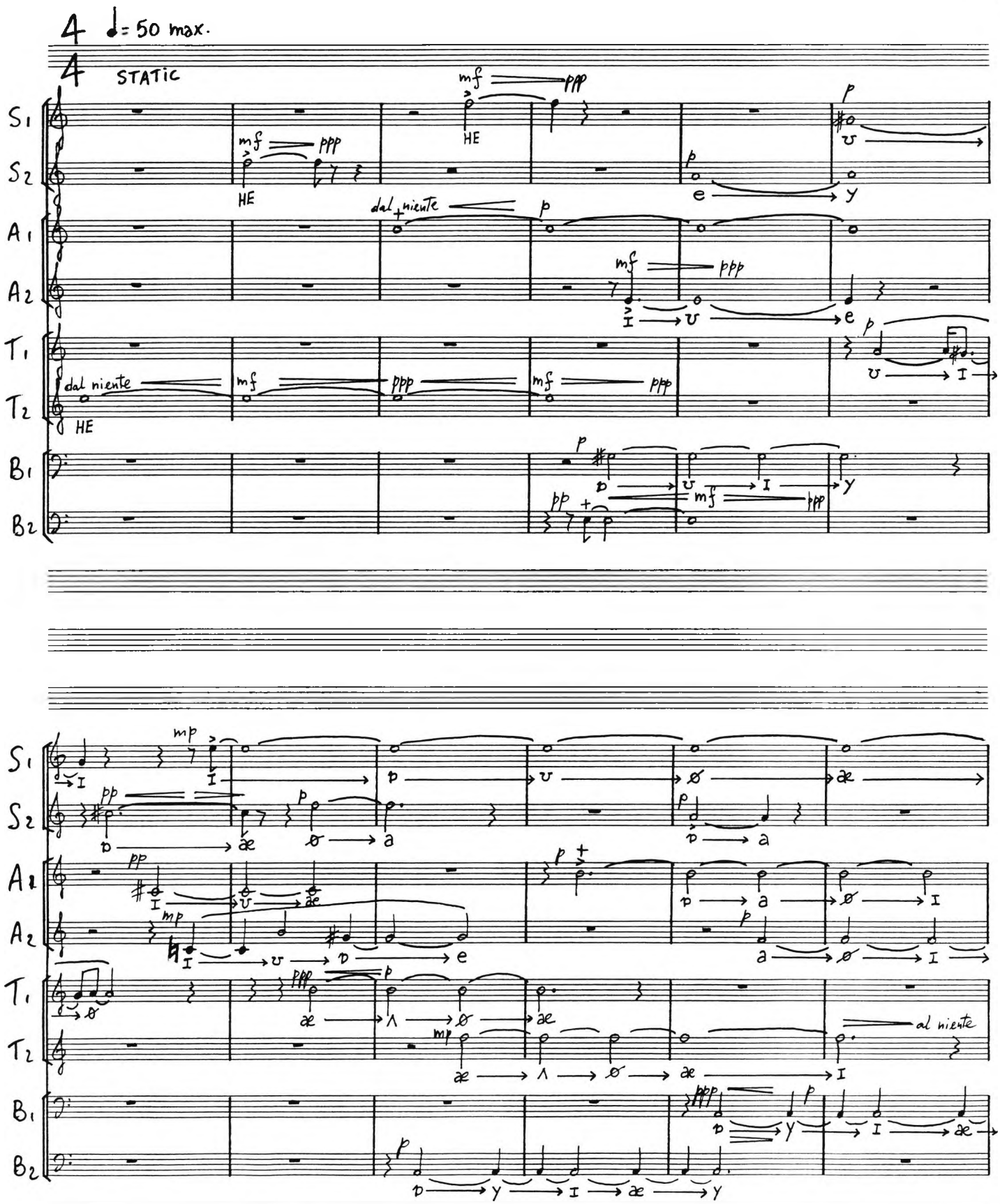
Conductor

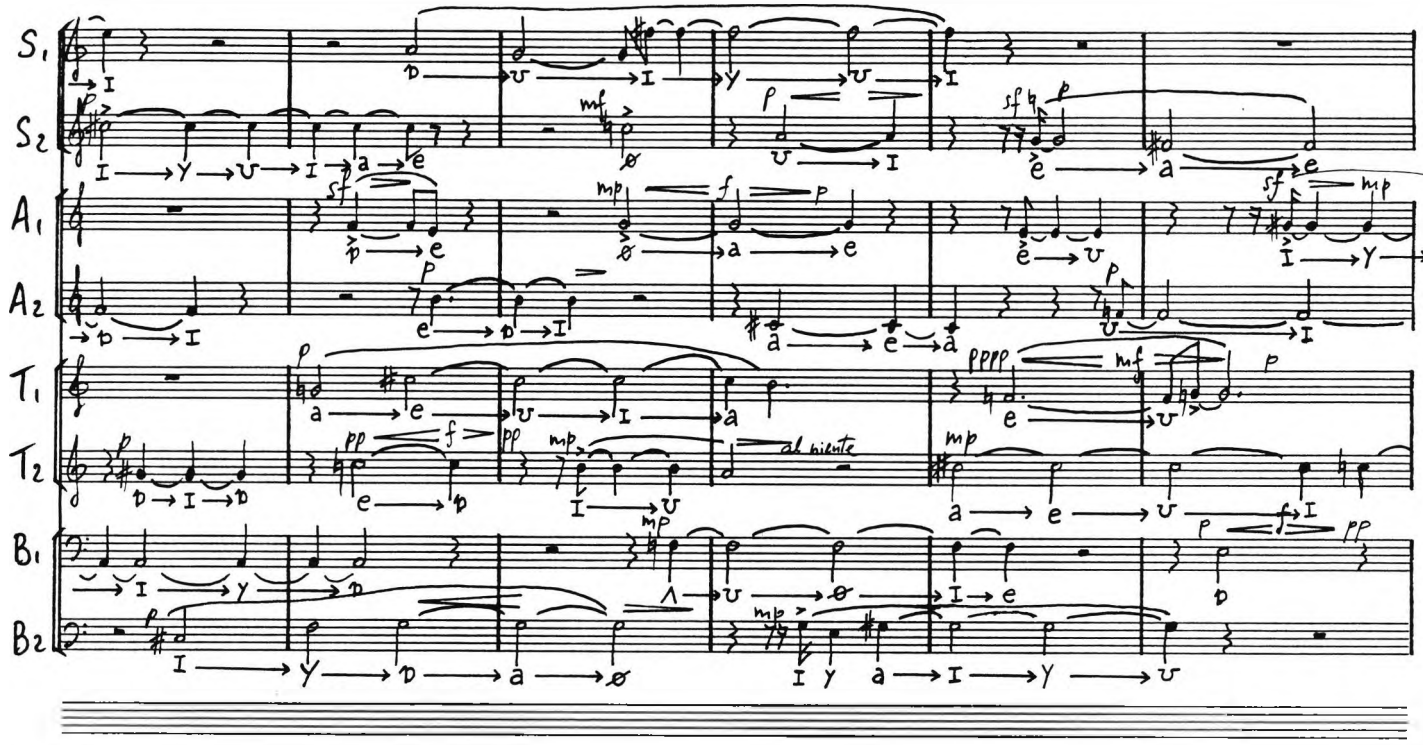
Phonetic symbols:

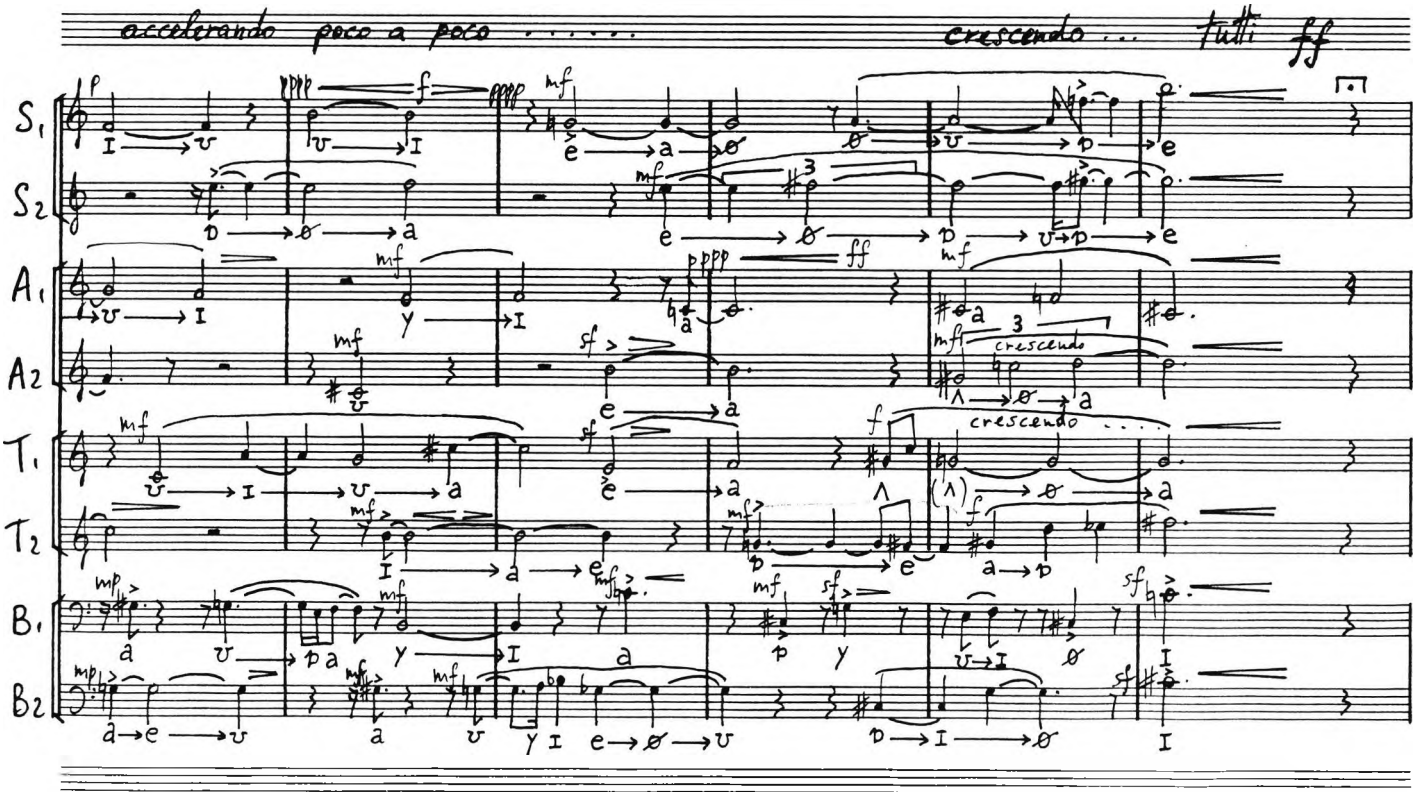
a	as in Italian *casa*
æ	as in *had*
e	as in *bed*
ø	as in French *peu*
o	as in *dog*
ɪ	as in *bid*
y	as in French *du*
ʊ	as in *hood*
ʌ	as in *bud*

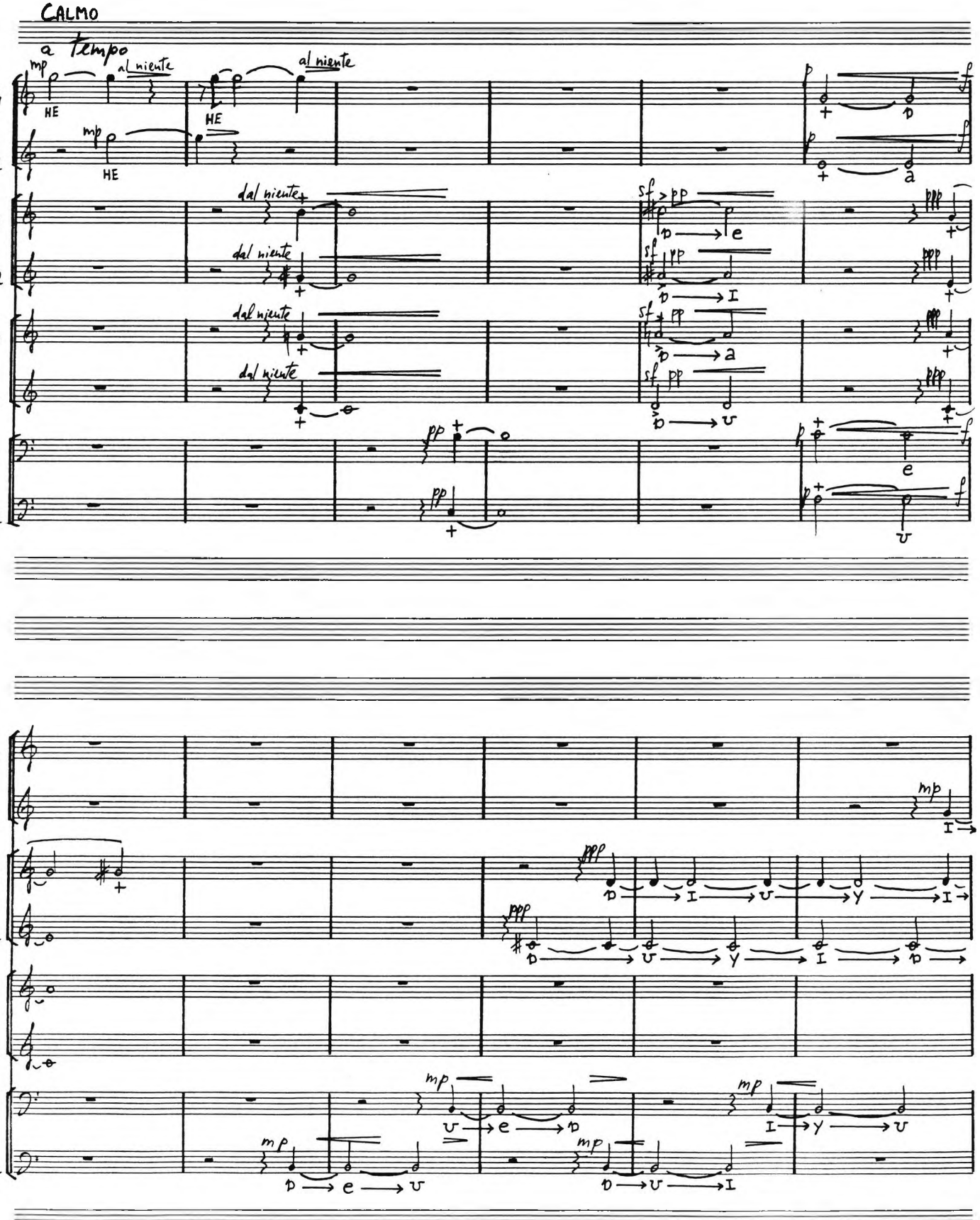
Reference: The International Phonetic Alphabet, London 1979.

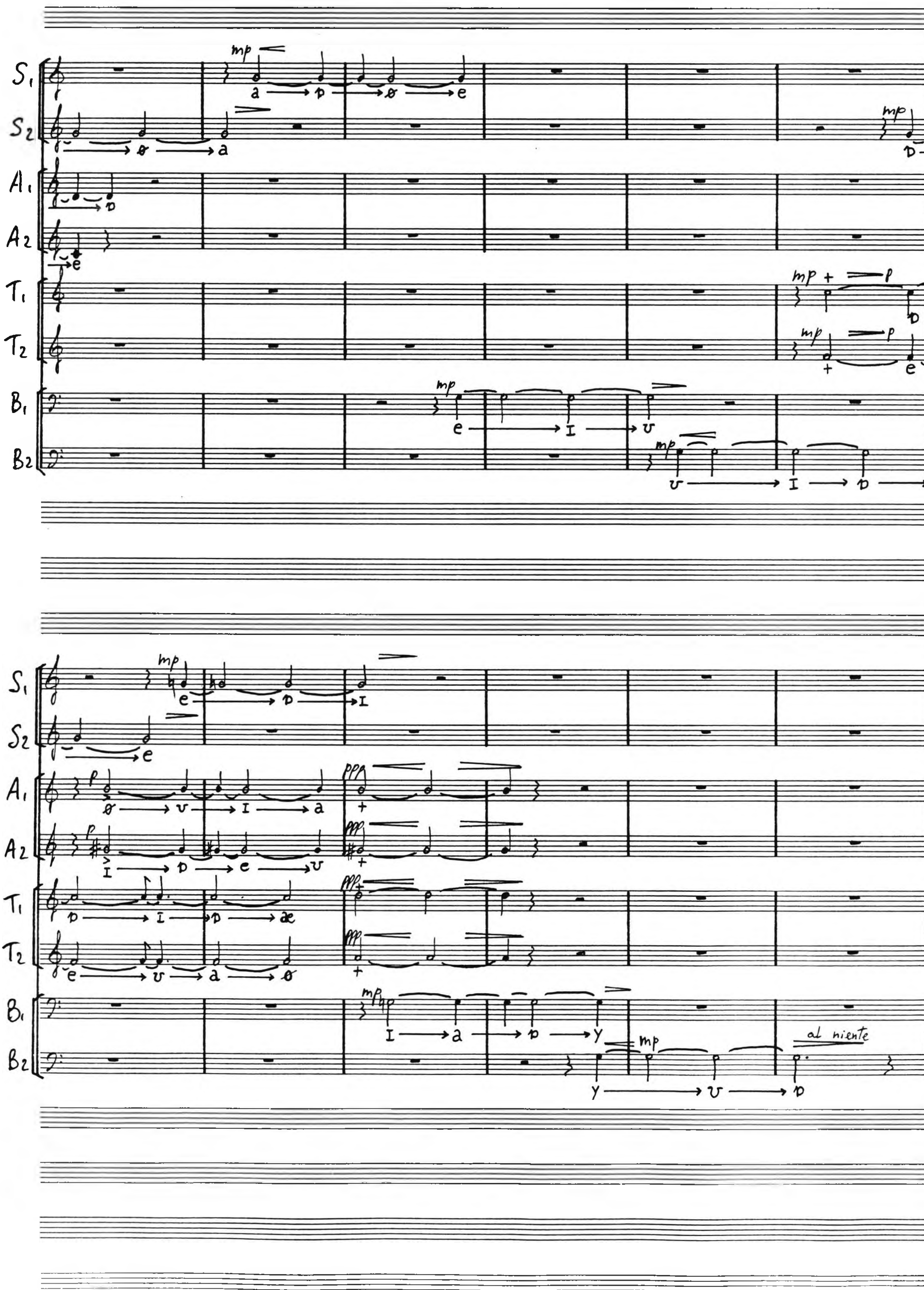
→ = gradual passage from a vowel (sound) to another, in order to (i) emphasize timbral changes through a gradual motion of the lips and (ii) to reinforce as many harmonics as possible through tongue-curling (traditional harmonics chant technique). The singers must bring out as many harmonics and timbral modifications as possible.

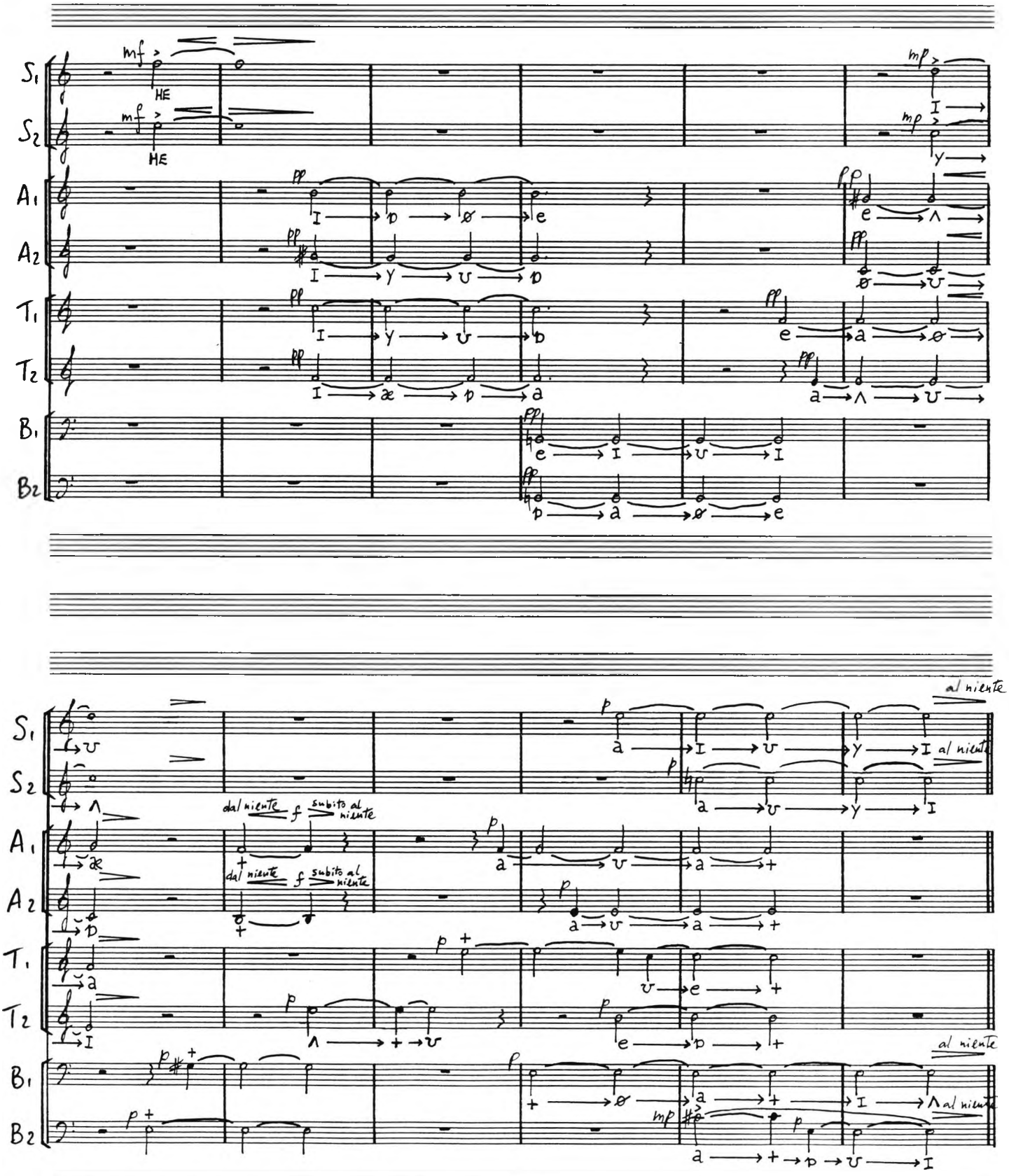

4 ♩= 50 max.
4
STATIC
S1
S2
A1
A2
T1
T2
B1
B2
HE
dal niente
mf
ppp
p
mp
pp
al niente


S1
S2
A1
A2
T1
T2
B1
B2
al niente


accelerando poco a poco . . . . .
crescendo . . .
tutti ff
S1
S2
A1
A2
T1
T2
B1
B2
crescendo
crescendo . . .

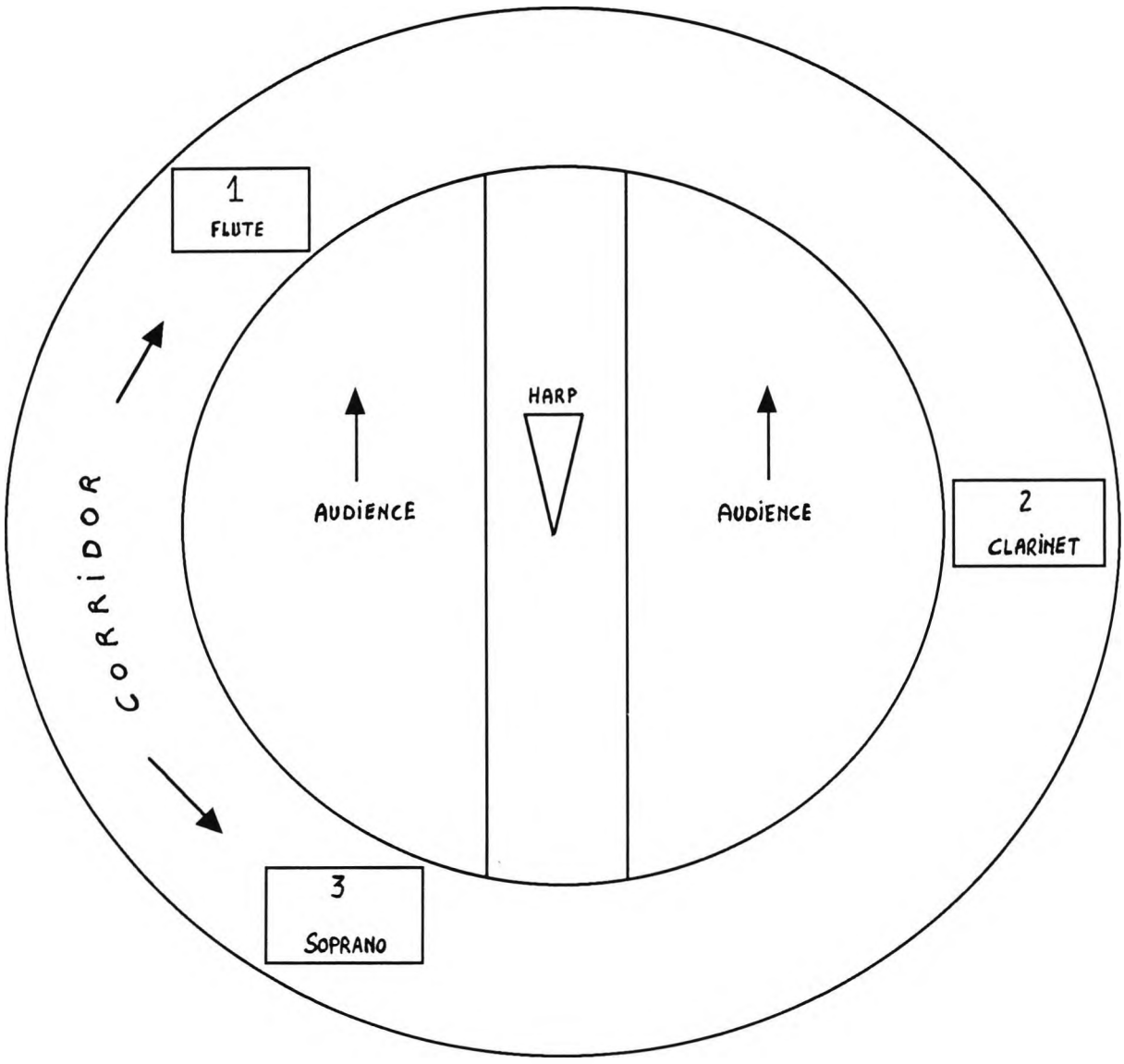

CALMO
a tempo
mp
al niente
HE
dal niente
pp
sf
f
S1
S2
A1
A2
T1
T2
B1
B2


S1
S2
A1
A2
T1
T2
B1
B2
mp
p
ppp
al niente


S1
S2
A1
A2
T1
T2
B1
B2
mf
HE
mp
pp
f
dal niente
subito al niente
p
al niente

Appendix VI

Sun And Earth: spatial distribution



Appendix VII

Renge-Kyo: system of equivalence between letters and notes

No.	letter	note
1	a	A
2	b	A♯
3	c	A#
4	d	A##
5	e	B
6	f	B♯
7	g	C
8	h	C♯
9	i	C#
10	j	C##
11	k	D
12	l	D♯
13	m	D#
14	n	D##
15	o	E
16	p	E♯
17	q	F
18	r	F♯
19	s	F#
20	t	F##
21	u	G
22	v	G♯
23	w	G#
24	x	G##
25	y	A
26	z	A♯

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PART II

Scores and recordings

1.1 Submitted compositions and performance/recording details

Utopia for mezzosoprano, flute, oboe, clarinet, bassoon.
Completed in January 1992.
Duration: 18′.

First performance: Heidrun Schulz and Ensemble Tetraphonia (Basle), Zaehringer Theatre, Berne, March 1992.

Recording details:
Live recording of world premiere in Berne.
Recording available for study purposes only.

Commissioned by Ensemble Tetraphonia with funds provided by Pro Helvetia.

Omen for orchestra and amplified voices.
Completed in July 1992.

Duration: 9′

First prize winner of the 1992 Lucerne Composition Contest, Switzerland.

Selected for performance by the 1992 SPNM reading panel.

Eternity for alto flute, violin, double bass, piano, soprano, tenor, bass, percussion, live electronics.
Completed in September 1992.

Duration: 10′30″

Selected for performance by the 1992 SPNM reading panel.

You for 3 sopranos, alto flute, soprano saxophone, trombone, 2 violins, viola, cello, percussion, harp, celesta, harpsichord, piano.

First version completed in August 1992 and performed by the Composers' Ensemble with Vinko Globokar, trombone, and John Palmer, piano, at the 1992 Dartington International Summer School.

Revised in 1994. Duration: apx. 12'.

Interchanges for clarinet and piano.
Completed in January 1993.
Duration: 10'.

Reflections for trumpet, piano and tape.
Completed in April 1993.
Duration: 15'.

First performance: Simon Lenton, trumpet, Philip Mead, piano, John Palmer, sound diffusion. British Music Information Centre, London, 23rd May 1993.

Commissioned by Simon Lenton.

Renge-Kyo for piano, tape , live electronics.
Completed in December 1993. Revised in March 1994.
Duration: 9'.
First performance of first version: John Palmer, piano & live - electronics, Angelika Palmer, sound diffusion. British music festival, Wartegg Schloessli, Lucerne, Switzerland, 21st January 1994.
First performance of revised version: Selected and performed by the Montague-Mead Piano Plus Duo for the 'Rainbow over Bath' SPNM workshop at the Michael Tippet Centre, Bath, 5th December 1994.
This recording is available for study purposes only.

Beyond The Bridge for cello, two tapes and live electronics.
Completed in January 1994.
Duration:13'.

Composed, realised and recorded at the composer's own studio and City University studios.

First performance: The Martlew-Palmer Duo, Zoe Martlew, cello, John Palmer, electronics and sound diffusion. British music festival, Wartegg Schloessli, Lucerne, Switzerland, 22nd January 1994.

Second prize winner of the 1994 Bourges International Electro-acoustic Competition, section Quadrivium, category instruments.