Composing for the big ones: a study of scoring and structure in slow movements from Karel Husa's concerto for wind ensemble and concerto for orchestra

Karlin Greenstreet Love
University of Wollongong
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COMPOSING FOR THE BIG ONES:
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A thesis submitted in fulfillment of the
requirements for the award of the degree

MASTER of ARTS (Honours)

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by

KARLIN GREENSTREET LOVE, B.A, B.Mus.

CREATIVE ARTS

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Abstract

COMPOSING FOR THE BIG ONES: a study of scoring and structure in slow movements from Karel Husa’s *Concerto for Wind Ensemble* and *Concerto for Orchestra*.

This study examines the compositional element of instrument usage; in particular, the ways Karel Husa has used the timbral resources of wind ensemble and symphony orchestra. To this end, an analysis method was designed that illuminates relationships between scoring choices and structural function.

Few studies have been centred on timbre or scoring; fewer still have considered scoring of contemporary works for large ensembles. Studies surveyed demonstrate analysis procedures which suit the works studied and the writer’s intended application – usually performance. Rather than squeeze Husa’s works into procedures designed for others, this analysis process has been designed around characteristics of his works. In doing so, I revisited three general analysis texts from the 1970’s by Wallace Berry, Jan LaRue and Robert Erickson, bringing together their ideas into a scoring-centred method, implied or suggested within their texts but not demonstrated as such. Although a quarter century has passed, little has been done along this particular line. My analysis process includes listening, timeline-based element analysis, and detailed examination of instrument usage, correlated to structural activity in other elements. Structure is considered in two dimensions: sections and processes (energy shapes). All evaluation is informed by timbral content.

Husa’s scoring approach was found to be remarkably consistent across both ensembles, with similar use of primary timbral colours (woodwind, brass, percussion and strings), intensified by extreme registers, special effects and detailed performance instructions. Structures are driven and moderated by similar clarity-diffusion processes involving timbre, texture, rhythm and pitch. Pitch materials provide consistency while timbre and other elements provide section-defining contrast and maintain development.

This analysis process could prove useful in other comparisons of ensemble works, within a given composer’s body of work or between composers. It also provides tools for reflective troubleshooting in one’s own composition, as demonstrated with three of my own works.
INTRODUCTION

It all started with a mistake... Long before I began this study I wrote a very badly scored movement for symphonic wind ensemble\(^1\). I was lucky – there was time to rewrite after the first rehearsal and get a successful performance from the ensemble. But the experience gnawed at me – how had I so thoroughly missed the boat? I thought I had done well in my orchestration study but it had not prepared me to write in my own style. Although listening, trial and error taught me eventually, I wanted a more effective way to learn from scores, and found little help within orchestration texts. I decided to compare the craft of scoring for wind ensemble and for orchestra. In particular, I wanted to be able to learn systematically from great works of my time.

The orchestra and wind ensemble are endowed with a wealth of timbre, each instrument capable of producing a variety of sounds, alone and in combination. Good composition uses the available resources well, its design capitalising on the strengths of the medium. Many pitches can be played simultaneously on a piano, thus harmony has been well developed in piano repertoire. Vocal music is not often percussive but explores vowel colour and melodic line. Untuned percussion music does not emphasise harmony, but expands rhythmic and dynamic experience. Wallace Berry observes that the inability to develop an element, such as texture in liturgical chant, is normally compensated for with development in those elements more intrinsic to the instruments or voices (293-94). Music for orchestra and wind ensemble should exploit their strengths. Although capable of developing harmony, melody and rhythm, their strongest design potential lies within volume, texture and, especially, timbre. In every work the composer chooses the balance of the design structure and the prominence and intricacy of each element. Scoring is an important means of establishing structure. This study investigates how one composer has done so.

Historically, ensemble constitution and repertoire have developed together. This is examined in Chapter One noting changes in instrumentation, roles played within the ensembles, and roles played by the ensembles in the larger musical culture. The future of each ensemble is closely tied to composers’ approaches to scoring – how they choose to use the instrumental forces available and how they may or may not choose to add to the palette.

Karel Husa was chosen from living composers who have written multiple works for each ensemble. The Concerto for Wind Ensemble and Concerto for Orchestra are in

\(^1\)Wind ensemble' in this study refers to the specialised concert band of winds and percussion. 'Scoring' refers to the concerns of orchestration – timbre choice and combination, and many aspects of volume and texture, applied to both orchestra and wind ensemble.
the stylistic mainstream for each medium, that is, they do not challenge the definitions of orchestra or wind ensemble, but work within established norms (large combinations used for one-off works do not suit the purposes of this study2).

The works were selected according to the following criteria:

1. similar in weight or substance: large scale, multi-movement.
2. composed within a relatively close time span, therefore not representing different stages of compositional style.
3. do not use additional forces (voices, electronics) or feature a concerto soloist.
4. have suitable slow movements for the focus of the study.

Slow movements were chosen because, in these works, scoring is a more important structural factor, particularly in the establishment of ‘mood’. The slow movements are also internal movements, making possible the study of connections between movements.

The Concerto for Wind Ensemble and Concerto for Orchestra are works ‘about’ each ensemble, substantial and respected. They were composed in 1982 and 1986, and have slow movements of very similar concept, ‘Elegy’ and ‘In Memoriam’. Most of the movements in these works focus upon a particular instrumental choir (strings, woodwinds, brass or percussion) or sub-group of the ensemble, however ‘In Memoriam’ is intended as a tutti piece (Husa, interview). ‘Elegy’ begins and ends as a woodwind feature but also makes full use of brass and percussion. Both movements use the respective ensembles effectively, yet each demonstrates a different approach to structure and is scored to clarify and establish the structure.

A survey of the literature turned up few directly related analysis models. Sources include orchestration and analysis texts, composer interviews, conductors’ resources, and dissertations or articles on specific works which include analysis of scoring-related elements. From working with ideas from the few models available I concluded that structure provided a better framework than texture for examining and prioritising scoring activity. Structure is most often discussed in terms of sections. I found that for contemporary works, it was better conceived as the combination of sectional structure and process structure, process structure referring to energy shapes which may or may not coincide with formal sections. I drew extensively from the models and ideas of Wallace Berry for working with these energy shapes, Jan LaRue for understanding musical elements and their sectional functions, and Robert Erickson for

2‘Composing the ensemble’ (in addition to composing for the ensemble) (R. Erickson 177) will not be considered here. As long as existing ensembles ask composers to write for them, the composers will have to work creatively within preset instrumental constraints. This is the area of interest in this study.
keeping timbre in constant view throughout the analysis. These and other writers contributed additional ideas and techniques which are discussed in Chapters Two and Three.

Chapter Four presents my analysis method. The method incorporates listening, element analysis, part-by-part instrument usage analysis, and correlation of element activity to the sectional and process structure description. Elements analysed include timbre, pitch, rhythm, texture and volume. All element and structure discussions maintain reference to timbral contribution. The chapter concludes with observations about limitations of the study.

Chapter Five offers an overview of literature on Husa’s works and introduces the two concerti. Analysis of the works is demonstrated and discussed in detail in Chapters Six – ‘Elegy’ from Concerto for Wind Ensemble, and Seven – ‘In Memoriam’ from Concerto for Orchestra.

The two movements demonstrate many common scoring strategies. Husa uses pure timbral colours, thus the general sound of each movement is quite similar. Both are created using primary, unmixed instrumental colours according to the traditional choirs of woodwinds, brass, percussion and strings. Motivic materials are associated with particular timbral groups. Timbral contrasts mark significant structural points. Techniques used to manage energy processes – scored dynamics, clarity-diffusion processes, gradual transformations, or closely staggered entrances generating layered textures are common to both. To maximise timbral possibilities and contrast, he uses extreme registers and a large range of effects and techniques. Scoring contrasts between the two movements appear to be more related to professional/student differences and other large-scale structural concerns of the concerti than to differing approaches based upon instrument availability. Husa uses scoring decisively to confirm and create structure in both of these works. Chapter Eight details the comparison.

The final chapter considers the effectiveness, strengths and weaknesses of my analysis method and demonstrates application of techniques and findings to problems of composition within my own works. It concludes with suggestions for further investigation.
CHAPTER 1

The Ensembles and Scoring

If Beethoven hadn't had trombone-specific ideas he wouldn't have added trombones to his orchestra. Composers' desires for new sounds drive the development of the orchestra and wind ensemble. The histories of the ensembles document the influence of timbre (instrumental colour) on the creative process.

Developments in orchestral scoring

Orchestration practice has developed steadily since the Classical period when strings were the essential substance of the ensemble. Winds and percussion provided auxiliary colours for contrast and accent but were not fluent enough to create an extended counter to the strings. As multi-movement instrumental forms (symphony, concerto) became established, composers contrasted movements with timbre as well as change of tonal centre, tempo and mood. The brass were often omitted in slow movements, not only because pitches in contrasting key areas were harder to play, but because the brass better supported the mood of fast movements and would provide effective contrast when the next movement began. Mechanical improvements in woodwind key work improved fluency and intonation enough that they were given roles more equal to the strings. Although they most often supported the strings they were also featured as soloists and as an independent choir.

As the Romantic period began, timbre was more radically exploited in dramatic works in which special effects supported the stage action. These effects eventually made their way into abstract concert works as 'pure' musical material; for example, Weber exploited nuances of register and used the three instrumental choirs independently in his opera overtures well before the later Romantic symphonists (Carse 236-38).

Further mechanical improvements in valves paved the way for a more versatile brass choir and by the end of the Romantic period the orchestra was conceived of as three choirs: strings, woodwind and brass. Few percussion instruments were used yet beyond timpani. Their role was to reinforce accents and provide special effects. Nikolai

---

1 See Carse and Read for comprehensive histories of orchestration practice.
2 John Drummond Anderson (Brass Scoring Techniques in the symphonies of Mozart, Beethoven and Brahms) has explored the gradual development of the role of the brass through the Classical and Romantic periods showing the change in usage as performance practice improved and valves were introduced.
Rimsky-Korsakov wrote of the instruments of indefinite pitch (e.g., snare and bass drums, triangle or tambourine), "[They] can only be considered as ornamental instruments pure and simple. They have no intrinsic musical meaning" (32-33). Strings were still the core choir, but the increased fluency of the two wind choirs enabled composers to make greater use of timbre contrast in delineating sections of works.

As the twentieth century opened, composers such as Mahler and Strauss pushed the size of the orchestra to a limit rarely surpassed since. The woodwind and brass each ran to nearly 20 players. Schoenberg’s Gurrelieder called for 25 of each (A. Hopkins 161) – a total wind group larger than many present-day wind ensembles. As historian Adam Carse reflects upon these large Teutonic orchestras he asserts that, "orchestration has nothing more to gain from a mere increase in volume and sound; [...] variety of colour, of treatment and texture, have more to offer (322)." He discusses composers’ approaches to orchestration noting changing attitudes toward doublings, role assignments, and colour blending. He also observed, in 1925, that since the Classical period, the rate of colour change had increased from movement-length through theme-length and phrase-length to yet smaller intervals and warned that too-frequent change may well undo the power of orchestration (332)\(^3\). Following the composers of whom Carse wrote, Stravinsky moved toward orchestral economy and clarity of function, as heard in Symphonies of Wind Instruments, and Ravel controlled the long intensification process in Bolero by carefully pacing timbre. Webern exercised as much systematic control over orchestration as pitch in his Symphony, Opus 21, and Schoenberg demonstrated his Klangfarbenmelodie concept in ‘Farben’. Colour fatigue is certainly a possibility in such works, thus some composers opted for brevity while others carefully balanced timbral design against that of other elements.

Larry Todd says of twentieth century composers that they have either "attempted to continue the more brilliant and colorful orchestration inherited from romanticism, or struck out in new directions through the use of new instrumental and electronic media. Whether romantic opulence, Stravinskian sobriety, or some other style of orchestration will prove the most enduring has still to be determined" (224-25).

In addition to changes in the role of orchestration, colour possibilities increased over the twentieth century. In particular, a greater variety of percussion instruments and

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\(^3\) Carse's observation is a summarising generalisation. Several authors detail Haydn's quick changes of orchestral colour or Mozart's correlation between orchestration and counterpoint (Ott, Todd, R. Erickson).
more percussionists were called for (Fennell 32), and especially during the last quarter of the century, more composers treated the percussion as a fourth, equal choir. Other instruments and sounds have been added for particular works: electronic instruments, recorded sounds, instruments from non-Western cultures or Western folk culture. Except in the percussion section, none of these have established a regular place in the modern symphony orchestra. As the majority of modern orchestral performance repertoire is drawn from the past 250 years, the composer is assured of, or saddled with, a certain continuity of forces. If all major orchestras play Mozart, Beethoven, and Tchaikovsky, but not necessarily Weill or Messaien, the composer can count on having violins and tuba to work with, but not a mandolin or Ondes Martenot, let alone koto or didjeridu.

Rather than adding new instruments, many composers have explored new configurations and spatial arrangements within the orchestra. In Michael Tippett's *Concerto for Orchestra*, winds, percussion and keyboard instruments are divided into three chamber groups, each providing musical material of a different character. The strings do not play in the first movement, but have the second nearly to themselves (A. Hopkins 160-61). The sound worlds of each movement contrast radically, producing a new experience for the listeners. New seating arrangements alter the acoustic experience of players and audience, suggesting new social relationships as part of the structure (R. Erickson in regard to Brant, Stockhausen and others 150-51). While the makeup of the orchestra appears to be settled for the time being, the use of its many constituent parts is open to experimentation.

Composer Steven Stucky notes,

"My orchestral music has become more and more wind oriented over the years. The interesting parts are especially in the winds. The string parts have gotten more and more boring. As an old string player, I’m not sure why this is happening but somehow what I need to write is turning more and more into Stravinsky-oriented wind music.” (qtd. in Spano, ch. 2)

The range and roles of wind and percussion sounds have been greatly expanded – their sounds are now used in all roles within the orchestral fabric. Composers drive these developments and will continue to develop the orchestra through their orchestration choices (of course, not without constraints from budgets and concert programmers). The formerly predominant role of the strings has diminished relative to the whole. This does not mean strings have been sent to the back seat, rather, the front seat is getting more crowded.
**Wagner:** Bayreuth orchestra
(1876)

4 flute
4 oboe
4 clarinet
3 bassoons
**15 woodwind**

8 horns: 4 doubling ten & bs
tubas
contrabass tuba
3 trumpets
bass trumpet
3 trombones
contrabass trombone
**17 brass**
2 pair timpani
other percussion
6 harps

16 first violins
16 second violins
12 violas
12 violoncellos
8 double basses
**64 strings**

(Carse 276)

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**Mahler:** 6th Symphony
(1904)

2 piccolo
4 flutes
4 oboes
cor anglais
4 clarinets
bass clarinet
4 bassoons
contrabassoon
**21 woodwind**

8 horns
6 trumpets
4 trombones
tuba
**19 brass**

‘numerous percussion’
including 2 timpanists

2 harps

**strings**

(Stedman 237)
Schoenberg: *Gurrelieder* (1901)

4 piccolos
3 oboes
2 cor anglais
7 clarinets (incl. Eb & bs)
3 bassoons
2 contrabassoons
**25 woodwind**
10 horns
6 trumpets
bass trumpet
alto trombone
4 tenor trombones
2 bass trombones
tuba
**25 brass**
6 timpani
4 harps
celesta
other percussion

**85 strings**

(A. Hopkins 161)

Husa: *Concerto for Orchestra* (1986)

3 flutes (pic. & bass flute)
2 oboes
English horn
2 clarinets
bass clarinet
2 bassoons
contrabassoon/bsn
**12 woodwind**
4 horns (5 in ‘Game’)
4 trumpets
3 trombones
tuba
**12 (13) brass**
timpani (5 drums)
4 other percussion
2 harps
piano

18 first violins
16 second violins
14 violas
12 cellos
10 double basses
**70 strings**

(Husa, score)
Eastman Wind Ensemble 1952
3 flutes (piccolo)
3 oboes (English horn)
Eb clarinet
8 Bb clarinets
alto clarinet
bass clarinet
2 bassoons
contrabassoon
20 woodwind
2 alto saxophones
tenor saxophone
baritone saxophone
(24 woodwind with saxes)
5 horns
6 trumpets
3 trombones
2 baritones
2 tubas
19 brass

timpani
5 percussion
harp
double bass

(Battisti 116)

Eastman Wind Ensemble 1994
4 flutes (2 piccolos)
2 oboes
English horn
Eb clarinet
7 Bb clarinets
bass clarinet
contrabass clarinet
2 bassoons
contrabassoon
21 woodwind
4 saxophones
(25 woodwind with saxes)
6 horns
6 trumpets
4 trombones
baritone
2 tubas
19 brass

timpani
4 percussion
harp
piano
double bass

(Battisti 121)

Husa: Concerto for Wind Ensemble
MSU: 1982
2 piccolos
4 flutes
3 oboes (English horn)
Eb clarinet
9 Bb clarinets (3x3)
alto clarinet
bass clarinet
contrabass clarinet
2 bassoons
contrabassoon
25 woodwind
2 alto saxophones
tenor saxophone
baritone saxophone
bass saxophone
(31 woodwind with saxes)
4 horns
8 trumpets
4 trombones
2 baritones
2 tubas
20 brass
timpani (5 drums)
4 other percussion parts

(Husa, score)
Scoring for band and development of the wind ensemble

The ‘wind ensemble’ concept is of one player to a part. While this is not always completely true in practice – many wind ensembles have more clarinets, flutes and trumpets than parts – it is accurate in regard to the majority of the instruments involved. Most crucial is the commitment to perform quality repertoire according to the composer’s specifications (Battisti, The Twentieth Century Wind Band/Ensemble 80-81). Frank Battisti lists current groups functioning as wind ensembles ranging from 36 to 84 players (Twentieth Century 119-21). Bb soprano clarinet sections vary most widely: from four to fourteen players. Frank Erickson suggested the wind ensemble may be thought of as a large chamber group whereas the symphonic or concert band involves multiple players on most parts as well as much range-based doubling (11). Donald Hunsberger contrasts various kinds of wind-dominated ensembles according to size, flexibility of instrumentation, and numbers of players per part (34). In addition to the ‘one-to-a-part’ concept for the wind ensemble (or composer-prescribed numbers), he advocates that the complete instrumentation be at the composer’s discretion. The symphonic band, on the other hand, is characterised by fixed instrumentation and multiple (and unpredictable numbers of) players per part. The wind ensemble concept gives composers more control over the actual sound performed. ‘Wind ensemble’ is the term used in this study. Karel Husa’s Concerto for Wind Ensemble is clearly based on these principles.

The symphonic wind ensemble and band have developed largely independently of the orchestra. Mozart and others wrote works for winds without strings, either for outdoor performance or for military bands. These early ensembles were small – eight to twenty players. As the nineteenth century progressed, the mechanical developments affecting orchestras also impacted bands. The brass were able to take on musical roles equal to the woodwinds, and being louder, eventually replaced many of the double reeds in military bands. The percussion have been consistently present in the band (although not in wind serenades), from fife and drum corps to large event ensembles such as those amassed for Berlioz’ Symphonie Triomphale and Funèbre. A large ensemble could be created by putting several extant bands together in the same place. The wind band has been a three-choir ensemble from early on: woodwind and brass with percussion strongly present even if primarily providing rhythmic support rather than thematic

4 Fixed, standardised instrumentation is an issue for many writers concerned about the quality of band repertoire. Military bands and school competitions, and consequently publishers, encouraged standardisation, creative composers did not (Bly 194, Goldman 472, Fennell in Hunsberger 8).

5 Excellent accounts of wind music history are found in Whitwell, Goldman and Fennell.
material.

Early in the twentieth century, community and school bands became more common and the American college band ushered in a new era requiring new concert repertoire. Military bands and civilian brass bands also contributed to band culture, especially in the United Kingdom. Band music was still most frequently conceived for outdoor performance: park bandstands or marching. Hence, the works many have associated with bands are marches such as those by John Philip Sousa or Karl King.

Even so, in the first part of the twentieth century several important concert works for larger bands were composed. Gustav Holst wrote for accomplished military bands with his First and Second Suites. Percy Grainger's works demonstrate remarkable mastery of this relatively young ensemble, especially when one considers his views on flexible instrumentation. His ‘elastic scoring’ did not replace careful and knowledgeable use of the instruments of the wind band, but allowed for many additional realisations of his ideas. The Goldman band also provided an important model of a professional non-military ensemble and commissioned works that led the repertoire toward greater sensitivity and creativity.

Still, the heritage of outdoor entertainment, as opposed to the challenge of new art, which had more acceptance in the orchestral world, led most composers of band music to use a less experimental language than that of their orchestral counterparts. The exceptions, such as Arnold Schoenberg’s Theme and Variations, Op. 43a, were not widely performed and did not significantly influence the culture.

Acceptance of innovation as a normal part of the territory did not happen until the late 1960s and not widely until later. “The avant-garde movement started around 1950 and reached the wind band/ensemble world in the mid 1960’s” (Battisti Twentieth Century 26). But it got there, thanks to works by Gould, Erb, Foss and others. Karel Husa made inroads with microtones, aleatoric processes, and vocalisation, especially in Apotheosis of this Earth. These and other less experimental works placed the wind ensemble repertoire solidly in the concert hall.

The rise of bands as educational ensembles in the United States has had another effect: it is handy to have all students busy in rehearsal for classroom management reasons, that is, keep everybody playing most of the time (Warren Benson, qtd. in Hunsberger 23). Unlike orchestras, bands do not have a large repertoire of older music easy enough for intermediate ensembles so there has been a substantial market for easy to play and easy to listen to works that keep every one busy. Artistic challenge has not been a priority. Keeping most instrumentalists playing most of the time has led to the establishment of a stereotypical band sound – a mixture of woodwind and brass with doublings determined by range. The practice continues; however by mid-twentieth
century Frederick Fennell had recognised the artistic limitations of this sound and decided to do something about it.

The wind ensemble had its definitive start in 1952 when Fennell formed the Eastman Wind Ensemble, programming older chamber works, commissioning composers who were not part of the band heritage, and establishing an ensemble with one player to a part, offering clarity of sound and genuine virtuosity. His work and that of other like-minded directors made possible a medium for high-quality artistic expression. Hunsberger wrote in 1968:

The eventual goal of the symphonic wind ensemble movement is an unqualified acceptance of concerted wind music on the same level as all other forms of instrumental or vocal composition. To achieve this goal an ensemble is required which will provide these functions:

1. Offer the composer an artistic medium which will provide faithful performances of his music in the manner written: i.e., instrumental tone colors to be employed as specified (without substitution or addition of doubling voices) and with all the instrumental weights and balances to be reproduced as originally conceived.[...]

3. Offer the concert-goer the experience of hearing concerted wind music composed and performed on the same artistic level as found in the string ensemble and the full symphony orchestra; [...] (22).

Only when these goals are met is it possible for a composer of large-scale wind music to use timbre as a primary creative and structural resource. In the years since the founding of the Eastman Wind Ensemble many great works have been written revealing and creating a rich and varied world of tone colour.

The music written for the best wind ensembles is considered by many to be on a par with that commissioned for professional symphony orchestras, and if not yet equal, seen as the medium with more artistic potential for the future. Although composer Allan McMurray believes "the bulk of the orchestral repertoire is better than the bulk of the band repertoire", he says, "I think the medium to be involved in twentieth century music is the wind medium. There's much more going on [...]" (qtd. in Spano, ch. 2). Francis McBeth believes the balance has shifted: there is little difference now between music for orchestra and music for wind ensemble⁶ (14).

Paul Reale credits the wind ensemble with driving the late twentieth century

⁶ An additional incentive for the composer is the number of performances likely to be given of a wind ensemble work. McBeth predicted one orchestral performance to 300 wind ensemble performances for a similar work over a three-year period (14).
"percussion revolution" in composition (qtd. in Spano ch.3). The wind ensemble percussion choir is potentially stronger than that of a symphony orchestra as it normally has at least one additional player, often several more. The percussion choir is, indeed, a central voice in the many of the most substantial and respected works for wind ensemble (O’Neal 72-73). The combination of potential colour and enthusiasm for performance makes the wind ensemble a vital medium for powerful statements by composers in the future.

In spite of these virtues, the cultural heritage of military bands, marching and outdoor performance clouds perceptions of the medium’s potential. Historian David Whitwell (79) differentiates between music presented with the intention of an aesthetic experience and an entertainment experience. He believes the lineage of the wind ensemble should be seen as that of the finest art music (of the orchestra), not Sousa marches. He blames directors for presenting an inconsistent image of entertainment/aesthetic experience.

Interviews conducted with composers for this study revealed a common concern that the expectations of band performers (or their teachers) still differed from those of orchestral performers. Some consideration must be given to the fact that all orchestral works short-listed were written for professional orchestras while most of the wind ensemble works were written for university ensembles, the exceptions being pieces for U.S. military bands. However, concerns that certain ‘instruments’ (that is, typical players thereof) may not be able to handle soloistic passages, play well in all registers, or cope with complex rhythmic material due to a repertoire dominated by common practice simple rhythms and heavy doubling suggests a significant difference in the cultural expectations of wind ensemble and orchestral practice. This was of much greater concern than the differences in instrument types available such as the presence/absence of strings or saxophones.

That there is much mediocre band repertoire is unquestioned. But as composer Steven Stucky says, “What concerns me more than the way in which music is developing stylistically is the way in which the audience is developing or not, because in the end that’ll be the bottom line.” (qtd. in Spano, ch. 2) The bottom line according to Battisti (Twentieth Century 90), Hunsberger (35) and others is that directors must program more original music of very good quality and commission new works from the important composers of the present time. The audience cannot develop in a direction it has never been taken.

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7 In the wind ensembles described by Battisti the percussion sections have 5 - 8 players (Twentieth Century 119-21). Orchestral sections more typically range from 3 - 5.
The present state of the two ensembles

Both the wind ensemble and the orchestra have evolved to a similar artistic level in that the best new repertoire for each is considered to be of equal merit. They are different in their instrumental constitution and performance practice. The wind ensemble repertoire is mostly from the second half of the twentieth century, although not from the most adventurous compositional practice. Orchestral repertoire performed is mostly drawn from the nineteenth century and first half of the twentieth century.

The top wind ensembles run from 40-80 members, some groups adhering strictly to one player per part, others doubling only in clarinet, flute and trumpet sections. Professional orchestras run larger: 50-120 players, still one player per part except in the strings. For those composers who treat both groups as collections of chamber ensembles (as Elliott Carter suggests in Hines 49), there should be few differences in scoring practice. The sections made up of nearly the same numbers and kinds of instruments – double reeds, flutes, horns – are treated similarly in works for either ensemble. Composers no longer see the major difference in colour resources as that of having three or four instrumental choirs: woodwind, brass, percussion, strings. The wind ensemble has more sub-choir colours available than the orchestra with a family of saxophones, more low brass and low clarinets, and sections of trumpets, clarinets and possibly flutes to contrast with the solo colour of the same instruments. Moreover, strings are no longer valued primarily for the ‘endurance’ factor – that listeners can tolerate them for longer. Composers are attracted to the vast wealth of effects and colours available from different string techniques. The stereotypical band sound is no longer inevitable. The wind ensemble concept is well established. Alfred Reed believes it now encourages composers to write “works for winds that will make use of the combinations of colors inherent in a balanced and fully integrated grouping of these instruments. Many new sounds will have a chance to be heard” (16). The development of new sounds has been a hallmark of the twentieth century.

Reed continues, “This will lay to rest the general band sound, an absolute necessity in the creation of longer and major works for the winds. This was also the case of the developing orchestra over 150 years ago (16).” “150 years ago” was the Romantic period, a time of great development in the use of orchestral colour. This encourages one to wonder if the wind ensemble may be on the verge of leading a great development in instrumental repertoire.

Few studies have considered both ensembles. Wind ensemble directors write about wind ensemble repertoire. Other musicians write about orchestral music. Joseph
Wagner and John Jay Hilfiger are among those few who have made comparisons.

Joseph Wagner wrote two texts in 1959 and 1960—Orchestration and Band Scoring. He used similar methods and charts for each and pointed out strengths and weaknesses of the band, observing that not only are the instruments different, but there are “different idiomatic ways” of using them (Band Scoring 7)—a different culture and context.

Hilfiger’s comparison of Vincent Persichetti’s band and orchestral style examines factors such as total length, number and frequency of tempo and meter changes, harmonic practice and doubling. He concludes that Persichetti wrote more complex music for orchestra than for band (75-76). He does not offer reasons, but observes, “The two types of ensembles perform different kinds of music for different audiences and it would seem reasonable to expect composers to take this into account in their work” (2) and, “Given the history of the band, differences in a given composer’s styles of writing for band and orchestra might well be expected” (3), implying that the crucial factor is the culture of the band, rather than instrumentation. Hilfiger studied a large body of work, using quantitative analysis methods.

The aim of this study is to provide a better understanding of composing for large-scale forces by looking at carefully paired movements from larger works by a significant contemporary composer. The interrelationship between scoring and structure provides a way to identify important scoring events and processes. Those which occur at significant points in the form are the strongest uses of the ensemble forces. In fact, if strong scoring events occur at seemingly ‘insignificant’ points, those points become significant.

The histories of these ensembles demonstrate that composers have always used elements other than tonality and thematic material to reinforce, if not create, structural design. In the twentieth century timbre has been used as a primary design element, especially in conjunction with the neutralisation of tonality through serialisation. As various elements, such as pitch and duration, have been subjected to externally generated organisational processes (such as ‘total serialism’) timbre has normally been kept free for intuitive choice (Meyer 340). Exceptions are few enough to confirm the composer’s general desire to maintain intimate control of the timbre variable. The various elements of musical material—pitch, duration, pulse, volume, timbre, and so on—have been given greater equality. Few composers will say pitch has become less

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8 Thomas O'Neal says Joseph Schwantner's "...and the mountains rising nowhere is almost exclusively concerned with sustained sonority techniques such as trailing and envelope coloration. As a result, the composer has drastically reduced elements such as traditional form and harmony, to explore and enrich the timbral possibilities of the band" (70).
important, but most will agree that ‘everything else’ has become more important. If, for example, all movements of a given work have been built from the same pitch materials, each involving a particular set of manipulations, dramatic contrasts in orchestration may be used to provide a clear sense of sectional boundaries. Scoring and structure are inextricably related, especially in works for orchestra and wind ensemble. The following chapter evaluates possibilities for studying this relationship.
CHAPTER 2

Overview of literature on scoring and analysis, Part 1

How does one analyse scoring? How could I meaningfully group and prioritise observations about Husa’s scoring and what kinds of conclusions could I credibly make? The first challenge was to find a means of organising the enormous amount of scoring information within the chosen works. I searched for models within the following kinds of sources:

- orchestration/instrumentation texts
- histories of the orchestra or orchestration
- composer interviews and biographies
- conductors’ resources
- quantitative studies on related works
- multiple-mode analysis models
- articles considering scoring concerns and form or structure.

Naturally some were more helpful than others. Most striking, however, was how little systematic work has been done. Those writings considering an analysis process at all demonstrated a range of ideas and procedures, some which fit my objectives and the nature of Husa’s pieces, others which did not.

This chapter describes the overall analysis context, pointing out gaps, partial strengths and encouraging possibilities. The next chapter discusses those writings which, within the broader context herein described, most informed the method and procedures applied in this study.

Orchestration/instrumentation texts

Orchestration texts rarely introduce any critical analytical procedure. Prescriptive discussions concern the effect the scoring should have on the listener’s perception, the majority of examples being from the nineteenth century. Many writers, however, complain of the absence of an analysis tradition and the lack of established methodology and terminology:

“There is, however, an unconscionable dearth of analysis of the creative orchestral styles that distinguish one period from another and one composer from another” (Read 2).

“A multitude of obstacles and unsolved problems has prevented
the establishment of a science of orchestration” (Piston viii).

“There is lacking...a precise description of the scope [of instruments], thoroughgoing comparisons of volumes and colors and detail” (Schoenberg 79).

“No body of theory about musical timbre exists beyond the rules of thumb and the practical advice of textbooks of orchestration, even though much of the music of modern times is more about timbre than it is about pitch” (R. Erickson 18).

Merton Shatzkin includes a concise overview of historical orchestration technique in his text (see also Read, Carse, and Ott) and describes factors influencing scoring processes: number of instruments, family, register, playing requirements, spacing, activity, marked dynamics, and relationship of parts to each other.

Rimsky-Korsakov made detailed observations about the effects of doublings and included equations for balance among different instrument types. He also considered the potential contribution of instrument groups within different elements (melody, harmony, rhythm) (35). His text, like other older ones (Berlioz, Riemann, Dunn, Adkins, or Hoby), is aimed at composers and at solving (then) contemporary composition problems. More recent texts often appear to be aimed at the general university music student, who is not expected to compose, but might have to arrange something someday, and therefore must undertake a compulsory unit in orchestration.

Walter Piston, however, briefly describes a set of steps toward orchestration analysis, leaving most of the application to the student (355-56). His four-step procedure is based upon texture analysis over small sections of a work. He recommends that the student 1) identify textural types and components (“elements”) of the type, 2) note how instruments are assigned to these components, 3) compare the scoring of each component – how it produces balance or contrast, and 4) examine each for detail – colour choice and combinations, doubling, spacing and reinforcement. He cautions against losing sight of the big picture of the whole movement.

The steps are helpful, although more demonstration would have been useful. Basing the procedure on texture, however, is too cumbersome for the late twentieth-century works I am studying. Husa uses texture in ways that change frequently and often generate larger layers of structure. Piston’s steps illuminate small-scale effects, and larger-scale style in music with slowly changing textures. They are not as helpful for understanding progressive energy management through scoring.

Writers of orchestration texts and histories are united in the conviction that scoring and structure are inextricably linked:
"The overriding consideration must be the realization that orchestration must serve the structure of a work. It must clarify the form and support the tonal flow by its unique contribution, the element of color" (Adler 150).

"What a composer does with his orchestra is as significant as the melodies he fashions, the harmonies he chooses, the rhythms he feels, or the forms that stimulate and challenge him" (Read 4).

"...compositional thinking and idiomatic scoring become synonymous" (Wagner Orchestration 15).

"...orchestration is as much a part of form as the arrangement of pitches and rhythm. Thus a piano piece and an orchestral transcription of it do not have exactly the same form, [...] the two things – pitch/rhythmic form and orchestrational form – are independent, and they can work with or against each other in innumerable ways" (Shatzkin 290).

Virtually all writers of orchestration texts assert that composition for orchestra cannot be separated from the process of scoring – one composes for the performing forces from the beginning of the process. Yet most of the exercises provided are experiments in writing in styles of the past. While it is essential to understand musical heritage – and writing within recognised characteristics of a style effectively solidifies that knowledge – there are few exercises which develop the facility of thinking of scoring concurrently with other aspects of one’s present composition. Composers and composition students need analysis methods which help them comprehend their own practice and others’ more quickly.

Histories of the orchestra and orchestration

These were considered, not because I expected to find explicit models, but because I hoped the writers would establish some criteria for comparing orchestration styles and techniques. I was interested to see which aspects of orchestration were used to define and highlight composer and period differences.

For example, Adam Carse, in his classic The History of Orchestration, discusses instrument usage in detailed terms: register, combination, roles filled by different groups or instruments, and function of various scoring techniques (Wagner used unison strings to intensify tone and balance brass, whereas some eighteenth-century composers wrote unison string parts simply because they did not include inner parts in their textures (272)). Carse observes composers’ approaches to the instrumental choirs and describes
characteristic scoring of textural relationships, such as melody/accompaniment. His intended readers are composers.

Antony Hopkins’ Sounds of Music: A Study of Orchestral Texture is aimed at the listener rather than the composer or analyst. He passionately discusses instrument choice, doublings, voicings, and pacing of material in terms of their impact upon the listener. Well-known works from major style periods are examined and thus, indirectly, compared. Structure, particularly in later works, is described in relation to emotional and representational processes.

Leonard Ott, in Orchestration and Orchestral Style of Major Symphonic Works, summarises characteristic orchestral scoring practices of major composers from Haydn through Webern. He compares and contrasts textures and doublings used, roles and materials given to specific instruments, and performance techniques employed (e.g. timpani rolls in Haydn (3)). He also considers the influence of the performers, rehearsal logistics, and audience expectations. Ott’s work on the earlier composers (Haydn through Tchaikovsky) is clearest and relates consistently to orchestration. His discussions of later composers diverts more often into personal history and anecdotes. General summaries are followed by detailed descriptions of scoring throughout one major work for each composer. Analysis of scoring is left up to the reader, now equipped with Ott’s contextual clues and detailed descriptions. Ott, himself, offers little or no evaluation of the material and events he has described, nor discussion of what the scoring achieves musically. There is much information within the single volume – most certainly a valuable resource, but not a model for evaluative analysis.

Larry Todd recounts a history of orchestration, more succinctly than Ott, with specific examples of the impact of orchestration on structure. He considers to what extent the orchestration is colouring agent or articulator of structure (210, 224). Using movement-length examples from Mozart’s Jupiter Symphony, Haydn’s Creation, Bartók’s Music for Strings, Percussion and Celeste, and Webern’s Symphony, Opus 21, he integrates discussion of motivic, formal and harmonic characteristics with orchestration. His observations of orchestration include instrument choice, techniques used, register, spacing, doublings, and dynamic shapes.

These historical overviews of orchestration consider the function of instrumental colour in relation to the ongoing development of musical forms and performance contexts, recognising its impact as resources have changed over time.

2 “Unlike Haydn, who wrote for specific players for many years, and who could experiment with orchestral effects and make last minute changes in his scoring before his music was performed, Mozart had to write orchestral parts that he knew would be playable.” (Ott 17)
Composer interviews and biographies

Writings by and about composers provide additional perspectives. Like most theorists they find it easier, or more compelling, to talk about pitch and rhythmic structures and programmatic or extra-musical influences and constraints (such as orchestral economics and politics, or performance hall acoustics). Yet it is the intensive process of scoring which makes a work for orchestra or symphonic wind ensemble such a demanding undertaking.

For example, Elliott Carter observes the limitations of the current conventional orchestra line-up, developed to play Romantic period music characterised by common-practice harmony and sonorities widened through octave doubling. Even though frustrated by this ‘out-of-date’ palette, Carter has written very significant works for orchestra. “The combination of instruments are as much a compositional consideration as the material they play, even to determining the material” (qtd. in Hines 49). Frances McBeth concurs, “Composers do not orchestrate, they compose orchestrated. If I don’t know what instrument will play a note, I don’t write the note” (13).

Libby Larsen describes the relationship of the performing medium to the musical content in an anecdote about Tambourines, a piece based upon a Langston Hughes poem. Originally for solo harp, she reworked it for orchestra, concert band and finally organ. “The concert band piece works probably too well, because the rhythms of the poetry are quarter-note and eighth-note rhythms, with changing meters. In the concert band world, that’s considered a successful cliché—so the piece works too well because it doesn’t do anything new—it negates the search for an idea.” The organ version worked best, she thought, because it has “breath”, to relate to the spoken word, and its sound is more ambiguous. She described the process as the piece finding its home (McCutchan 148-49).

These writings confirm the importance of timbre choice and scoring, and the great care composers give to them. They do not illuminate analysis procedures but reaffirm the need for a thorough understanding of scoring.

Conductors’ resources

Related discussions are found within ‘Interpretive Analyses’ intended to better equip conductors to prepare their ensembles for performance of a particular work (see the regular series in The Instrumentalist). Thus, they are concerned with rehearsal issues such as achieving balance between textural components with rhythmic clarity, rather than pursuit of an understanding of reasons for the scoring.
In Teaching Music through Performance in Band (ed. Miles) a large number of compositions are analysed and discussed by various conductors. Analysis approaches vary, from verbal description of sections, to charts and timelines noting events and processes over several elements. Some conducting and teaching tips are included, however, in the main, these articles focus upon understanding the music. Analyses commonly describe formal structures in terms of pitch and rhythmic motivic materials, supported by dynamics and texture, noting which instruments carry which components of the texture.

In Guide To Score Study for the Wind Band Conductor Frank Battisti and Robert Garofalo demonstrate a potentially thorough timeline-based method. Verbal descriptions of melodic design, rhythmic elements, orchestration, harmonic structure, texture and dynamic curve (also including graphic indications) are placed on the timeline in relation to the overall formal scheme. A supporting chart used for orchestration includes:

- tessitura – high, low, doublings
- texture – effect, rather than linear construction, for example, “dark” or “rich & mellow”
- timbres – instrument choice
- orchestration – which instruments get which parts of texture (normal meaning) such as melody, cantilena, or accompaniment (49).

All elements are correlated to the formal structure and the time progression of the work. There is potential within this format to evaluate scoring events according to their relationship to activity in other elements. As the purpose of their text is to equip conductors, that potential is not realised in any depth, but it is there.

Quantitative studies on related large ensemble works

Many studies discussing timbre and texture have been quantitative studies. In one of the earliest, Quentin Nordgren assigns kinds of events (number of instruments, range employed, spacing, gap proportion and register, doubling register and concentration) in several nineteenth century symphonies to seven point scales and compares the statistical results. William Workinger examines instrument usage, doubling, timbre groupings and “score thickness” (541) in band works of Persichetti. Hilfiger compares compositional style in band and orchestra works of Persichetti by analysing statistical occurrences of meter and tempo kinds and changes, chord types, voicing, and doubling. Nordgren, Workinger and Hilfiger worked with relatively large
samples, aiming to make general observations about period or composer style.

These studies conclude with generalisations confirming common sense, and are thereby valuable, yet leave me craving more of the nitty-grit of "how did he do it?" and "what makes this work so exquisite?" Statistics are good for clarifying norms and usual practice, yet it is the abnormal and unusual that so often make a piece work or a musical moment grab one's attention. As John D. White wrote,

"The enchantment of a piece of music is found in the listener's experience of each musical gesture occurring throughout its growth or generative process. It is these musical events that we remember when we recall a piece of music. They articulate the musical flow, lend meaning to time, and thus define the shape or form of a musical work" (Comprehensive Musical Analysis 18).

The details of scoring can be as useful as the generalisations.

White also said, "Because sound is so difficult to codify, it has not been a favorite subject for theoretical or critical approaches" (Theories of Musical Texture in Western History 386). Each of the above quantitative studies attempts to codify aspects of orchestral or wind ensemble sound which result from the interaction of several factors. In the score, one can easily identify the number of bars in which a particular instrument plays or the number of instruments in use at a given time. One cannot so easily quantify the quality of the sound requested.

This is demonstrated in Joseph Giovinazzo's set theory analysis of Bartók's settings of melodic materials in the first movement of the Concerto for Orchestra. Giovinazzo's data was collected at three levels: by instrumental choir or family (strings, woodwind, brass), by section, and by individual instrument. He suggests that a next step in an analysis such as his could be to examine tessitura and register (108). The interaction between register, articulation, dynamic, quality of movement (conjunct/disjunct) and special effects (for example, mutes, fluttertonguing, or bowing) is very complex and unsuited to mathematical models.

**Multiple-mode analysis models**

Style analyses aim to describe characteristics of a composer's work or a musical period. They emphasise typical symptoms by which works might be identified or distinguished from others. The musical function of those characteristics may or may not be investigated in depth. For example, Michael Brown's study of style in the band music of William Schuman is primarily descriptive, giving a bar-by-bar chart of all
elements studied with short verbal or symbolic descriptors. Verbal descriptions of timbre and texture usage are presented in the text, noting relationships to sections of the form. He describes timbre according to choir, sub-choir (for example, 'low brass') or instrument group but does not deal with register, special effects or other timbral factors.

Style analyses such as Brown's examine a broad range of elements including timbre, texture and dynamics. Due to the breadth of the studies, discussions of each element's impact are frequently limited and/or very general.

Other analysts have chosen to work with models accommodating several modes of enquiry. Jerome Markoch and Lawrence Ferrara draw from especially large ranges of analytical methods.

Markoch's dissertation includes an extensive review of analysis theory and practice from wind band literature and from theory literature. He is concerned about the lack of crossover, noting that wind band writers refer to very few theorists and that wind works are rarely used as examples by theorists. He follows his review with demonstrations of a method combining style analysis, formal analysis, motivic analysis and reduction analysis. Strong influences include Jan LaRue, John D. White and Frank Battisti/Robert Garofalo.

Markoch's demonstrated analysis gives most attention to pitch (melody and harmony), a reasonable amount to small-scale rhythm, and token attention to sound: timbre, texture and dynamics. He describes three phases: 1) "Familiarization", to get an overview, using listening, reading program or other notes, and reading through the score; 2) "Exploration", in which he pulls in a range of theoretical strategies such as motivic, formal and element analysis, sectionalising and prioritising material, and constructing a form chart; and 3) "Conclusion" in which findings are summarised and applied to rehearsal strategies (34-44). Although his aim is to better equip conductors with practical applications, his conclusions are virtually entirely about pitch (62). These are important, but conductors wield more influence over other elements. He writes in criticism of his method, "harmonic and motivic analysis yielded more information than analysis of rhythm and sound" (89) but gives no reasons why.

Lawrence Ferrara's 'eclectic method' of musical analysis aims to bridge the gaps between what he terms 'conventional' musical analysis – formal, style, reductionist, and other score-based methods – and referential, phenomenological, and hermeneutic methods. He insightfully observes that, "Approaches to musical analysis and understanding are varied and often disparate. Each approach tends to focus on a singular dimension of musical significance at the expense of another, whether at the level of musical sound, form, or reference" (xiii). Ferrara's ten-step 'eclectic method' sequences analysis tasks from the broad range of methods to yield more comprehensive
understandings of the musical work (186). He demonstrates his method on two works for solo piano, one by Bela Bartók, the other by David Zinn. In theory, his method is potentially valuable for scoring study, however his examples glaringly bypass that potential. Ferrara’s ‘conventional’ analysis is still predominantly about pitch – melodic line, motif and harmony. Even his adaptation of Jan LaRue’s timeline\(^3\) only addresses pitch and motivic rhythm (206-07). His fourth step, “Sound-in-time,” includes rhythm, tempo, some reference to texture (foreground-background) as well as pitch (207).

I do not expect an analysis of a conventional solo piano work to give much attention to timbre, but would think that phrasing, pedalling, articulation, arpeggiation and dynamic markings should be addressed. Bartók has taken great care with these. These indications are not analysed on their own, nor included in analysis of the other elements. Yet Step Nine, “Performance Guide”, deals prescriptively and extensively with dynamics and touch (which produces timbre change), even to the point of recommending changes (e.g., \(mf\) to \(f\)), when nowhere has Ferrara given Bartók’s markings serious analytical evaluation.

Ferrara’s intention is that analysts might be equipped with a broad range of integrated methods, yielding practical applications for performers. His incorporation of a range of philosophies with conventional syntactical musical analysis methods suggests potential for an open understanding quite different from the scoring-focused objective of this study. Emphasis on listening for an overview and subsequent checking-in (182-85), and recognition that choice of method and tasks determines findings (39) are valuable contributions to my work. The ways we choose to know determine what we know\(^4\).

‘Sound’ analysis (timbre, dynamics and texture, per LaRue’s Guidelines) should not replace pitch-based analysis, but certainly warrants more attention than it has been given by the analytical community.

Writings considering scoring concerns and form or structure

Several writers have taken on scoring-specific concerns. Jonathan P. J. Stock examined the 2nd movement of Mozart’s C\(\) minor Piano Concerto K. 491 in light of orchestration, revealing a structure which differs from that derived from harmonic and thematic analysis. Stock does not advocate replacing harmony-based analysis with his

\(^3\) from Guidelines for Style Analysis, substantially modified.

\(^4\) David Lewin’s excellent critique of his own and Nicholas Cook’s analyses of Stockhausen’s Klavierstücke III demonstrates the fruits and gaps of two very different analysis techniques (44, 53-67). Lewin is very clear about what his analysis does and does not illuminate.
orchestration model. Rather, he suggests that the two taken together reveal a more complete understanding of the work. He uses a conventional form framework based upon phrases, motivic material and tonality and compares it with the instrumentation of the same sections, considering instrument assignments – doublings and groupings, character of material (e.g., staccato or arpeggiated), and roles – lead, melody, accompaniment, or supplementation. Stock describes the structure in terms of instrumentation, motivic material and formal punctuations, confirmed by texture and rhythm. In considering Mozart’s orchestration, he has also noted its effect on the listener’s perception of the structure of the work. With this article, Stock soundly demonstrates the potential of this kind of analysis.

Janet Levy and Michael Marissen also consider listener expectations in reading structural cues. Levy’s “Texture as a sign in Classic and Early Romantic Music” demonstrates the role played by texture as an indicator of structure for a listener grounded in Classical and Romantic period musical culture. Marissen discusses the relationship between structure and scoring in Bach’s Sixth Brandenburg Concerto, comparing and contrasting Bach’s work with the style expectations of the time – in particular Bach’s contravention of normal roles for certain instruments.

N. Lee Orr studied several of Mozart’s mature instrumental ensemble works from piano trio through concerto, noting the effect instrumental forces had on the proportions of ‘sonata-form’. Form is his subject and therefore framework; texture is a scoring strategy studied. Orr concludes that as instrumental resources increased (discussing the impact of colour, idiomatic writing, and texture), Mozart introduced more variety and expanded and extended the form (83). Instrument contrast “demanded” more statements of thematic materials (74), extended the time spent in a given tonality, and even compensated for the absence of an opening theme in the piano quintet, K. 493 (77). Orr’s work demonstrates interrelationships between scoring and structure for contrasting ensembles.

Richard Parks compares Claude Debussy’s orchestration of Prélude à l’après-midi d’un faune with Benno Sachs’ arrangement for Schoenberg’s Verein für musikalische Privataufführungen considering how scoring in each clarifies and reinforces the same structure. He compares two different ensembles – large orchestra and middle size chamber ensemble with one player per instrument – discussing the works in the light of their differing timbral resources and the similarities and differences
in the choices each orchestrator makes.

Parks’ discussion of timbre goes well beyond instrument choice into intensification and diffusion of colour, rates of change, and kinds of mixtures and overlaps. He establishes the very useful concept of timbral saturation — the number of instruments of like colour present in the sound (a passage for all violins is more ‘saturated’ than one for solo violin). Debussy’s structure is supported with timbral shape as he changes instrumental colour and manages the saturation of those colours. Parks also demonstrates the correlation between marked dynamics and number of parts or players. His discussion and representation of rates of change is somewhat awkward — a complex and difficult topic, however, his concluding points are well-put and significant.

Parks concludes that Sachs’ arrangement supports the Prélude’s structure in much the same way as Debussy’s orchestration, limited by the inability to develop saturation of colour. By preserving Debussy’s pacing of instrumental change, it confirms the structural importance of timbre.

Nick Ramlik puts the spotlight on orchestration using short examples from over twenty middle-late twentieth-century works to demonstrate orchestrational techniques of timbral transformation, activation, sustaining sonorities and their combinations. He also points out that “timbral transformation [may] make up the structural framework” of a piece (34). Ramlik’s descriptions are most effective when they are timbre-centric, that is, when he discusses an example of orchestration technique by describing what occurs within instrument parts: register, extended techniques or effects, and volume, as well as pitch class or interval. Conversely, they are least effective when he generalises about timbre to the level of instrument type or choir, or when he omits timbral description.

The organisation of timbre is highly valued by composers yet under-studied by analysts. Instrumental colour must be a primary ingredient in music for the large, colour-rich orchestra and wind ensemble. The other elements used as primary ingredients may vary from composer to composer and from work to work. Texture, the analysis framework suggested by Piston, does not suit the works studied here as well as structure. Markoch’s and Ferrara’s methods suggest much potential for timbre or scoring analysis but demonstrate little, and are geared for performance applications. Stock, Orr, and Parks, although not directed toward composers, provide the most encouraging models in constructing this study, demonstrating careful prioritisation of
elements to illuminate the elusive interrelationships between scoring and structure.
CHAPTER 3

Overview of literature on scoring and analysis, Part 2

Models and concepts

Hugo Riemann observed that, "a large number of colouristic and dynamic means placed at one's command, favours a departure from strictly formal structure, and that, on the other hand, the ensembles poorest in colour lead most forcibly to artistic development of the design" (86) and, "As a general rule it may be laid down that the stronger the instrumentation, the simpler must be the part-writing, if it is to remain lucid. For that reason the structure of a string quartet, quintet, etc. is on the average considerably more complicated than that of a piece for full orchestra" (74). In other words, instrumental colour is strong enough to overshadow design in other elements. When there is little colour to work with one must make more musical sense with the other elements. It follows then, that since colour design is stronger where there are more resources, more design will occur within the element of colour and less (proportionately) in the others. Orr's study of sonata-form in Mozart's works confirms Riemann's observation: forms in Mozart's larger ensemble works were extended and expanded through use of instrumental colour. Large ensemble repertoire since Riemann's late nineteenth century observation has certainly demonstrated increased exploitation of colour and the development of new and work-specific formal structures.

The purpose of this study is to examine scoring, seen most clearly in relationship to the structure of the work. To construct an analysis process I needed to find or create tools which would lead me toward understanding how sounds-in-time contribute to the communication of structure and meaning. This requires describing the structure in terms of as many musical elements as are relevant and examining the scoring of those elements, particularly at significant structural points, such as beginnings, endings, connections between sections, or dramatic climaxes. It also requires describing the sounds used and their effect, incorporating information from the score and from listening. Sources discussed in Chapter Three reaffirmed the need for a study addressing scoring effect and aimed at composers. The following texts provided further grounding for the analysis process. The most influential are three older works from the 1970's. My interest in the structural impact of timbre and scoring is in some way suggested within each, yet not directly demonstrated. Even though a quarter century has passed, little work has been done along this particular line.
In *Guidelines for Style Analysis*, Jan LaRue describes analysis in terms of five elements: Sound – timbre, dynamics (defined as intensity of sound), texture and fabric (23-38); Harmony – all vertical pitch relationships, both tonal and atonal, including chords, clusters, counterpoint, and modulations (7); Melody; Rhythm – patterns of “tension/relaxation in all elements and dimensions of music” (276); and Growth – including energy movement and listener expectations. He discusses structure in terms of Shape – organisation of sections, and Movement – gradual changes which may occur within Shape or transcend it. He offers many insights about the element interrelationships which generate the overall structure and energy shape of a piece.

LaRue describes and demonstrates an analysis process which I shall summarise in four steps: 1) search for ‘articulations’ (punctuations, junctions or cadences) to determine the shape, 2) assign observations of each element to different scale levels (large-, middle- and small-scale) and levels of influence, 3) determine the significance of those observations, 4) draw conclusions – general information and design, main materials, main articulations, confirming processes, sources of Movement. Findings are presented in chart form in prose, by element and scale level, and in the context of Shape and Movement. He observes that composers exert more control over certain elements in different style periods and at different levels of compositional structure (121). Thus individual composers and individual works may be characterised by the balance of the contribution of various elements to the design. LaRue’s objective is to determine the characteristics of style, whether that be of a historical period, a composer, or of a composer’s early or late works.

John D. White’s approach, in *Comprehensive Musical Analysis*, is very similar to LaRue’s. He describes four elements of music: melody, rhythm, harmony and sound, again referring to timbre, texture and dynamics. “The nature and frequency of timbral contrast within the total time span of a composition is one of the most elusive aspects of style analysis. [...] but it is a challenge that the thorough style analyst must meet” (241). White suggests that to analyse timbre separately from other elements in a work, one might use a linear graph identifying degrees of contrast and similarities among recurring colours to show use of timbre for unity and variety (244). He does not demonstrate it but affirms its potential.

His sample analysis of George Crumb’s *Night of the Four Moons* includes a “timbre index” – a list of kinds of sounds from each performer (271), and a “Table of related sounds” including sounds with similar character from different instruments, such as rolls and trills (277). His discussion of the work considers the frequency of
occurrence of listed items and notes the work’s dramatic high point and convergence of elements. The details noted are used to support general statements about the work’s style and position within its context of recent American composition; analytical relevance is measured by its use to performers (276-83).

LaRue and White offer many useful concepts and strategies. My objective is much narrower than that of a general style analysis. Wallace Berry’s work helps bring it into focus.

Wallace Berry

Berry, in *Structural Functions in Music*, provides a means to evaluate instrument usage information in relation to structure. His chapter on texture is the most relevant. He describes relationships between element¹ activity as “complementary” or “compensatory” (8-9), or “consonant” or “dissonant” (13). As an example of ‘complementary’ or ‘compensatory’ relationships between elements, an increase in rhythmic intensity may be complemented by an increase in volume or may be compensated for with a thinner texture. In this light one can see the possibility of multiple ‘forms’ occurring simultaneously in different elements, the additive effect of which may or may not be the same as the harmonic-motivic ‘form’.

Berry also introduces the concept of “progressive-recessive” processes – those increasing and those decreasing intensity (4, 7). He also uses “stasis” for absence of intensity change, which I did not find useful for this study. There were other means of describing it which fit better. I have chosen to use ‘intensifying’ and ‘relaxing’ rather than Berry’s ‘progressive’ and ‘recessive’². ‘Recessive’ suggests reverse motion, which is not possible in music occurring in time (which, of course, is not Berry’s intent). ‘Relaxing’, I find, allows for forward motion with a changed energy state (as a rough analogy, strolling and marching could well be done at the same speed, but with very different energy). ‘Intensifying’ includes increasing tension, and increasing attention. Any significant change may be attention-getting regardless of the direction of change, thereby increasing intensity. For example, increasing volume generally increases intensity, but a sudden drop from fortissimo to pianissimo will attract much more attention than continuing a crescendo. Rate and degree of change are crucial factors. ‘Relaxing’ the energy of an element may be the process used to bring a piece or section to a close, or to move formerly foreground material into a background role. This could

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¹ Berry uses the term ‘parameter’ for LaRue’s ‘element’. I have adopted ‘element’ as it more widely used.
² Parks uses ‘intensification’ and ‘diffusion’ (67), alluding to visual arts; White uses ‘calm-tension’ (*Comprehensive* 23), LaRue uses ‘intensification’ and ‘detensification’ (*Guidelines* 145).
be achieved by repetition without any other change. The actual sounds performed remain the same while the listener's perception changes as the sounds become predictable. Repetition can move beyond 'relaxing' toward 'annoying' and therefore 'attention-getting' again if no other satisfactory material comes into the foreground.

'Attention-getting' judgments are by nature subjective; Berry offers this on subjectivity,

"Many of the observations we make in analysis with respect to tonality, harmony, melody, texture, and rhythm (and concerning such further dimensions as color, dissonance, dynamic intensity, articulation, density, space, and so on) are citations of fact, but the farther we move beyond such facts into the evaluation of interrelations of events and their functional-expressive significance, the more difficult, and the more important, the analysis of music and of the musical experience becomes" (418-19).

Listener expectation results in intensity change and is taken into account as a structural factor. Complexity produces a felt need for resolution into "reconformity" (190).

His work has strongly informed my thinking on texture and led me to notice much more textural and rhythmic detail and more structural implications than I would have otherwise. Only a small portion of these observations has been included in my timbre-centric discussion, however. I compiled texture graphs by evaluating texture quantity and quality in a manner similar to Berry's (184-88). My representation is quite different in order to show correlations between full movement structure and each element – the format had to be somewhat friendly for each element, if not ideal for any.

Berry presents a texture analysis with a measure-number based timeline – a clear means of relating element activity to structure. He introduces many other concepts and terms not directly adopted for this study, but which lead the observer to observe more carefully and conclusively. Although he does not demonstrate an analysis of timbre, he acknowledges its power and the need to better understand its structural influence (294).

Robert Erickson

Robert Erickson, in Sound Structure in Music, explains how timbre may function as the "carrier" of musical material - motifs, chords, or rhythmic gestures; or it may function as "object" - the musical material itself, that is, timbre may be the most influential element (12-13). One can consider occasions when composers 'set' music for specified instruments - timbre as carrier, when the imagined sound comes complete with instrumentation from the start - a mixed relationship, and times when the
procession through a range of colours is the essential direction of the piece – timbre as object. A timbral object can also be a specifically composed combination: a “fused ensemble timbre” (40).

He also discusses the dynamic of “continuity-contrast” – whether activity within a given element contributes to the cohesiveness of the work or to variety. The rate and degree of change again are important indicators of style. Erickson applies his timbre-based analytical approach to traditional orchestral works (e.g., Mahler, Debussy, Webern), to more experimental works (e.g., Feldman, Varèse, Cage, Stockhausen), considers spatial arrangement implications, and recommends it as a useful direction for analysis of electronically generated works. For the purposes of this study, his concepts are useful in examining the function and amount of timbre change over sectional junctions within the form of the work.

Erickson writes as a composer for composers first, then for performers. His method is based upon observation of sound within a number of possible roles such as object, carrier, foreground, or background; considering a variety of factors such as contrast, continuity, rate of change or perceptibility. Timbre is the window for his discussion. He does not necessarily base his work around structure. He considers listener perception and gives much attention to contemporary and experimental works, especially those for large ensembles. His ideas provide useful tools for understanding Husa’s work.

Each of these writers has demonstrated ways to examine the impact of individual events on the total time span of the composition and on the breadth of activity at any given point. Pitch, timbre and volume are completely interrelated – no sound can happen without all of these (considering that ‘noise’ includes many pitches or frequencies combined in such a way that we do not recognise any particular pitch). No sound can happen except in the dimension of time, therefore all sounds are ‘rhythmic’. Each sound influences the listener’s expectation of further sounds, thereby implying some sort of progression through successive sounds. Berry, Erickson and LaRue have made great contributions toward theory that enables one to understand the impact a musical work has on the listener, which is, after all, what most composers are concerned with – how to communicate their ideas most powerfully.

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CHAPTER 4

Analysis method and procedures

To construct an analysis method which could focus evaluative attention upon the elements of timbre, dynamics and texture – the chief concerns of scoring – I had to make some choices. Firstly, what did I want to be able to label? To use structure as a framework I had to be able to clearly and concisely describe the structure. I also had to identify element activity which generated that structure. To evaluate scoring I had to prioritise and make judgments about the many sound events, and decide what those sound events were: the suggested instructions of the score or the actual sounds produced in a particular performance?

Concepts of structure

Along the lines of LaRue’s Shape and Movement, I will consider two dimensions of structure: sections and processes. ‘Standard forms’ (binary, ternary) are defined by their sectional structure. Process-dominated structures include fantasias, minimalist works based upon gradual transformation, and much counterpoint – particularly Renaissance counterpoint in which continuity is highly valued. Both dimensions are important in the works by Husa included in this study.

Sectional structures depend upon perceptions of difference and boundaries. Material may repeated or set in a foreground manner to establish hierarchy: ‘this idea is what this part of the piece is about’. The material may be a chord progression, melodic theme, rhythmic pattern or characteristic instrumental colour. Contrasting material is presented in a way to establish that the former material is finished: the piece is now ‘about’ something else. Organisation of musical elements is especially obvious at these junctions. If the first material is repeated it will be recognised as such if the foreground idea is again in the foreground. If only background elements are repeated it is less likely the section will be recognised as a repeat. Likewise background elements may be changed substantially yet a repeat will be recognised if the foreground material is still foreground. For example, with a melodic theme one might change key, volume, or harmony, but retain intervallic structure and rhythm.

Process dimensions of structure involve large and small-scale energy or mood shapes, characterised by gradual change. Areas of concern include growth, continuity, and rate and degree of change. Pieces with strong sectional structures often have an
overarching energy shape with successive sections increasing and then decreasing intensity. In such cases, the elements of timbre, texture or volume may increase intensity over longer spans than the durations of individual sections and will preserve continuity over section boundaries.

An intensifying or relaxing process is a combination of continuity-producing events which result in sense of a single process, and paced changes of events which result in direction, increasing or decreasing energy. Something is being changed.

Terminology

Musical elements as discussed in this study include the following:

timbre: instrumental colour including differences due to register, dynamic level, performance techniques (articulation, bowing, mutes, special effects, etc.), textural context (soloist tone vs. accompaniment tone), mixtures and masking.
texture: how many things (groupings of sounds: melodies, patterns, chords, etc.) are going on and the degree to which they cooperate or conflict.
volume: marked dynamics and volume as a result of scoring. It is dependent on texture and timbre, especially register and articulation.

melody: consecutive single-line pitched sounds and their rhythmic relationships.
harmony: all simultaneous pitch relationships: chords, clusters, 'vertical' aspects of counterpoint, modulations. In much of this discussion melody and harmony are combined in a single element of pitch.
rhythm: relationship of sound events to time, including small-scale patterns, pulse, subdivisions of pulse, and meter; as well as large-scale rhythms. Small-scale patterns may serve a motivic function as if a melody.

All elements have rhythm: durations of occurrence and rates of change.

These elements are given the most attention in this study, with particular focus on timbre as it is the element in which lies the material differences between orchestra and wind ensemble.

Treatments of the elements over a given time span within the work are considered in terms of the following:

In regard to individual elements:
growth-decline
intensification-relaxation
acceleration-deceleration
complexity-simplicity
between elements:
continuity-contrast
consonance-dissonance
foreground-background
complement-compensate
clarity-diffusion
I also use Park's concept of saturation: the number of instruments of a particular timbre or timbre group playing. (This, like many other terms in these studies, has inapplicable conventional connotations – a highly saturated timbre will not be 'dripping'.)

Scale of analysis

In this study 'large-scale' refers to the entire work or a single movement. 'Middle-scale' refers to sections of movements, sub-sections of sections, or processes within sections. Small-scale includes phrase, theme, ostinato pattern, motif or riff; and most directly, these as performed by specific instruments or instrument groups.

"Middle dimensions are the most important for the study of a composer's handling of Sound, for in these dimensions we see the most influential and expressive changes and hence the most effective contributions of Sound to Movement and Shape" (LaRue Guidelines 32).

Or, in my terms, we see contributions of scoring to process and sectional form.

Structural analysis is mostly large- and middle-scale, taking into account some small-scale materials. Scoring analysis includes more small-scale analysis, correlated to the middle- and larger-scale structural description.

LaRue notes that most composers concentrate their organisational efforts at one or two scale levels (Guidelines 110), and that they emphasise one or two of the elements more than others (Guidelines 139). Different balances of element design lead to different structures. Consequently the questions asked and explanatory models constructed in each analysis must respond to the work's element design balance. Summarising diagrams and charts reflect differences in element priority in each of the movements studied. LaRue also observes, "the more complex the other elements grow, the more decisively the clues of Sound function in determining the primary and secondary articulations [junctions or boundaries] of a piece" (Guidelines 29). Even in a work in which melody and harmony are primary elements; timbre, texture and volume – the concerns of scoring – remain significant, especially so in large ensemble works.
Analyses of these works also take into account the terms in which the composer describes them. In correspondence and interviews, Husa emphasises pitch and rhythmic construction, and finding new timbres and combinations.

Listening as data source

"[T]ruly significant observations keep a balance between what can be deduced only after hours of study and what can be readily noticed by a careful listener after several hearings" (LaRue Guidelines 4-5).

Structure includes both the composer’s design and the impression constructed by the listener. They share many concerns but not all, and not all in the same proportions. There are often motivic relationships which are difficult, if not impossible to hear, which are still, and rightly so, important to the composer. Indeed, they may provide a consistency which would only be noticeable in its absence. Or they may experience different element relationships: the listener may respond more to the large-scale volume shape than the composer who feels the harmonic shape strongly.

Each performance presents a different interpretation; in fact, there are many who consider the performers, especially conductors, to continue the process of creating the work (Larsen, Spano). Each performance will, of course, emphasise different events and the balance of sounds is different in different venues (Husa interview, R. Erickson (11)). Each ensemble has a different spectrum of strength, weakness, and character among its performers. These variables are part of the reality of the composition, however. The work is not complete until it is heard, and there will be many and varied completions of these works over time.

Each work was studied from a particular sound recording. Recordings reflect additional creative input of engineers and producers. The listening situation is also altered: it is not the hall the piece was created for; rather, the sound is coming from two speakers in my living room or from a pair of headphones.

The recordings used were:

Recordings reflect additional differences such as live or studio recording, amount of editing (the Concerto for Orchestra recording was taken from three
performances) and audience input. The score cannot reveal all – creation of the work continues with each conductor, performer, sound engineer and listener.

"The listening experience is vital in assessing musical works of any kind. Indeed, for music listeners of a professional level, there is no listening which does not entail analysis. Data acquired from the listening experience, along with conventional descriptive data, can then be applied to the task of meaningful evaluation." (J. White, Comprehensive 16).

Listening provides a large-scale overview. By listening, I can experience Husa’s ‘In Memoriam’ in seven minutes, in contrast with ‘small-scale’ part-by-part study – the first time through all parts took twelve hours over three days. Much more detail was noticed, but not all of it was heard, even after studying. As a result, I have two listening sources: the recording and the sound constructed in my imagination as a result of score study. Husa’s scores are loaded with carefully organised detail that can not be easily (if ever) perceived at the real-time rate. Many of those details could be brought out by a conductor, although not all in the same performance. As a result, there are numerous possible realisations of the work. Listening observations do not supersede score observations, rather, they help prioritise the possibilities.

Assumptions

There are several assumptions which should be noted.

1) My listening experience is valid data. To a large extent, the analysis is an examination of my subjective impressions and observations, especially of my listening experience, which is biased by my previous musical experience as a composer and woodwind player. My ‘hearing’ of the piece grows as my understanding of it expands. It has changed over the duration of the study and will continue to do so.

2) Composers are concerned with listener’s impressions and write with intended effect in mind. Mine are the only impressions I have access to in detail and throughout the process of growing understanding (verbal and non-verbal). They give me a window into the composer’s effectiveness even if it is a limited one.

All musical analysis is partially subjective in terms of the analyst’s choice of element priority and data units. These data units can then be ‘objectively’ counted or
measured but choice of objective evaluation method is also subjective. This study is about specifics, therefore it is not useful to survey other listeners and use their collective or averaged impressions, as interesting as that might be (a project for someone else.) \(^1\)

3) I have used some quantitative processes to clarify qualitative experience. Measurements used to construct timelines are a way to investigate what I heard, to address the question, “Something significant happened at this point; what is going on in these elements?” For example, graphing marked dynamics and correlating them with number of players was very informative; graphing other elements, such as range, was not so enlightening. Still in both cases, the graphs clarified what was suggested from listening and part-by-part score analysis.

Others' interests will not necessarily correspond to mine. I have endeavoured to take into account all significant musical information in all elements, but realise that I may not have done so.

Analysis process

My analysis process involved: 1) determining a form description for each piece, 2) detailed score examination of the instrumental forces throughout the work, particularly at points of structural significance, 3) comparison of the intensity-relaxation processes for primary elements, 4) evaluation of the ways in which the scoring serves, generates, or contradicts the described form, and 5) comparison of the scoring-form relationship in the work for orchestra and the work for wind ensemble. Listening was used at all stages of the process.

To determine a description of each work’s form I compared the structure suggested by early overview listenings with that suggested by subsequent score study. Listening was most productive in determining process aspects of the work, and in identifying section boundary markers.

During listening, I noted time points for events that seemed significant or especially interesting such as important sectional changes, prominent themes, new colours, points of intensity, dramatic mood changes, and the general energy shape of the piece. I then inserted the time points into the score and listened while following it to

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\(^1\) Arnold Whittall comments upon current streams in analysis and various writers' attitudes toward subjectivity, listening and memory. Consistency within one's own method and openness to others' possibilities are valued over attempts to be comprehensive or watertight.
correlate aurally significant events and visually significant events. There were a few events in the score which proved to be significant that I did not hear until after studying. There were more events which did not look as significant as they sounded. The final description of structure was a consensus of the two sources.

Score analysis included harmonic, melodic, and rhythmic analysis; determination of structural motivic material and transformations thereof; growth-decline processes and closure events. Pitch analysis techniques were chosen according to the qualities of the work and comments made by the composer. Precise instrumental forces for each ensemble were noted, particularly numbers of players per instrument and spatial arrangements. I examined each part for total range, tessitura, articulation, special effects (such as mutes, fluttertonguing, or special bowing), motivic material, role in texture, doubling with other instruments, and whether a soloist or the section was required. Usage patterns for families (e.g., double-reeds), choirs (e.g., brass) or range groups (e.g., low) were noted, as were cross-family mixtures, extremely wide or close spacing, and unusual doublings. Quantity and quality of texture was initially represented in an annotated time line indicating the number of ‘things going on’. The total ensemble range used was mapped out. Marked dynamics were compared with ‘scored dynamics’: number of players, dominant choir, register, texture and activity.

To evaluate this information I continued to develop movement-length intensity/relaxation graphs or charts for some or all of the following: motifs, pitch cells and chords, rhythmic activity, texture, volume, and scoring – instrument choice, effects, register, colour purity, saturation, and number of players. I considered the dissonance/consonance features of each and complementary/compensatory relationships between elements. Particular attention was directed to the way elements were used: 1) at junctions between sections of the form to establish continuity and contrast, and how (or if) new material was set with a distinctive character, 2) within intra-movement processes, and 3) between movements. I also grouped features within the sections of the form, again noting which provided contrast and which provided continuity.

From these I summarised scoring practice and evaluated the movement in terms of the importance of scoring for understanding its structure. Thus the kinds of findings include:

1. Structures:

sectional structures for the entire movement
process structures for the entire movement
role of the movement in the sectional structure of the entire work, with some consideration of its role in process structure of entire work
process structure within sections
sectional structures within sections

2. Content scored:
   relationship of timbre to ‘material’:
   melodic-rhythmic material or harmonic-rhythmic material carried by various timbres
   melodic-rhythmic-timbral material or harmonic-rhythmic-timbral material in which timbre is integral to the identity of the material

3. Continuity-contrast:
   element activity (recurring or patterns of) which results in continuity through a section, the movement or the entire work
   element activity which results in contrast between movements, sections, and sub-sections, such as to introduce new material

4. Clarity-diffusion:
   I looked for scoring of foreground/background roles and found that in these works clarity-diffusion processes were more illuminating. Diffusion does not always or often accompany something clear, it is more likely to prepare for something clear.

5. Instrument usage:
   All activity was ‘viewed through the window of timbre’. Additional instrument usage qualities were identified, such as characteristic, idiomatic, conservative or adventurous, as well as scoring practices – organisation by range or timbral group, function of mixtures, and amount of detail and precision in notated instructions.

   Much fine detail appears to result from concern for fine gradations of effect, essential for large-scale processes.

   Overall, I have looked at how small-scale events, and accumulations of related small-scale events (e.g., additive rhythmic or timbral processes) create or illuminate larger-scale structures.

   Finally, I compared the wind ensemble and orchestra works, noting similarities and differences between Husa’s scoring practice for each ensemble.

Limitations of the study

This study does not present an in-depth analysis of pitch or rhythm, important as those elements are to the works. Pitch materials and rhythmic processes are discussed
as they pertain to understanding medium to large-scale form and structure, especially in
the formation of thematic materials one might say the music is 'built from' or 'about'.
Nor does this study consider contextual issues other than those of the general culture of
each ensemble. Although numerous other works have been studied they are not
discussed except as they directly relate to the works at hand. This sample is not large
enough to support broader judgments.
Karel Husa: Background and overview of literature

Karel Husa (b. 1921) is a Czech-American composer who studied in Prague with Jaroslav Ridky and in Paris with Arthur Honegger and Nadia Boulanger. He learned violin and piano as a child, and studied conducting concurrently with his composition studies. He moved to the United States in 1954 to join the faculty of Cornell University where he taught composition and conducted the orchestra until his retirement in 1992. He has played in orchestras and has conducted orchestras and wind ensembles worldwide.

Sources for information on Husa and his work include the following: personal interviews and correspondence, scores, recordings, Susan Hitchens' Bio-bibliography, journal articles, dissertations, publisher and music organisation essays and biographies, music reference books, and reviews. Although a biography of Husa will not be included here it is worth noting his reputation as a composer in relation to both the wind ensemble and orchestra.

Husa is widely respected by critics, performers and audiences for masterful craftsmanship and powerfully effective music. Major awards include Pulitzer, Grawemeyer and Sudler prizes. Challenging works are performed frequently: Music for Prague 1968 (band version) had received over 8000 performances by 1998 (Phillips 30; Ledeč "Pragensia"). In Jay W. Gilbert's survey of leading college band directors, Music for Prague 1968 was one of four compositions receiving the highest rating from 191 nominated as "significant works of serious artistic merit", and the only one by a living composer. Five others, including the Concerto for Wind Ensemble, were in the list of 73 compositions known to all evaluators. No other composer had six works in this list (Gilbert 8).

The wind ensemble community has welcomed Husa's consistent interest in their medium. Articles in band-oriented journals celebrate new works or career milestones (birthdays, retirement). Husa has also contributed articles and participated as clinician and guest conductor.

Husa's orchestral works are also performed frequently. Even the extremely virtuosic Concerto for Orchestra has been played by several orchestras. Commissioned and premiered by the New York Philharmonic, the first recording was by the St. Louis Symphony Orchestra. He has been commissioned by the New York Philharmonic, the Chicago Symphony and many others (Husa, biographical statement).

1 In addition to Hitchens' work, Adams ("Karel Husa"), Nott, and Ledeč (Karel Husa) have published biographical information.
In addition to celebratory articles and reviews, a few ‘Interpretative Analyses’ for conductors have appeared in band journals. They focus on understanding for more effective rehearsal and may include conducting technique suggestions or recommendations for adjusting balance (see Byron Adams, “Music for Prague 1968”).

Interviewers regularly ask Husa about his opinion of the musical standing/quality of the wind ensemble, conducting experiences and his compositional process. He is consistently quoted as believing the wind ensemble is an artistic medium equal to the orchestra (McLaurin 31; Ledeč, Karel Husa 9; Nott 5). When I interviewed him he confirmed his stance but also expressed some previous frustration or concern with the expectations of band performers – that they were not comfortable with the independence required of orchestral players. Some of that may have been due to the difference between student and professional players, but much can be attributed to a repertoire tradition dominated by heavy doubling and thickly scored simple textures. In some quarters, at least, the problem is receding quickly. Pieces by Husa that were initially difficult to put together by top university ensembles are now played by good high school bands. His compositions have led players into new performance territory and, consequently, new ability.

Frank Battisti wrote of those composers commissioned in the 1960s, early in the wind ensemble movement, “All of these composers [including Husa] applied to their band pieces techniques drawn from contemporary orchestral practices. The differences in compositional technique and orchestration between these new pieces and the traditional transcriptions were radical and easily evident” (Twentieth Century 26).

Husa thinks carefully and in detail about the quality of sounds and has added much to the performance practice of brass and percussion instruments. He has listened widely, experimented with instruments (Battisti, “Keeping Ties” 12-13) and can accurately anticipate the player’s experience of his parts. He is also very aware of his audience’s knowledge. In Music for Prague 1968 (band version) a melodic line in ‘Aria’ is scored for saxophones in octaves. The first saxophone section found this a challenge; they were not accustomed to playing in octaves and intonation was difficult. When Husa scored Music for Prague 1968 for orchestra he gave the line to ‘celli and violas in unison because strings have a long tradition of playing in octaves. The audience might have recognised a Tchaikovsky-ism, rather than something fresh and new. Husa is consistently interested in giving the listeners and the players something “a little different” (interview).

Thomas O’Neal studied Husa’s Music for Prague 1968 (band version), noting new and unconventional instrument usage and scoring, particularly the important roles given percussion and saxophones in presenting and developing material. Husa uses nine individual clarinet parts and eight individual trumpet parts (twelve players) in this
work, which, as O’Neal points out, was a new approach to scoring (51-53). The Concerto for Wind Ensemble also uses these forces (although only eight trumpet players). O’Neal compares Music for Prague 1968 with Paul Hindemith’s earlier Symphony in Bb and Joseph Schwantner’s later... and the mountains rising nowhere suggesting progressive development in scoring style and in concepts of the wind ensemble.

Several theoretical analyses of Husa’s works have emphasised his careful manipulation of pitch cells over extended structures. Lawrence Hartzell discusses a number of middle-period works demonstrating Husa’s approaches to tonal centres, motivic organisation, serialisation of elements, use of extended techniques, and rhythmic processes. Husa’s articles on Music for Prague 1968 and Three Dance Sketches detail motivic sources and manipulations. He also writes about pitch groupings and, to a lesser extent, rhythm and timbre sequences.

Robert Rollins discusses the structure of the Concerto for Orchestra primarily in terms of motivic manipulation. He points out common materials between this movement and the Pulitzer Prize winning Third String Quartet (1969). In regard to the Quartet, Husa said, “After Bartók, Berg, and Webern, it is not easy to imagine new ways of playing string instruments. I feel that I have been able to find some unusual paths for bow and finger” (qtd. in Nott 4). When I spoke with Husa about the Concerto he showed me how scale materials for the first movement, a string feature, were constructed in relation to violin fingering (interview)². The pitch material was influenced by instrument-specific kinesthetic patterns, thus it is not surprising that both pieces featuring strings use similar material. Rollins describes the remaining movements more briefly with reference to texture, contrapuntal processes, rhythmic materials, scales, motives and timbre. He suggests that some pitch materials in ‘In Memoriam’ are based upon those of the first movement, ‘Cadence’.

Steven Smith talked with Susan Elliott about conducting the Concerto for Orchestra with the Cleveland Orchestra. He describes the large-scale scope of the work, emphasising the process structure:

“It’s a monumental piece. Within 40 minutes, he creates an entire world of sound, of rhythmic relationships, of moods and emotions. And each movement flows very logically from one to the next, so there’s a real sense of direction, of momentum in a certain way – although that implies a constant forward motion and at times the motion actually steps back and becomes more reflective. His language is unique, especially his use of rhythm.”

² See p. 86 in Chapter 7.
Smith also describes the “massive crescendo” of the first movement in which all elements contribute to powerful intensification, built upon the process of gradually adding players to the cadenza-type material.

Allen Molineux analyses the first movement of the Concerto for Wind Ensemble discussing pitch relationships, particularly “wedge shapes” — pitch movement surrounding a tonal centre, and “mirror” relationships. He describes the form in terms of featured instrument groups and general quality of material (e.g., “fanfare”, “low brass clusters”). He identifies the contribution of various instrumental choirs with each section, but does not discuss timbre in further detail. His description of wedge and mirror pitch relationships is clear. Other elements follow similar shapes in this work. It would be interesting to see them presented concurrently.

Mallory Thompson examines the Concerto for Wind Ensemble from a conductor’s point of view, considering pitch, rhythm, texture, timbre, register and spatial factors. She pays particular attention to structural divisions and their attendant scoring. It is, in many ways, the analytical work closest to my own, and an added bonus that it is on one of the same pieces. My discussion moves on from Thompson’s to compare Husa’s wind ensemble and orchestral writing, and to consider applications for composers. Further discussion of Thompson’s analysis will follow mine.

The two concerti: introduction

The Concerto for Wind Ensemble was commissioned by the Michigan State University Alumni Band in 1982. It is dedicated to the Michigan State University Bands and director, Stanley De Rusha. Husa conducted the Michigan State University Wind Symphony in the premiere performance on December 3, 1982 (Husa, score). Two recordings were consulted: the recording of the premiere and Mallory Thompson conducting the Cincinnati Wind Symphony in 1997 on Prevailing Winds. Both are very effective. Both are also slower than the marked tempo of $j = 60$: Thompson averages approximately 52 beats per minute; Husa, 41. Because the Thompson recording is commercially available, and therefore easier to obtain, it is the primary source for this study.

Husa had written seven works for wind ensemble when he undertook this commission (McLaurin 24), and had conducted wind ensembles on numerous occasions. His understanding of the ensemble and its repertoire was well-matured. Donald McLaurin describes how the Concerto is a culmination of Husa’s exploration of wind and percussion sounds, introducing a specific seating arrangement and new devices which he had not used before (timbre trills and muted oboe), as well as
microtones, vibrato effects, and extreme ranges, all of which he had exploited before (29). The Concerto is not merely a collection of effects, however. It is a masterful work integrating a wide range of sounds with musical integrity. The Concerto for Wind Ensemble won the inaugural Sudler International Wind Band Competition in 1983.

The Concerto for Orchestra was commissioned by the New York Philharmonic Orchestra and Zubin Mehta in 1986. Husa considered it to be his greatest composition (letter 1995). Following over twenty orchestral compositions, it is a celebration of virtuosity, influenced by personal acquaintance with many of the players. In particular he wrote for Mehta: “This work acknowledges the art and mastery of the virtuoso conductor. The Concerto for Orchestra is dedicated to Zubin Mehta and the New York Philharmonic” (Husa, lecture notes on Concerto for Orchestra). The commission was for a eighteen-minute work. Performances of the Concerto have ranged from thirty-six to thirty-nine minutes. Rather than play only part of it, Mehta changed the program of the premiere concert to accommodate the entire work (Husa, interview).

Husa’s Concerto for Orchestra and Concerto for Wind Ensemble are regarded as summarising (Ledeč, Karel Husa 9) and exemplary works for the respective ensembles. Byron Adams describes the Concerto for Orchestra as “one of the composer’s most concentrated artistic statements, filled with music of almost unbearable emotional intensity, and demanding the highest virtuosity of both conductor and player” (composer essay). Also in reference to this Concerto, Michael Nott says “one immutable aspect of Husa’s mature style is his absolute commitment to clarity of form” (3). He goes on to explain that he is not necessarily referring to classical forms, but to structures integral to the material, involving repetition or cumulative processes, gradually building up a texture over the course of a movement.

For these works, the concept of ‘concerto for orchestra/wind ensemble’ will also be considered within the relationship between scoring and structure. In The New Harvard Dictionary of Music, Wolf describes ‘concertos for orchestra’ as “display pieces in which the orchestra itself is the virtuoso – from soloists to sections to choirs to tutti” and as essentially twentieth century phenomena (191). Bela Bartók’s is the best-known of this genre but many other composers have written such works about the orchestra itself. Fewer pieces with this mission have been written for the wind ensemble.

Battisti writes, “The Concerto for Wind Ensemble is one of Husa’s most brilliant pieces.[. . .] In this piece Husa exhausts the virtuosic potential of all instruments found in the contemporary wind ensemble” (Twentieth Century 43).

Husa describes his concept thus,

“‘Concerto’ to me is always a parade of what some of the soloists or some of the better players in that group can do. [. . .] I would
like to use as many of the players as I could, and also many of the instruments which have not been used in addition to those that we know already; so for instance, feature a piccolo, or a bass clarinet, or English horn, or contrabassoon, or bass flute” (interview).

Mallory Thompson’s notes from Prevailing Winds, recording of the Concerto for Wind Ensemble suggest that “[t]hree fundamental ideas form the underlying concept in the work – it is a concerto for large ensemble, there is a large-scale pitch structure which is a unifying factor in the work, and the work utilizes an unusual seating arrangement.” She observes in this large ensemble concerto “Husa chooses not only to highlight the instruments in solo settings but also to cast them in soli roles, writing solos for entire sections” (Prevailing Winds 3-4).

These writers demonstrate that these two concerti fill and surpass Wolf’s description, not only featuring soloists, sections, choirs and tutti, but also drawing attention to the full range of possible soloists and to the art of the conductor. They are truly comprehensive celebrations of the ensembles themselves.

As ensemble showpieces, the concerti are divided into movements which feature different groupings of instruments. The Concerto for Wind Ensemble is in three movements which feature each of the three instrumental choirs and the full ensemble.

Concerto for Wind Ensemble

‘Drum Ceremony & Fanfare’ Percussion and Brass 5:30
‘Elegy’ Woodwinds (and full ensemble) 8:40
‘Perpetual Motion’ Full ensemble 7:45
(Durations from Prevailing Winds recording. Total: 21:55)

The Concerto for Orchestra is in six sections: four substantial movements and two shorter interludes. Strings, woodwinds, brass, and percussion are regarded as equal choirs. Harps and piano form a semi-distinct group closely allied to those percussion instruments which will be referred to as ‘pitched-attack’ instruments3.

3 ‘pitched-attack’ instruments are those with a normally percussive attack and rapid decay: mallet percussion, piano and harp. Because they can carry melodic and harmonic material, they are commonly treated differently by composers than the unpitched percussion, which can carry rhythmic, timbral, range-based, and dynamic thematic material, but not that which is pitch dependent.
Concerto for Orchestra

I. 'Cadence' Strings (and full orchestra) 7:30
   'Interlude I' 'Pitched-attack' (harps, piano, marimba, xylophone) 2:47
II. 'Fantasy' Woodwinds (and full orchestra) 5:40
III. 'In Memoriam' Full orchestra 7:11
   'Interlude II' Percussion and chamber strings 2:17
IV. 'Game' Brass (and full orchestra) 10:44

(Durations from Slatkin Years recording. Total: 36:09)

The middle movements, 'Elegy' and 'In Memoriam', share many characteristics. Both are marked \( \text{~} \text{j = 60} \) and in 4/4 meter. The pulse is de-emphasised with few entries on the beat, therefore large sections of the movements seem to flow in relation to absolute time more than to a pulse. Both have dynamic and textural shapes progressing from 'quiet and thin' through 'loud and full' returning to 'quiet and thin'.

Husa’s music powerfully captures and releases anguish and anger. Movement titles reveal his consistent concern and compassion. He said,

"Well, the tragic times, I would say, are reflected in 'In Memoriam' [. . .]
We are 20th-century people. We are intelligent. Yet we are barbaric. We kill each other. We kill children. We kill animals. And that has had an effect on me; when I take a newspaper, when I see television, I’m influenced by that. So 'In Memoriam' has that [sense of the] tragic, which we live every day. [. . .] It is not [a] specific ['In Memoriam']. Although, in the last ten years my family has died in Czechoslovakia, and I cannot say that I have not been influenced by that. But what influences me [most] is people being killed [. . .] All the innocent people that are killed. That gives me a feeling that I express, because that [reflects] the times today" (Bookspan)\(^4\).

\(^4\) Husa describes three of his works as 'manifests', intended to address serious and universal issues: Music for Prague 1968, Apotheosis of this Earth, and the ballet, The Trojan Women. Regarding Music for Prague 1968, "musical notes become the sounds of protest; through these sounds music has its only power; it has no bullets or bombs or death danger; all it can do, perhaps, is warn what the future might be." Apotheosis of this Earth warns about man's blind and compulsive race toward destruction of the planet, and The Trojan Women addresses the tragedy of the victims of war, particularly women and children. Adams reflects, "Husa’s humanitarian concerns are central to his music, which rises to great eloquence when protesting tyranny or mourning the victims of violence and cruelty" and his "creative strength derives from his uncompromising individuality and firmly held ethical beliefs" (composer essay).

Likewise, the 'Game' which closes the Concerto for Orchestra is a comment on the 'Star Wars games' the superpowers proposed to prepare for in the 1980s. At the same time, there is an element of play, influenced by Husa's grandchildren's Nintendo expertise (interview).
‘In Memoriam’ and ‘Elegy’ express Husa’s compassion and concern. They lead the listener to feel his anguish; they do not resolve victoriously. The dangers remain; the tragedy continues. Perhaps they may move us to act.

The following chapters examine scoring of these movements in detail. As this is a study of craft – how Husa has used the instruments of the ensembles to create and confirm his structures, I give relatively little attention to the works’ emotional meanings. I hope, however, that delving into his use of sound will strengthen their emotional impact for others as it has for me.
CHAPTER 6

Concerto for Wind Ensemble: ‘Elegy’

Overview

The Concerto for Wind Ensemble is in three movements, as described above. In this chapter the second, ‘Elegy’, is examined in depth, taking into account its position within the Concerto as a whole, its internal structure, the contribution of various musical elements to that structure, and the contribution of scoring concerns, particularly timbre choice, to the structure.

Concerto for Wind Ensemble

<table>
<thead>
<tr>
<th>Movement</th>
<th>Instruments</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Drum Ceremony &amp; Fanfare’</td>
<td>Percussion and Brass</td>
<td>5:30</td>
</tr>
<tr>
<td>‘Elegy’</td>
<td>Woodwinds (and full ensemble)</td>
<td>8:40</td>
</tr>
<tr>
<td>‘Perpetual Motion’</td>
<td>Full ensemble</td>
<td>7:45</td>
</tr>
</tbody>
</table>

(Durations from Prevailing Winds recording. Total: 21:55)

The first movement, ‘Drum Ceremony and Fanfare’, features percussion and brass choirs, particularly timpani and trumpets. Thematic material is idiomatic to the presenting instruments. The five-drum timpani solo is rhythmically assertive and uses rolls and pitch slides. Five tom-toms provide a partner for and counter to the timpani. Gongs and cymbals highlight or announce events such as the first woodwind tutti or fanfare motif iterations. Wind materials also reflect the character and traditions of the instruments: the trumpet ‘Fanfare’ is built from triadic materials; low brass material features trombone glissandi, triple-tonguing, and expansive, powerful chord build-ups; and the supporting woodwind material ‘twitters’.

By the end of the first statement of the ‘Fanfare’ motif (m. 54), Husa has established the nature of the Concerto: it is about the timbres and virtuosic characteristics of the instruments of the wind ensemble.

In general, motivic material is idiomatic to and owned by the instruments which present it. It may be expanded to a choir or tutti, in which case additional instruments double the presenting section (for example, when the trumpet fanfare returns in m. 141 it is reinforced by woodwinds). The three choirs of woodwind, brass and percussion are blended rarely, only for purposes of reinforcement, and in a manner which retains the character and colour of the presenting instruments.
‘Elegy’, the second movement, features woodwinds, which played supporting roles in the first movement. Muted brass fill subtle supporting roles throughout the opening and closing sections. The middle is a brass-dominated ‘chorale’ that quickly disintegrates into linear woodwind material. Timpani again introduce important material and the percussion play a strong role, frequently independent of the rest of the ensemble.

‘Elegy’ begins and ends quietly. The other two movements begin and end loudly.

The third movement, ‘Perpetual Motion,’ opens with a loud woodwind rip, indicating that this movement is not going to feature a new colour choir – it is an exploration of the full ensemble. There are more solo passages in this movement than any of the others, notably for various saxophones, clarinets and trumpet. Husa has not yet exhausted his palette, calling for ‘jazzy’ sounds from saxophones and trumpet and making further use of mutes and other effects. Percussion continue to provide a strong presence, again sometimes supportive and sometimes very independent, particularly the timpani. The rhythmic energy is persistent and driving as the title suggests, interrupted briefly near the end with a free timpani solo recalling the opening ‘Drum Ceremony’.

All movements include a tutti section, featuring the complete ensemble. Motivic material is handled differently in each to produce different experiences of unity.

‘Elegy’ is scored to maximise contrasts within the large-scale structure of the Concerto. Husa creates extremely clear, but not predictable, formal structures by using all elements to provide contrast. Figure 6.1 shows the junctions between movements in terms of several elements: timbre, volume, range, texture, rhythm, tempo, and harmony. At junctions all elements provide some contrast. As each movement progresses, continuity is also generated by most elements, through maintaining a core language. For example, he uses the same percussion instruments in each movement, yet has distinctive material within that language belonging to the particular movement or section.
### ELEMENTS

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>#1 ‘Drum Ceremony &amp; Fanfare’</th>
<th>#2 ‘Elegy’</th>
<th>#3 ‘Perpetual Motion’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIMBRE</strong></td>
<td>Ending</td>
<td>Beginning</td>
<td>Ending</td>
</tr>
<tr>
<td></td>
<td>ww (pic - b. cl): run up, trill</td>
<td>chime &amp; gong, muted ob, flutes solo flute</td>
<td>contrabass clar. timp. b. dr. (muted brass chord previous)</td>
</tr>
<tr>
<td></td>
<td>ob, saxes, hns+vibes: triplet brass: stung descending chord</td>
<td></td>
<td>high woodwinds: 3 note motif muted low brass, saxes: long note chime to s. dr, then muted tpts</td>
</tr>
<tr>
<td></td>
<td>timp, tomtoms: roll up, triplet susp cym &amp; b. dr. last hit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VOLUME</strong></td>
<td>fff</td>
<td>ppp</td>
<td>pp</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Δ ff</td>
</tr>
<tr>
<td><strong>RANGE</strong></td>
<td>very wide 6 octaves</td>
<td>narrow 1.6 octaves</td>
<td>narrow 1 octave</td>
</tr>
<tr>
<td><strong>TEXTURE</strong></td>
<td>3+ part thick: full ensemble</td>
<td>1 part simple</td>
<td>1 pt thin</td>
</tr>
</tbody>
</table>
| **RHYTHM**     | 4/4, 0,.*, /triplets, trills | 4/4 slow, 0 & / | 4/4 slow, 0 | 6/8, vigorous /,
|                |                               |            | very long note | |
| **TEMPO**      | J = 84 (feels lively)         | J = 60 (feels slow) | J = 60 | J = 144-152 (feels fast) |
| **HARMONY**    | whole-tone scale cluster surrounded by A | Eb chime cluster: F# and G major triads | Eb | C, C-Eb, E |

Note: Overall, harmonic materials are similar. This is a significant contributor to continuity between movements. Similar percussion materials between movements also contribute strongly to continuity throughout the work.

Key to symbols. Δ contributes to contrast. = contributes to continuity. 0 contributes little effect.
Junctions between movements - structural pitches

When I questioned Husa about the priority of elements — whether rhythm or timbre might be of equal importance to pitch — he asserted the importance of pitch construction and then of pacing contrasts. He also spoke of the care he takes with orchestration and how he considers instrumental qualities and tradition very early in the composition process, even while working out basic pitch materials (interview). His work demonstrates great care for continuity through pitch — the same materials may be used throughout a multi-movement work — and careful management of contrast in other elements.

To come up with pitch materials, Husa will take a few notes and play with them, inverting, mirroring and transposing them. He then has a row or scale, from which he develops motifs, chords and other ideas. He uses it freely, rather than in strict order. Further manipulations expand the pitch vocabulary to include all twelve pitchclasses.

Since the Concerto for Wind Ensemble was commissioned by Michigan State University, Husa derived some pitch materials from the initials MSU: M = mi or Eb, S = es or Eb, and U = ut or C. The respective pitchclasses are stated by the chime at the beginning of each movement and reinforced with different combinations of metallophones. These pitchclasses are used as structural markers. In addition, much of the Concerto’s motivic material is derived from intervals present in ‘MSU’.

The first movement, ‘Drum Ceremony and Fanfare,’ opens with an E chime (‘M’) reinforced by vibraphone, glockenspiel, and antique cymbal; and sustained by trumpets, horns and alto saxes. Husa describes the overall harmony of this movement as A lydian or E major (phone interview). To give an example of his manipulation of pitch materials, the final wind cluster-chord is a whole-tone scale – Bb, C, D, E, F#, G# – surrounded by A’s. This can be constructed from the upper tetrachord of A lydian with its mirror above. Symmetrical pitch motifs are common in Husa’s works and provide continuity through intervallic consistency.

The first woodwind entrance at the end of the ‘Drum Ceremony’ (m. 50) is a trill between Eb (D#) and E♭ accompanied by Eb in the chime and marimba. The point of stillness at m. 140 is a quiet woodwind cluster of Eb and E♭, or ‘M’ and ‘S’ — the junction between the movements. This change just prior to the ending foreshadows the colour, volume and opening pitch of the next movement. The last wind motif stated is eighth-note triplet Eb - E - Eb and its inversion, Eb - D - Eb. These are played by oboes, saxophones and horns – an ambiguous, mostly woodwind, colour. All of these uses of the woodwind choir also use the structural pitch, Eb, of the woodwind feature, ‘Elegy’.

Timpani pitches strongly confirm A lydian: E, A, C#, D# and G#. As the rest of
the ensemble explores other arrangements and transpositions, for example, trumpet fanfares built from extended F and G major triads, the timpani are replaced by semi-pitched tom-toms. Timpani reintroduce the A lydian group and gradually the rest of the ensemble arrives at pitch centres of A and Eb, culminating at m. 141 with the fanfare motif stated from A. During this process the timpani part seems to be operating quite independently from the rest of the ensemble in pitch and rhythm. This independence is characteristic of the timpani part throughout the Concerto – although not outside the broad pitch vocabulary of the ensemble, it often emphasises different pitches within that vocabulary.

The third movement, ‘Perpetual Motion’ is built on the motif C - Eb - E, the retrograde of ‘MSU’. Solo lines from the final section of ‘Elegy’ also make use of thirds and minor seconds, the intervals in this motif. C and E are prominent at the junction between the third and final sections of ‘Elegy’, tying it to the structural pitches of the outer movements.

Analysis process

By the time I began serious analysis of ‘Elegy’ I had studied the band and orchestra versions of Music for Prague 1968 and the first movement of the Concerto for Wind Ensemble in detail, and had interviewed Husa.

The first stage was listening for large-scale understanding, to suggest a preliminary form description.

Middle-scale examination suggested that motivic material and timbre choice define sections (Fig. 6.2) while other elements generate the process (energy) shape (Fig. 6.3). I compiled graphs of various elements: rhythmic activity, texture, marked dynamics, number of instruments playing, and ensemble range; and refined the form description.

I next examined individual instrument parts (lines in the score) for motivic and harmonic materials, range, register, tessitura, special effects, roles in texture, doublings, and saturation; and further refined the form description.

Large-scale: listening perceptions

On three occasions, I listened to the ‘Elegy’ for a broad overview, noting CD time points of aurally significant events. The first time I was still working on the first movement and did the other movements as a matter of curiosity regarding my method. I did not go on to analyse the scores of those movements in detail at that time. The
second and third listening sessions were done immediately prior to intensive score analysis. A good deal of time had elapsed since the first. I was somewhat more familiar with the whole piece, and much more familiar with my analysis process. Most of my notes referred to timbre changes, a few to texture and volume. My impression at the end of each session was that ‘Elegy’ was in some sort of an A-B-A form with powerful growth-decline processes that might be more important than themes or motifs. The most significant points started sections, with another suggesting a transition between ‘A’ and ‘B’. Differences in texture type, volume, characteristic instrument groups (woodwind vs. tutti) corresponded to changes in motivic materials, such as length of line, width of melodic intervals, or clarity of harmonic events. Numerous later listenings confirmed these observations.

‘A’ sections in ‘Elegy’ are characterised by prominent woodwind material, solos, weak sense of pulse, long lines, and soft dynamic level. The ‘B’ section begins loud, strong, and chordal, with a clear pulse and full, brassy ensemble sound, becoming more diffuse until the return of ‘A’-type material. The percussion become prominent and rhythmically active before the ‘B’ section, initiating a transition and retaining much the same character throughout ‘B’. This large-scale impression of structure was most strongly influenced by timbre, volume, texture and rhythmic activity. Middle-scale evaluation produced two perspectives on structure: a pitch-based sectional structure and a process structure driven by other elements.

Characteristic melodic and harmonic materials: sectional structure

After completing all levels of analysis, I settled upon the following section form description. ‘t’ is the transitional section.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>t</th>
<th>B</th>
<th>A'</th>
</tr>
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<tbody>
<tr>
<td>score:</td>
<td>m. 1 - 45</td>
<td>m. 46 - 57</td>
<td>m. 58 - 76</td>
<td>m. 77 - 99</td>
</tr>
<tr>
<td>CD:</td>
<td>0:00</td>
<td>4:07</td>
<td>5:02</td>
<td>6:24</td>
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Fig. 6.2 ‘Elegy’ sectional structure.

<table>
<thead>
<tr>
<th>A</th>
<th>t</th>
<th>B</th>
<th>A'</th>
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</thead>
<tbody>
<tr>
<td><strong>Characteristic TIMBRE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>flute - fl/dbl reeds - tutti ww</td>
<td>skins - mix - brass</td>
<td>TUTTI</td>
<td>single-line ww</td>
</tr>
<tr>
<td>gradual timbre shifts within instruments</td>
<td>straight metal</td>
<td>open</td>
<td>(hn mute) Harmon</td>
</tr>
<tr>
<td>brass mutes: Harmon</td>
<td>skins + wood</td>
<td>wood &amp; unpitched metal</td>
<td>chime bdr.</td>
</tr>
<tr>
<td>percussion: metal, timpani</td>
<td></td>
<td>(metal)</td>
<td>(skin)</td>
</tr>
</tbody>
</table>

**PITCH**

- **Linear** (melodic)
  - microtonal & very wide intervals
  - long lines

- **Vertical** (harmonic)
  - clusters: close intervals & spacing
  - 12 PCs constructed as triads
  - long unisons with timbre or microtonal shifts
  - + cross-rhythmic tremolo effects

**Prominent pitches**

| chime flutes ww. surround-pitch | scale rips start on triads pivot around mel. lines |
|---|---|---|
| Eb | Eb: down A and Eb E - G |
| F# | A: up |

<table>
<thead>
<tr>
<th>timpani: D# (Eb) G# E F</th>
<th>slides around G#, D# - G</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(surround-pitch)</td>
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<p>| | | | |</p>
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</table>

53
Fig. 6.2, “Elegy” sectional structure, summarises timbre and pitch materials characterising each of these sections. Each section is constructed from different melodic (horizontal) and harmonic (vertical) materials. Different pitches become central as the movement progresses. All twelve pitchclasses are used in all sections. Those not in linear or chordal material are in presented in unison drones or pedals. The effect of changing tonal centres is not as strong as the contrasting use of different intervallic relationships. Very narrow and very wide melodic intervals of the first section contrast strongly with the step-wise motion of the ‘B’ section. Dense harmonic clusters of the ‘A’ sections, even though they may be triad-based, contrast with the unison F and clear polytriad structures that open the ‘B’ section.

Characteristic durations of linear pitch material also contrast strongly. These contrasts have at least as much impact as intervallic and pitch centre changes. The first ‘A’ section is characterised by long durations, becoming shorter as the surround-pitch material is established. ‘t’ features 32nd-notes. The three-chord pattern in ‘B’ is built with steady half-notes. The final ‘A’ section is in the character of the opening flute solo – long durations, modified by shorter notes.

Different timbres are central in each section, and timbre change strongly aids establishment of new sections in all cases. Each kind of melodic material belongs to a timbral group: flute lines with wide and microtonal intervals, eventually shared with double reeds; the pitch-surrounding motif in full woodwind choir; the stepwise half-note folksong motif, characterised by brass-flavoured tutti; and aggressive 32nd-note patterns passed around the percussion choir. Brass instrument mute changes support the sectional structure as do percussion sound types (wood, metal, skin; pitched, semi-pitched, unpitched).

Melodic and harmonic contrast between sections is complemented by timbre contrast. In fact, the melodic materials are so idiomatic to their presenting instruments and timbre changes so distinctive that it might be better to say that timbre contrast is supported by contrasting pitch materials.

In ‘Elegy’, the following pitch ideas function motivically:

After the opening chime of Eb (es = MSU) muted oboes and flutes build a seven-note cluster.
The melodic line formed by successive instrument entrances is built from minor seconds and thirds, intervals present in the MSU group.

Although there are other ways to describe such clusters, I suggest this be considered as two major triads (F# and G) plus the single pitch Eb. The Eb chime and the roots of the two triads also form the same intervallic relationship as those in ‘USM’ (C-Eb-E). Triad relationships are important throughout the Concerto (triads are built from major and minor thirds - two of the MSU intervals).

In m. 11, in the clarinet section, the construction is inverted and transposed, producing two minor triads (Bb and A) plus the single pitch G# (Ex. 6.2a). At m. 29 bassoons and lower clarinets build another seven-note cluster from the retrograde (with octave displacement) of the previous clarinet cluster, which is immediately inverted in the upper clarinets (retrograde of the flute-oboe cluster in m.2). The composite cluster includes all twelve pitchclasses, containing the four triads plus the two single pitches (Ex. 6.2b).

In the final ‘A’ section, at m. 83, bassoons and clarinets form a composite of the first two clusters resulting in another containing all twelve pitchclasses (Ex. 6.2c). The final cluster in m. 92 is again a combination of the two initial clusters, with the original oboe-flute cluster in the low brass below the original clarinet cluster in the upper brass (Ex. 6.2d). Husa has constructed five versions of a harmonic sonority by inversion, retrograde and octave displacement resulting in harmonic continuity without any exact repetition. Of the five, only the third and fourth are scored similarly; thus he also keeps developing timbre.

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1 I have chosen to describe these cells in terms of intervals because Husa did, and because it demonstrates connections between variations more clearly than pitchclass set numbering. (In the scores enharmonic notation is often used to make players’ parts easier to read.)
Ex. 6.2a. ‘A’ section pitch cluster, inverted. Clarinets. m. 11-14.

Ex. 6.2b. m. 29-33.

Ex. 6.2c. m. 83-85.
Melodic materials in the two ‘A’ sections are similar. The first solo flute line is characterised by narrow, frequently microtonal, intervals and by very wide intervals (Ex. 6.3). Several pitches are approached from just above and below. These ‘surround-pitch’ motifs centre on F#, Bb and A. The first part of the ‘A’ section centres mainly upon F#, the second part upon A (from m. 32). The ‘A’ section builds to full woodwind choir, surrounding A with two-part counterpoint in five octaves. It finishes dramatically as the middle drops out, leaving piccolo and contrabass clarinet approaching A one more time, five octaves apart (Ex. 6.4).

Ex. 6.3. Flute solo. m. 5-11.
The final ‘A’ section opens with an E♭ chime and the first pitch centre is G, established by the flute and bassoon sections. It is a transposition of the chime-pitch centre relationship in the first ‘A’. The following English horn line is derived from the opening flute solo, a major seventh lower. Pitch centres are not as strong as in the first ‘A’ section; those emphasised are G, B, Eb and F, before the movement concludes on Eb. Melodic lines use a few quartertones in the flutes and one as the English horn finishes. Both ‘A’ sections end with related gestures including low contrabass clarinet and rolling bass drum. The characteristic intervals, length of phrase, and obscured pulse are also similar.

Sustained unison, or nearly unison, pitches are used in all sections. In the first ‘A’ they occur in the brass, with quartertone slides and timbre shifts (Ex. 6.5). At the beginning of the final section the horns hold an E without timbre or pitch shifts.

Motivic pitch materials in the ‘A’ sections include lines with long durations and wide and narrow intervals, cluster chords, sustained unison pitches with or without timbre and microtonal pitch shifts, and narrow movement around a pitch centre (minor seconds or quartertones). Each kind belongs to a characteristic instrument group. The most foreground materials are developed least with timbre change – melodic lines are presented by solo and section flutes and double reeds. Materials of background nature also occur in instruments related to the presenter, adapted to exploit those instruments. For example long ‘unison’ pitches occur first in trumpets with mute-based timbre shifts,
next in horns – “brassy-not brassy”, and then trombones with microtonal pitch shifts.

Ex. 6.5. Trumpets: unison pitch, timbre shifts. m. 26-31.

Pitch materials and timbre in the transitional ‘t’ section (m. 46-57) contrast with those of the ‘A’ section. The percussion are subtly reinforcing and inconspicuous during the ‘A’ section. ‘t’ begins with timpani, leader of the percussion choir in this Concerto, answered by tom-toms (Ex. 6.6). Woodwinds follow with runs built from pairs of major scale tetrachords in several transpositions using all pitch classes and reinforcing no particular centre (Ex. 6.7). Scale patterns diversify as the brass enter (m. 54): trumpets initially in ‘Bb major’, trombones in ‘A major’, woodwinds in new patterns. All of these progress to rips extending to each instrument’s highest or lowest possible pitch, indicated by an arrow. Timbre, especially register, is more important here than precise pitch.

Ex. 6.6. Timpani pattern from ‘t’; xylophone patterns from ‘B’.
Ex. 6.7 Woodwind scales in ‘t’ section.

In ‘t’ the sustained pitches begin on F, change to Eb and return to F, augmented by chromatic and microtonal neighbour-note tremolos in the saxophones. Timpani pitches are obscured by rolls in other semi-pitched percussion. Strong dynamic, rhythmic and timbral energy overpower the diffuse and obscured pitch materials, building to a complex climax.

In contrast, the ‘B’ section begins very clearly with a silence, then unison F. It is characterised by three-chord progressions in the winds, moving in contrary motion. The root movement of the progressions is derived from the melody of a Czech folksong (Husa, telephone interview). The first progression is comprised of major triads diverging from A in full, rhythmically synchronised tutti. The second progression is comprised of minor triads diverging from Eb – the inversion of the first progression (Ex. 6.8). Entrances in each successive progression are rhythmically staggered. In the fourth, the chord progression diverges in both woodwinds and brass, thus creating complex and ambiguous harmonic sonorities, complemented by mixed timbres.

Percussion remain independent during the ‘B’ section. The timpani have ‘surround-pitch’ rolls around G, down to D#, and back to G. Xylophone and marimba play a pattern based upon the timpani pattern of the previous ‘t’ section, changing slightly midway as the sustained notes leave F and emphasise G and then C. (Ex. 6.6). They finish the section with a roll on C which carries over into the final A’ section. The
chime also plays C, and E at the sectional boundary: C from the ‘B’ section, E the opening melodic pitch for A’. These are the structural pitches for the outer movements of the Concerto: U and M, always presented by the chime.

Melodic motivic materials help define the sectional form of the movement, as does timbre. Motivic materials are generally timbre-specific, that is, woodwind melodic lines are not played by brass or percussion; percussive rhythmic patterns are not used in the winds.

Harmonic materials provide consistency: clusters with large numbers of pitchclasses, and triad-based materials. Increased harmonic density contributes to processes increasing tension and instability whereas harmonic clarity helps establish primary sectional junctions by facilitating the presentation of new material.

Similarly, motivic materials suggest inter-movement continuity. The ‘Fanfare’ theme of the first movement is strongly triadic, the motif establishing the third movement is based upon the ‘MSU’ intervals. ‘Elegy’ uses motivic materials related to both.
Ex. 6.8. Polytriad progressions. ‘B’ section. m. 58-74.

\[ \Delta = \text{major triad} \]
\[ - = \text{minor triad} \]

lower case letters are single pitches, not triads
Intensification 1

Process and sectional structure

Rhythmic activity

Texture

Marked dynamics

No. of players

Ensemble range used
Relaxation

Int 2

Staggered entrances of similar material.

Fig. 6.3 'Elegy' element intensity shapes.
Element use: process structure

Fig. 6.3 shows intensity shapes for rhythmic activity, texture, marked dynamics, number of instruments playing, and range. Gradual changes in these elements propel the work to and through sectional junctions. Range contributes less than the others. Texture and volume (combination of marked dynamics, number of players, and timbre) contribute most strongly.

'Rhythmic activity' reflects characteristic durations and those modifying the characteristic durations. For example, the first cluster event (m.2) is made of very long notes: \( \cdot \) (characteristic), entering at intervals of \( \cdot \) (modifying); the flute solo is mainly notes of long durations ornamented with notes of shorter durations. The graph indicates intensifying or relaxing effects of durational material. More activity (shorter durations) and unsynchronised activity (cross-rhythms and staggered entrances) increase intensity. Long durations, even though ornamented by shorter durations, result in a relaxation or recession of energy. The silence at the beginning of 'B' is a strong rhythmic event, thus this graph drops later than the others.

The texture graph reflects the number of 'things going on.' In addition to texture quantity, I have considered texture quality – whether the ‘things’ are cooperative, such as timbre-change lines in trumpets under woodwind melodic lines in m. 40, or conflicting, for example aggressive 32nd-note patterns in mallet percussion during the half-note ‘chorale’ at m. 60. From rehearsal D through F, staggered entrances increase textural density and instability, an intensifying process. In m. 55, most winds synchronise rhythms into two parts, moving toward clarity (one line going up, the other down). At the same time the dynamic level increases and percussion and saxophones have more cross-rhythms. The combination of increased rhythmic clarity with intensity-increasing crescendo and cross-rhythmic energy produces a powerful climax.

In this movement, marked dynamics plus number of players reflect the essential volume shape. Quiet sections are scored most thinly; loud ones are full and exploit penetrating timbres: high registers, especially in trumpets and piccolos, and membranophones in the percussion. Brass instruments are muted throughout the movement, except in m. 72-76. This increase in volume from open brass is compensated for by middle registers, lowered bells, harmonic complexity, and immediate diminuendo. The ongoing crescendo in high register low woodwind instruments, reinforced by rolling suspended cymbal, shifts the locus of intensity away from the brass, back to the woodwinds, perhaps in preparation for the final ‘A’ section. As can be seen, all elements contribute to the process form. The strongest surface energy process is that of volume: the combination of marked dynamics, number of
players, timbre, register, texture and saturation.

Ensemble range corresponds to texture and volume shapes but also reflects sectional structure. ‘A’ sections have many changes of range span and density. (It is helpful to consider the range graph in conjunction with number of players.) In ‘t’ and ‘B’ sections the ensemble range is wide and the span well-filled. From rehearsal F Husa contracts the range to compensate for maintaining large numbers of players and strong marked dynamics. As the range contracts fewer instruments are in penetrating registers, thus the overall process relaxes.

The structure of the movement can thus be seen as a four-part sectional form with a process structure of two intensifications: m. 1-43, m. 46-57; and a long relaxation of energy from ‘B’ (m. 63) to the end. There are two brief periods of relative stasis: m. 44-45 – the ‘A’-closing event with piccolo and contrabass clarinet, and m. 58-62 – the establishment of the triadic folksong-chorale. The first intensification is in stages. The first stage, m. 16-33, parallels the gradual addition of instruments from two flutes through to woodwind choir (minus contrabassoon and saxophones). There is a brief thinning out, relaxing energy rhythmically, texturally and in volume. The loud clarinet rip then initiates the remainder of the intensification which builds steadily in all elements. The intensification process is completed at m. 43 when the full ensemble thins to piccolo, contrabass clarinet, rolling bass drum and reverberating vibraphone. The ‘A’ section ends in m. 46, the final surround-pitch motif completed, as timpani introduce new material. This overlap of sectional and process structures helps maintain continuity as Husa changes direction.

Element intensity shapes are similar but not parallel. As different elements propel the energy direction, others restrain or manage that motion. For example, the relaxation from ‘B’ into ‘A’ begins in rhythmic activity as staggered entrances reduce clarity. This is followed by contracted range, simplified texture, reduction of player numbers and finally, softer marked dynamics. As responsibility for energy relaxation moves from element to element, the listener’s interest is maintained. If all elements proceeded in identical shapes the decline would either be much faster or much further and certainly more predictable, thus disengaging the listener. In addition, the percussion flashback to ‘t’ at m. 74 briefly contradicts the overall relaxation process with aggressive rhythms, forte dynamic, and contrasting timbres. This unexpected event calls the listener to stay alert and thus prepares for the upcoming section junction and reconsideration of ‘A’ materials. Husa masterfully paces shape in all elements to create strong structure and strong statements.
't' section observations

It took a while to decide whether to describe 't' as a 'section.' The reasons may illustrate the method's usefulness.

The first has to do with proportions. 't' starts at 4:07 – about halfway through the movement. At one minute, it is much shorter than the previous section, and does not balance it.

The main reasons, however are character of material and location of scoring contrasts. The drastic change from full woodwinds to piccolo, contrabass clarinet and bass drum creates a very strong closure event. There are substantial changes in most elements. However, introduction of the new material is not strong. Many elements remain the same, especially volume and texture. The new timpani material is very soft, short, and fast. It feels like sound effects rather than new motivic material, even to one familiar with Husa's use of timpani. Likewise, the woodwinds' fast runs do not feel like significant material because they are out-of-sync and neither in unison nor clearly harmonised. The melodic ideas are not presented with clarity, thus the elements of rhythm and harmony obscure perception. In contrast, 'B' begins very clearly: distinctive pitch and rhythmic material is presented strongly. Listening back from 'B', 't' feels transitional or 'unmaterial': there is nothing in here the piece is about except perhaps the percussion patterns. Pitch, rhythmic, and timbral materials in 't' contrast with those of the surrounding sections but are not presented in a way to be perceived as motivic, nor are they developed in a way to draw attention to their importance.

't' is a section based upon strong volume, textural rhythm, and timbre intensification processes. New woodwind groupings are used, trumpets and trombones change from Harmon mutes to straight mutes, semi- and unpitched percussion dominate, larger mixtures of instrument sections are used rather than soloists, and range expands to penetrating registers. 't' builds from solo ambiguity through sectional diffusion to tutti chaos, leading to tutti clarity at 'B'. There are several characteristics of 't' which support labelling it as a section. It is, however, transitional in function and of lesser weight than the other sections. An important feature of Husa's effective structures is his masterful pacing of such clarity-diffusion processes.

The most obvious difference between Mallory Thompson's analysis of 'Elegy' and my own is in the subdivision of the first section. Both agree that there are significant sectional breaks at rehearsal E and G. Thompson suggests that the introduction of new material in the clarinet initiates the beginning of a new subsection.
of ‘A’, which she refers to as ‘despair’\(^2\) ("Karel Husa" 64). I heard strong continuity over that material – it is different but not as strong a difference as that at m. 46 when timpani introduce new material, in a new texture, set up by the dramatic contrast of the contrabass clarinet and piccolo statement. The continuation of the ‘surround-pitch’ motif convinced me that the first ideas were still dominant, and the clarinet-led material less significant. My observations were strongly influenced by listening to Thompson’s recording, supported by my analysis of the score. The scored marker – drastic timbre, dynamic and texture contrast – is stronger than the motivic marker of new clarinet material, even though it is also scored to attract attention (new register and timbre).

Common ground in our analyses includes discussion of processes in terms of clarity and diffusion, including decreased pitch priority (before reh. E) and obscured meter; description of pitch material in intervallic terms (she confirms that Husa develops intervallic relationships “unsystematically” ("Karel Husa" 51, 85).) She, too, observes complementary element shapes, for example, “diminuendo of both texture and dynamic level” ("Karel Husa" 73).

Thompson’s “recurring ideas which provide continuity throughout the Concerto: rhythmic displacement, or the echo effect
unsystematic intervallic development
metric ambiguity
development of structurally important pitches
overlap technique incorporating rhythm and texture
development of indefinite pitches or rhythms” ("Karel Husa" 85) do not include any scoring or timbre ideas. I find in the opposition of the three choirs a very strong “recurring idea which provide[s] continuity” as well as the characteristic materials given each instrumental group, such as the consistency within the percussion. Timbral contrast and dialogue are fundamental concerns of the Concerto as a whole and within each movement.

Small-scale: instrument usage. Overview of forces used.

There are significant similarities and differences in the resources available to the composer within the symphony orchestra and the symphonic wind ensemble. Husa has chosen a rich but typical palette for each, slightly narrower than normal for the wind ensemble and slightly larger for orchestra. To go further afield would create an

\(^2\) Thompson labels three sections of the movement as follows ("Karel Husa" 64):
1.) Resignation and Despair  (Despair beginning at m. 36)
2.) Folksong (m. 58-76)
3.) Resignation and closing material. (m. 77-end.)
alternative medium and undermine the basic agenda of showing off the ensembles.

The score for the **Concerto for Wind Ensemble** specifies precisely the number of players for all parts (Fig. 1.2). For example, he requires nine Bb clarinets, three for each part. This is the minimum number to produce a section sound in each part, yet it retains clarity of colour which would diminish if the section were larger. Harp and piano are sometimes used in wind ensemble works, however Husa did not choose to employ them here. Likewise many composers use a contrabass. (A few groups, for example, the Goldman Band and the U.S. Air Force Band, have even had small ‘cello sections.) Husa uses one or more double basses in all other wind ensemble works and has used piano in two (Associated Music Pub.) Contrabass and piano are not used in the **Concerto**, perhaps because they do not neatly fit into the three instrumental choirs of woodwind, brass and percussion, upon which its structure is based. Husa’s wind ensemble fully exploits the typical instrumentation with most instrument groups represented by full families.

**Spatial arrangement**

In addition to specifying exactly how many players, Husa has specified exactly where they should be located (Fig. 6.4). Husa has requested a particular seating arrangement to elicit greater strength from the players through independence rather than blend. The brass are grouped in five mixed quintets on risers across the back. The first and third movements make use of antiphonal and panning effects in the brass, saxophones and percussion.

In ‘Elegy’ soloists are surrounded by their cluster accompaniments. In each instance accompanying ‘A’-section clusters are seated behind the melodic instrument(s). There should also be some sense of forward and backward movement as the ‘B’-section chord progressions cross-fade between foreground woodwinds and background brass. The main impact of the seating arrangement, however, is for tone quality. Husa pointed out, for example, that he separated the saxophone section by placing each in front of a brass quintet to elicit a more soloistic tone quality rather than that of a comfortably blending section (interview). This is also to make it “interesting for the players who always sit in the same places, to be separated and hear the music from a different angle.” (Husa, qtd. in Battisti, “Keeping Ties”) By encouraging as many of the players as possible to play with a soloist’s sound, Husa’s seating arrangement supports his concept

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3 E.g., Eb soprano through contrabass clarinets; oboe, English horn, bassoon and contrabassoon; alto through bass saxophones – bass saxophone is the least common instrument used, soprano saxophone the most common omission after double bass and piano. Less typical instruments such as alto flute, piccolo trumpet, or oboe d'amore are not used.
of concerto for orchestra/wind ensemble as a "parade of soloists" (interview).

Fig. 6.4. 'Elegy' seating of the wind ensemble.

SEATING OF THE WIND ENSEMBLE

Brass players should be elevated on risers

In contrast, Harry Begian describes a seating arrangement for large bands geared for typical repertoire. His recommendations are based upon keeping those instruments doubling the same material in the same vicinity. Robert Gifford discusses a number of seating arrangements for bands, each designed to blend or bring out different combinations. Husa's seating arrangement however, deliberately separates players of the same instrument and does not facilitate traditional doublings, which he uses rarely.

Woodwinds

The 'A' sections of 'Elegy' fulfill the brief of woodwind feature. Flutes lead in exposition of motivic material. Substantial solos are also given to English horn and
contrabass clarinet, lesser solos to piccolo, oboe, tenor saxophone and bass clarinet. Like-instrument families presenting motivic material include flutes, clarinets and bassoons. Sections are 'soloists' in this movement as in the other two as noted by Thompson (Prevailing Winds).

The opening flute solo's extensive use of quartertones establishes much of the 'A' section's character. Those used are easily fingered on an open-hole flute (MacDonald). It is a primitive, folky quality, suggesting a bamboo flute (Thompson, "Karel Husa" 64), an instrument Husa specifically requests in The Trojan Women (Associated Music Pub.). Flute technique appears to have influenced Husa’s manipulations of the 'MSU'-based pitch material.

Apart from the solo closing the 'A' section, piccolos are only used in the 't' and 'B' sections in very high register to balance against the brass at loud volumes. In the 'A' sections six flutes are called for.

Wide range is required of all woodwinds except English horn and saxophones. Effects featured include quartertones, fluttertonguing, oboe mutes, and sounds which obscure pitch and rhythm: measured vibrato, smorzato, and timbre trills.

The nine Bb soprano clarinets are scored in three ways: unison, nine independent parts for rhythmically staggered runs ('t') or soft chords, and three parts when loud. Large-scale clarity-diffusion processes can be seen in smaller-scale deployment of the nine clarinets (Fig. 6.5).

Fig. 6.5. Structure and clarinet section scoring in 'Elegy'.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>t</th>
<th>B</th>
<th>A'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m. 36</td>
<td>49</td>
<td>54</td>
<td>73</td>
</tr>
<tr>
<td>player per part</td>
<td>1 player per part</td>
<td>1 per part</td>
<td>3 part</td>
<td>3 part</td>
</tr>
<tr>
<td>diffuse</td>
<td>clear</td>
<td>diffuse</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td>cluster chords</td>
<td>wide rips, scale runs</td>
<td>scale runs</td>
<td>triads</td>
<td>microtone</td>
</tr>
<tr>
<td>surround-pitch</td>
<td>staggered</td>
<td>complete</td>
<td>variations</td>
<td>chords</td>
</tr>
<tr>
<td></td>
<td>within section</td>
<td>within section</td>
<td>of C (pitch)</td>
<td></td>
</tr>
</tbody>
</table>

Woodwind groupings include flutes-oboes with and without bassoons, clarinet choir (chalumeau register) with and without bassoons, and low woodwinds: bassoons, low clarinets, and low saxophones (but not necessarily in a low register.) The Eb soprano clarinet is used with the flutes and oboes and also in an interesting grouping for
runs with the low clarinets and bassoons in the ‘t’ section. Contrabass clarinet is not used in the clarinet family, but is part of the low woodwind group and the total woodwind choir. Contrabassoon is sometimes part of the low brass rather than woodwinds, particularly in the first of the ‘B’ section chord progressions. Saxophones, bassoons, English horn, or low clarinets are sometimes used with horns on long unisons or chords. Even then, Husa scores complete triads in each – saxophones, C major; horns, F# minor – at m.64 in the ‘B’ section. The saxophone parts in the first two movements of the Concerto are not particularly demanding, however, the third movement gives plenty of opportunity to parade their skills as soloists and as a section. Saxophones are more often used within woodwind groups than brass, but are used more often than the other woodwinds with horns.

Except for saxophones, all woodwind instrument families are given material which suits their capabilities and character from the opening flute solo to the clarinets’ wide unison arpeggio to the plaintive English horn solo in the final section.

Brass

Husa’s use of the brass in this woodwind feature is particularly interesting. Metal mutes are used in trumpets and trombones through nearly all of the movement: Harmon mutes in the ‘A’ sections, straight metal in the others. They are also in low to middle registers most of the time, ‘bells up’ at the loudest point. The resultant sound has plenty of brass character without overbalancing the woodwind volume, thus the ‘t’ and ‘B’ sections sound truly tutti, rather than brass with woodwind support.

Fig. 6.6. Structure and mute usage in ‘Elegy’.

<table>
<thead>
<tr>
<th>A</th>
<th>t</th>
<th>B</th>
<th>A’</th>
</tr>
</thead>
<tbody>
<tr>
<td>m. 36</td>
<td>49</td>
<td>54</td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>tpt/tbn</th>
<th>Harmon</th>
<th>straight metal</th>
<th>bells up</th>
<th>open &amp; Harmon</th>
</tr>
</thead>
<tbody>
<tr>
<td>hns</td>
<td>mute</td>
<td>open</td>
<td>bells up</td>
<td>down mute</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

4 The third movement features the full ensemble with ‘solos’ for most instrument sections. The first and second movements explore contrast between brass and woodwinds. Perhaps Husa does not place the saxophones permanently in either choir. Consequently they are kept in subsidiary roles in these movements. The other crossover instruments: horns and baritones also have more background material in the first movements.
Mute and effect instructions are very specific. Not only does he specify exactly which mute type, but also indicates rhythms for hand covering of Harmon mutes, changes from ‘brassy’ to ‘not brassy’, stopped to open, measured tremolo and fluttertonguing, quartetone slides, and quality of articulation.

Brass instruments figure strongly in the outer movements, the first with a fanfare character, and the third’s ‘Perpetual Motion’ motif initially presented by trumpets. Players’ parts in each of these movements are more demanding than in ‘Elegy’ both in range and complexity.

There are no brass instrument solos in ‘Elegy’ nor does the brass choir present prominent motivic material, except within the *tutti* of ‘B’ and the final cluster at m. 92. All previous versions of ‘A’ section clusters have been played by woodwinds. This one is brass, Harmon muted as in the first ‘A’, but in lower registers and very close voicing.

Middle-range instruments, horns and baritones, are used for long sustained pitches. Baritones fluttertongue on unison F with timbre-trilling saxophones for extra energy at the beginning of ‘B’. There are no low pedal tones.

Mixed timbres and divided parts are used for diffusion, often divided to one player per line, as in the woodwinds (m. 27, 54). Except for a couple of brief instances in the horns, the brass are not scored in unison for clarity. Horns and tubas are occasionally joined by a single woodwind type, for example, saxophone, English horn; or contrabassoon. Husa mixes the brass colour with woodwinds by range for diffusion as the ‘t’ section approaches its climax. Maximum diffusion is achieved in the disintegrated close of the ‘B’ section through rhythm and timbral mixtures. The previous three progressions are neatly divided with woodwinds one direction, brass the other, albeit increasingly rhythmically staggered and in lower registers to reduce clarity. In the fourth and last, members of each choir go in both directions, staggered and at different times. Except in such diffusion processes and for sustained pitches, the choirs are kept separate.

Husa’s careful scoring for balance ensures the woodwinds maintain a strong presence even in *tutti* passages. To maintain this balance he uses mutes, less penetrating registers, and divided parts. Brass material nevertheless remains important with microtones confirming the ‘A’ section’s character, and with triadic strength in ‘B’.

**Percussion**

The percussion are a source of continuity through the *Concerto*. Although Husa contrasts percussion colour within movements, the battery of instruments is nearly the same in each movement. This consistency of the percussion palette, which is still very
<table>
<thead>
<tr>
<th>SKINS</th>
<th>total</th>
<th>1a</th>
<th>Drum Ceremony</th>
<th>50 lb Fanfare</th>
<th>51-150</th>
<th>II Elegy</th>
<th>99</th>
<th>III Perpetual Motion</th>
<th>568</th>
</tr>
</thead>
<tbody>
<tr>
<td>pitched</td>
<td>Timpani (5)</td>
<td>Timpani</td>
<td>3 Timpani</td>
<td>111 Timpani</td>
<td>26 Timpani</td>
<td>58</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-pitched</td>
<td>Tom-toms (5)</td>
<td>Tom-toms</td>
<td>19A Tom-toms</td>
<td>59 Tom-toms</td>
<td>48 Tom-toms</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unpitched</td>
<td>Snare Drum</td>
<td>Snare Drum</td>
<td>54 Snare Drum</td>
<td>51 Snare Drum</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>semi-pitched</td>
<td>Lg. Susp. Cymbal</td>
<td>Susp. Cymbal</td>
<td>2</td>
<td>Lg. (Susp.) Cymbal</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-pitched</td>
<td>Small Gong</td>
<td>Small Gong</td>
<td>2</td>
<td>Small Gong</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>semi-pitched</td>
<td>Lg. Gong</td>
<td>Lg. Gong</td>
<td>50 Lg. Gong</td>
<td>120 Lg. Gong</td>
<td>1 Lg. Gong</td>
<td>460</td>
<td></td>
</tr>
<tr>
<td>pitched</td>
<td>Antique Cymbal</td>
<td>Antique Cymbal</td>
<td>1</td>
<td>Antique Cymbal</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pitched</td>
<td>Chimes</td>
<td>Chimes</td>
<td>1</td>
<td>Chimes</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pitched</td>
<td>Glockenspiel</td>
<td>Glockenspiel</td>
<td>1</td>
<td>Glockenspiel</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pitched</td>
<td>Vibraphone</td>
<td>Vibraphone</td>
<td>1 Vibraphone</td>
<td>124 Vibraphone</td>
<td>29B Vibraphone</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WOOD</th>
<th>pitched</th>
<th>Xylophone</th>
<th>Xylophone</th>
<th>80 Xylophone</th>
<th>60 Xylophone</th>
<th>41B</th>
</tr>
</thead>
<tbody>
<tr>
<td>pitched</td>
<td>Marimba</td>
<td>Marimba</td>
<td>10 Marimba</td>
<td>69D Marimba</td>
<td>60 Marimba</td>
<td>128F</td>
</tr>
<tr>
<td>semi-pitched</td>
<td>Temple Blocks</td>
<td>Temple Blocks</td>
<td>49D Temple Blocks</td>
<td>Temple Blocks</td>
<td>545Z</td>
<td></td>
</tr>
<tr>
<td>semi-pitched</td>
<td>Wood Blocks (3)</td>
<td>Wood Blocks (3)</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The list of instruments does not represent the range of colour requested. Husa specifies a variety of mallets and performance techniques.

Numbers next to instrument names refer to measure of first entry, letters refer to rehearsal marks.
Fig. 6.7 shows the distribution of percussion instruments for the entire concerto. They are grouped according to sound source: membranophones (skins), metallophones (metal), and wooden idiophones (wood); and according to ‘pitched-ness’: pitched = tuned to specific notated pitches, semi-pitched = distinct register contrast, unpitched = ‘high- or lowness’ is not a significant factor. As all sounds are pitched to some extent; these designations are applied to reflect differences in common usage.

Husa’s timpani parts are prominent and demanding. The ‘Drum Ceremony’ in the first movement is virtuosic timpani solo, supported by marimba, tom-toms and bass drum. The five tom-toms, on the opposite side of the ensemble, are a semi-pitched alter-ego for the timpani, to answer, substitute, and play counterpoint (for example, at rehearsal B tom-toms play in inverted canon to the timpani.) There is a short solo timpani ‘reprise’ near the end (m. 128), as well as the last word before the final chord.

In the third movement, timpani reiterate the first movement pitches and rhythmic feel - ‘out of time’ from rehearsal J through L, and continue with the same pitch material ‘in time’ until P. From twelve measures after S until another reprise after Y, the timpani is again a foreground motivic instrument. Timpani parts normally contrast with the winds throughout the Concerto. If prominent, the timpani are independent.

Significant keyboard parts feature in each movement, particularly for marimba and vibraphone.

Gongs also reinforce successive entrances of motivic material, such as the woodwind triplets in the first movement and timpani material at the end of the third.

The percussion section has strong and independent material throughout the Concerto. Its character pervades the three movements, providing a sense of consistency as well as dramatic tension between the instrumental choirs.

Percussion contrast on the other hand, helps establish structure within the movements. The four sections of ‘Elegy’ have different characteristic percussion colours.
Fig. 6.8. Structure and percussion timbral groups in ‘Elegy’.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>t</th>
<th>B</th>
<th>A'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pitched metal</td>
<td>no metal</td>
<td>pitched metal</td>
<td>pitched metal</td>
</tr>
<tr>
<td></td>
<td>semi-pitched metal</td>
<td>semi-pitched skin</td>
<td>semi-pitched metal</td>
<td>pitched wood</td>
</tr>
<tr>
<td></td>
<td>unpitched metal</td>
<td>unpitched wood</td>
<td>unpitched metal</td>
<td>unpitched skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>timpani: subtle</td>
<td>timpani: prominent</td>
<td>timpani: sim. to</td>
<td>timpani: subtle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>‘A’ w.w.</td>
<td></td>
</tr>
</tbody>
</table>

(Bold type indicates most characteristic timbral group.)

‘A’ and ‘A’ are also similar to each other in rhythmic activity and density, as are ‘t’ and ‘B.’

Functions in texture

Percussion instruments participate in many textural functions. Timpani and tom-toms present and develop material in ‘t’ and ‘B’. Other instruments’ material is reinforced and extended: the vibraphone extends timbre-changing trumpets (m. 29), chimes play roots of the first chord progression of ‘B’ (m.59-60), and the rolling bass drum reinforces contrabass clarinet lowness (m. 44 and 97). During diffusion processes, the percussion destabilise other material by not synchronising with the rest of the ensemble – a compensatory relationship.

Chimes punctuate the beginnings of the ‘A’ and ‘A’ sections and the vibraphone marks the end of ‘A’. The large gong announces the peak of the process structure at m. 64. From here energy relaxes as the triad progressions become diffuse, articulated by successively smaller metal sounds: medium gong, then large cymbal.

Rolls are used to shape processes. Snare drum or suspended cymbal rolls build tension several times between rehearsal C and G. The cymbal is used during when the ensemble is softer, the snare drum when it is loudest and thickest. Rolls occur at all sectional junctions, including either side of the ‘t’ to ‘B’ second of silence:

‘A’ to ‘t’: bass drum
‘t’ to ‘B’: bass drum, wood block, and tom-toms before; snare drum after
‘B’ to ‘A’; xylophone and marimba.

These provide continuity through rhythmic density at all junctions, and through timbre over the first and last.
Timpani pitches in 'Elegy' remain the same throughout (D#, G#, E and F), except in the 'B' section’s low chromatic and microtonal rolls - reminiscent of woodwind 'surround-pitch' material. The timpani pitches are taken up by marimba and xylophone, changed to D#, G, E and F# (Ex. 6.6), and reiterated through the 'B' section until m. 74 when all percussion flashback to ‘t’, just before the return of ‘A’. This consistency of percussion pitch material contributes continuity to the movement.

As with the winds, performance instructions are very specific, with nearly all mallet and stick choices prescribed, snares on/off (interesting effect - snares on at beginning of ‘t’ with timpani entrance). A high level of performance technique is expected. The location of the section is unconventional. Timpani are on the front left side of the ensemble, the tom-toms and the rest of the section on the front right. The percussion are given prominence of place. Player assignments are not entirely prescribed in the score but the arrangement makes it easier to change instruments.

The percussion choir in this Concerto is equal in importance to the woodwind and brass. In ‘A’ sections it punctuates, reinforces, and shapes. In ‘t’ and ‘B’ it also presents and develops motivic materials. Throughout the structural process it contributes to intensification, relaxation and diffusion processes with colour, additional rhythmic expansion-contraction sequences, and dynamic shape. The percussion timbral palette, rhythmic vocabulary, and punctuation contribute much to continuity of the Concerto.
Woodwinds

CE  flutes S-P
=  cluster chords
Δ fl: S-P tutti S-P
cl rip pic/cbcl

Mixed mid-range group

Brass

CE  long unisons w/ timbre shifts - w/pitch shifts
=  w/ tpts, timp pitces throughout
Δ mutes Harmon brassy/Harmon

Percussion

CE  chime
=  vib w/ tpts, timp pitces throughout bdr roll
Δ
<table>
<thead>
<tr>
<th>B</th>
<th>A'</th>
</tr>
</thead>
<tbody>
<tr>
<td>piccolos</td>
<td>flutes</td>
</tr>
<tr>
<td>triads</td>
<td>e hn</td>
</tr>
<tr>
<td>saxes unison F</td>
<td>cl cluster chords</td>
</tr>
<tr>
<td></td>
<td>cbl solo</td>
</tr>
<tr>
<td>low ww in high reg.</td>
<td></td>
</tr>
<tr>
<td>long notes increasing tension</td>
<td></td>
</tr>
<tr>
<td>sx/hns, sx/bar,</td>
<td></td>
</tr>
</tbody>
</table>

- triads
- runs
- hns>bar unison F
- hns long unison
cluster chord
- straight "bells up"
- open, warm
- mute
- Harmon
- metal
- chime
- toms roll
- xylo/mar
- mallet rolls
- wb
- tb
- gong
- bdr roll
- bdr roll
Fig. 6.9. ‘Elegy’ Timbral contribution to structure,’ shows some significant relationships between timbral events and structural articulations or directions. In addition to those discussed above – clarinet deployment, brass mutes and percussion colour – instrumental events are noted according to their contribution to the establishment of a section’s character (CE), to continuity through the section (=), to contrast between sections or to energy shape definition (Δ).

Thus, within the woodwind choir, flutes establish the character of the ‘A’ section, both the rhythmically ambiguous widely leaping melodic lines and the narrow interval pitch-surrounding motif. Clarinets and bassoons establish the cluster chords, a means of maintaining continuity of harmonic colour. The piccolo and contrabass clarinet duet closes the ‘A’ section. The low woodwinds rise to high register intensity as the rest of the winds become more diffuse in the second part of the ‘B’ section, contradicting the relaxation process.

Brass instruments establish the character of the ‘B’ section – step-wise and triadic. Continuity is provided by the long unison pitches in the ‘A’ section, with gradual timbral and microtonal pitch shifts. These confirm the character of the melodic lines. As the brass presence becomes stronger the rate of intensification increases; as they recede toward the background via mutes, register change or absence, the energy relaxes.

There is a mixed group of middle-range winds used in the middle sections. Saxophones and horns hold unison long notes through the energetic transition section, ornamented with rhythmic and timbral effects. Together they open the ‘B’ section on the unison F which is carried on by baritones as the horns join the brass section triads. These are ‘dissonant with the triadic progressions in the remaining winds’ in both pitch and rhythm, increasing tension.

Percussion provide strong markers of section boundaries in the chimes and with rolls in the snare drum or bass drum. Percussion instruments also reinforce the functions of wind instruments, for example, the vibraphone supports long notes in Harmon muted trumpets in ‘A’. They also indicate the progression of processes, for example, the large gong announces the summit which precedes the final relaxation process. Since other instruments do not arrive so conclusively or resolve it is not a victorious arrival. On the contrary, the depth of grief has been reached. Though not relieved, it begins to abate. The percussion marker tells us we have arrived, the continuity of process in other instruments tells us of the nature of that arrival.
Two further perspectives on larger-scale use of instrumental forces are found in considering saturation and clarity-diffusion.

'Saturation': solo-section-choir-tutti

Wolf’s description of ‘concerto for orchestra’ refers to “display pieces in which the orchestra itself is the virtuoso – from soloists to sections to choirs to tutti.” (191). Fig. 6.10 shows progression from mainly solo and sections to full tutti, back through sections to soloists5. When viewed with the element charts of Fig. 6.3 one can see how intensification processes in other elements are supported by increased saturation of timbre. When Husa scores for volume, timbral saturation complements louder marked dynamics, increased number of players, thick texture, and intense registers. Softer marked dynamics are complemented by less penetrating register, thin textures, fewer players, and decreased timbral saturation. Timbral saturation is a very strong contributor to process structure.

5 Percussionists play as soloists more often than not, if two or more instruments are contributing to the same quality of sound (e.g. wood) or together form an element of the texture, they are indicated as 'section' or 'sub-choir', depending on the role and size of sound.
Fig. 6.10. 'Elegy' timbral saturation.
Fig. 6.11. ‘Elegy’ clarity and diffusion.

Clarity: blackest

Clarity-diffusion processes

Pure colours are used for clarity, mixed timbres for diffusion\(^6\). Unsynchronised rhythms or harmonies, uncooperative textures and dissonant and narrow harmonic intervals also reduce clarity, generate uncertainty and instability, and obscure the direction of the piece, leading the listener to desire and anticipate change or new material. Clarity through synchronisation of elements and timbral purity establishes the priority of materials and of direction. Husa uses diffusion to increase tension, but moves toward clarity just prior to sectional junctions and continues in clarity as new material is established (for ‘A’ and ‘B’ sections). His diffusion processes serve to develop the material and to propel the energy shape of the piece onward.

Scoring contribution to structure

In summary, Husa’s choice of timbre, saturation, and mixtures strongly reinforce other elements in establishing sections and direction of processes.

The sectional form is constructed from distinctive pitch materials strongly reinforced by timbre choice: instrument types, register and effects. Presentation of new pitch materials consistently includes fresh timbres. Motivic material is idiomatic to the presenting instrument, and further presentations are generally kept within that instrument, sometimes reinforced with closely related ones. The characters of melodic lines in ‘A’ sections are as much about woodwind timbre, especially flute, as they are about pitch and rhythm. Timbre and motive are strongly linked.

Closure of both ‘A’ sections is accomplished with low contrabass clarinet and rolling bass drum. The dramatic change of texture and volume would have been plenty to set up transition to ‘t’; bringing in new colour with piccolo and contrabass clarinet makes it even stronger. Husa normally adheres to the principle of removing the

\(^1\) There are exceptions, such as the horn-sax sustained notes in which he is creating additional timbres. They are usually strong, though perhaps not as penetrating as if unmixed.
upcoming soloist from the ensemble sound for a period of time prior to the solo: flutes before 'A', timpani from rehearsal C to 't'. Junctions between sections consistently involve fresh timbres.

The process form is generated, not only supported, by scoring. Instrument type, register, and effects determine the intensity of each sound; saturation, synchronisation, and colour purity reflect the management of those sounds. The volume shape – the result of marked dynamics, number of players, register, dominant timbres, texture and saturation – contributes most directly to the perceived process structure.

'Elegy' explores the character of and interaction between the three instrumental choirs: the variety of woodwind colour; strength of brass character, carefully muted to blend; percussion reinforcing and also driving through independent material thus contributing continuity. Within each instrument type changes in register, special effects, and articulation contribute to process aspects of structure by moving toward or away from intensity. The Concerto brings the timbral wealth of the wind ensemble into the light.
CHAPTER 7

Concerto for Orchestra: ‘In Memoriam’

Introduction

This chapter is an examination of ‘In Memoriam’, the slow movement from Karel Husa’s Concerto for Orchestra.

Concerto for Orchestra

I. ‘Cadence’ Strings (and full orchestra) 7:30
   ‘Interlude I’ ‘Pitched-attack’ (harps, piano, marimba, xylophone) 2:47
II. ‘Fantasy’ Woodwinds (and full orchestra) 5:40
III. ‘In Memoriam’ Full orchestra 7:11
    ‘Interlude II’ Percussion and chamber strings 2:17
IV. ‘Game’ Brass (and full orchestra) 10:44

All movements are played without intervening breaks. Husa’s program note reads, “Above all, my Concerto for Orchestra – as the title indicates – concentrates on virtuosic orchestral playing, featuring not only soloists, but also various orchestral sections and the entire ensemble as well. Because every member of a great orchestra such as the New York Philharmonic is a virtuoso artist, I felt justified in writing extremely demanding and challenging passages. Just as important, this work acknowledges the art and mastery of the virtuoso conductor. The Concerto for Orchestra is dedicated to Zubin Mehta and the New York Philharmonic” (score).

‘Cadence’, the first movement, begins as a cadenza for solo violin. One at a time, the rest of the string section joins in the virtuosic material. Open strings and double stops give lines the character of a string cadenza. Gradually woodwinds, brass and percussion enter with long notes and reinforcing accents until the full orchestra is involved.

‘Cadence’ is immediately followed by ‘Interlude I’, which features harps, piano, marimba and xylophone, again with virtuosic, cadenza-like material, but in the character of the instruments. It builds to a frenzy of activity, then drops dramatically, slowing and thinning to low, quiet, bell-like sonorities.

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‘Fantasy’ opens with solo bass flute: ‘Misterioso, improvisando’. Rhythmic subdivisions are varied; the pulse is obscured. Quartertone intervals add mystery to pitch as well. There are many similarities between the opening of ‘Elegy’ and this movement. Other soloists join the bass flute: English horn, contrabassoon and bass clarinet; then all members of the woodwind section play independent cadenzas and the movement builds to a chaotic climax. The pace changes immediately as low instruments from all choirs play aggressively in a *furioso*, 9/8 dash. They screech to their tops, the contrabass section have a remarkable, virtuosic, crunchy, screaming passage, which is finished off with a final 9/8 aggressive statement in the low instruments and upward sliding strings.

This is the prelude to the slow, introspective ‘In Memoriam’ which Byron Adams calls “the heart of the Concerto, a profound meditation on the tragic nature of human existence” (composer essay). Having begun the first movement of the *Concerto for Orchestra* with solo strings, the second with solo woodwinds and the last movement with solo brass, Husa chose to include a movement for full orchestra. This movement is not so much a parade of soloists or sections in a ‘concerto for orchestra’ as it is an offering of the ensemble as a whole. “It would be like if I wrote an ‘In Memoriam’ for orchestra [as a stand-alone piece]” (interview). No one plays with virtuosic speed or gesture for a long time.

‘Interlude II’ continues in quietness, on a chamber music scale rather than full orchestra.

‘Game’, which finishes the *Concerto*, is a mammoth perpetual motion movement. Nearly eleven minutes of relentless *vivace*, it is a masterpiece of intensity management. Beginning with brass in driving staccato triplets, it builds to several peaks, each build starting from a new point of quietness yet never relaxing. The final climax is shattering. It is similar in many ways to ‘Perpetual Motion’ which closes the *Concerto for Wind Ensemble* but longer and more intense.

**Large-scale: listening perceptions**

My listening notes for ‘In Memoriam’ are more numerous and detailed than for other works on which I have tried this method, especially in regard to timbre and dynamics (Appendix B). I think this is, in part, because I could not pin down any primary motivic ideas. Similar things would occur a few times and then not reappear: repetition did not provide a prioritising tool. Strong events – timbre, dynamic or texture changes – were not followed by ideas that felt like themes; thus punctuation did not help.
either. The overall energy shape was very strong and convincing. Here was effective structure, but on which terms?

I chose to describe 'In Memoriam' as a long intensification process followed by a much quicker decline. Melodic and rhythmic materials do not seem delineate sections of the piece, rather, they are layered into a texture of increasing intensity, and thinned out to decrease intensity. Brass and percussion drive the most intense stages. There are several magical, attention-getting timbre combinations. One, the 'icy' sound near the end, is structurally significant. I was not sure the others were; it seemed more likely that they were interesting sights along the way, not signposts.

Fig. 7.1 depicts the energy shape I used to describe the structure after listening. A mountain-climbing metaphor assisted in representing the energy process. For purposes of locating changes in intensity, I have used terms such as ascent, descent, summit, or peak. In some ways it is an 'arch' form, a description sometimes used by analysts, but it is neither as symmetrical nor as solid as the term 'arch' implies. There are no representational parallels intended between my mountain metaphor and Husa's expression of grief.

Fig. 7.1. 'In Memoriam' energy shape.
Characteristic pitch and rhythmic materials

Pitch

The *Concerto* opens with G#, A and C#: a major third with an adjacent minor second. Husa transposed and inverted this cell, selecting those versions which include open strings for the first movement, ‘Cadence’ – the cadenza-style string feature (interview).

Husa’s lecture notes for the *Concerto* show three kinds of pitch structures (Appendix C):

1. a major third with adjacent minor second
2. a minor second
3. scale for strings based upon violin fingering pattern (interview)

```
I:   E   F#  G#  A#
II:  A   B   C# D
III: D   E   F   G
IV:  G Ab Bb C
```

The first two kinds are inverted and combined into ‘mirror’ structures, transposed and combined to form longer lines, and varied with octave displacement to produce larger melodic intervals. Mirror patterns used to construct small ideas are also used to expand them into larger ideas and processes.

Husa did not include examples of pitch cells for ‘In Memoriam’ in his lecture notes, but it, too, is based on similar cells (interview). The opening bars are based on adjacent minor seconds, octave-displaced to create a string melody characterised by wide legato leaps. Woodwind and string responses are built from pairs of adjacent minor seconds, connected with glissandi or quartertones. The third group, the string-influenced scale, is not used in ‘In Memoriam’.

The first motif built from major third-minor second (M3m2) cells is the woodwind run at m. 18. In it, the cell and its inversion are combined: E F A, and Bb D Eb. In m. 40 when all woodwinds play, four versions are used (three in each direction): E F A, F# G B, and Bb D Eb, Ab C Db. This set contains all twelve pitchclasses. Transpositions of the cells are related to each other by the same intervals of major third and minor second.

---

1 IV string: fingering G Ab Bb C; III: increase the gap between open string and 1st finger: D E F G; II: increase gap between 1st and 2nd fingers: A B C# D; I: increase gap between 2nd and 3rd fingers: E F# G# A#. 

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The M3m2 cell is used in all movements of the Concerto. The other common cell is a minor second, which is part of the M3m2 cell. Husa mirrors and transposes this as well. All of the tempered scale material in ‘In Memoriam’ can be explained as derived from these two sources.

Quartertones are used in many instruments to fill gaps between these chromatic pitches and thus maintain more continuous movement in long ascents or descents.

Brass instruments introduce a variation on the M3m2 cell in the first two fanfarish statements: a major third with the minor second inside (Ex. 7.2 = m. 40: trombones, m. 42: horns-trumpets-flutes). This arrangement can be found within the composite lines formed by the four cells above. Further brass fanfare patterns, however, are built from the M3m2 cell with m2 outside (m. 47 and 53) as are runs in the strings (m. 58). Woodwinds use the variation in triplet patterns from m. 59-65 as the first peak is approached.

Ex. 7.2 M3m2 cells as introduced by brass instruments.

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Short fragments, built from the chromatic clusters (m2 cells) with octave displacement, make up the opening string melody. These melodic patterns begin with a
high note, drop a seventh or ninth and resolve up a second (possibly displaced by an octave either direction). There are four occurrences (the second, in m. 5, is inverted). These are distinctive and provide possible benchmarks for the listener.

Adjacent chromatic movement in the woodwinds without octave displacement occurs between these melodic statements. Pitches of the first cluster, C# D Eb, are the same as the last three of ‘Fantasy’. The second and third groups are D Eb E F, the cluster from ‘Fantasy’ (see Husa, lecture notes). Other clusters are introduced as pitch possibilities increase with the introduction of the M3m2 cell.

After flutes and oboes introduce the M3m2 pitch cell at m. 18, violins respond, using it in their characteristic melodic style in m. 20-23 (Ex. 7.3). At m. 25 strings return to previous chromatic material. In m. 26 low woodwinds invert the staccato runs of m. 18. From m. 31-61, strings stay with the new cell, manipulating it through further transposition, inversion, and octave displacement, still retaining the initial string character.

Ex. 7.3. M3m2 pitch cell: woodwinds and violins.

Eb is an important pitch throughout the movement, as an outer (lowest or highest) pitch, repeated pitch, and most notably in the handbell from the beginning. At the ‘summit’ from m. 66-73, A is a prominent pitch, after which Eb is reasserted. These are also significant pitches in ‘Elegy’.
The movement ends with a series of woodwind solos using both kinds of material. The final gesture is a D# to E trill with B high above: another M3m2 relationship.

‘Interlude II’ opens with C, Db and F, a transposition which was not used in ‘In Memoriam’, and which suits the solo ‘cello double stops (Ex. 7.4). ‘Interlude II’ functions as transition between large movements and as completion to ‘In Memoriam’. The chamber ensemble texture and related, yet fresh, timbres (solo strings, metal pitched percussion now carrying melodic lines, wood block – a new sound) provide contrast for transition. The opening solo ‘cello statement is another iteration of the wide-leap melodies of ‘In Memoriam’s’ opening. As Rollin observes, it completes the form of ‘In Memoriam,’ giving finality (53), as other aspects, such as the wood block rhythm, encourage listeners to expect something new.

Ex. 7.4. ‘Interlude II’ solo ‘cello. m. 112-113.

Rhythm

Pitch material provides continuity; rhythm provides contrast. Each instrumental choir’s melodic motifs have different characteristic rhythms:

Strings - long notes with no clear sense of pulse;
Woodwinds - fast and detached (32nd notes or 16th triplets), a flurry beyond pulse;
Brass: one or two 32nds and a longer note, pulse strongly implied; measured volume swells (half and quarter notes) firmly establishing pulse;
Percussion: handbell widely spaced iterations, timpani 32nds. Other rhythmic percussion material does not recur in a motivic manner.

Although there are some mixed-choir repetitions (for example, trombones augmented by low woodwinds in m. 50-56) no section plays these materials alone in the manner in which another section presented them.

Percussion fill many roles, supporting the other choirs and presenting their own material. There is no characteristic melodic motif for this choir, though there are for many of the individual instruments.
Husa employs several special rhythmic devices: entrances just before or just after the notated point, patterns to be played as fast as possible, progressive acceleration or slowing, different lengths of grace notes, and playing freely and independently of other players. All of these can obscure the pulse, as in the first part of the movement, or increase complexity as in the middle.

He is particularly interested in proportions of structures and how long a process can go (interview). He often uses systematic mathematical devices, e.g. additive or subtractive patterns or magic squares, to construct long processes in elements, such as rhythm or timbre (Husa, interview; “Three Dance Sketches”)\(^3\). One technique used to pace gradual processes in this work is systematic addition of duration or rests, progressively adding more space or reducing intensity. Ex. 7.5 shows how Husa gradually increases time between timpani attacks by one sixteenth-note duration giving a strong sense of the movement slowing down. The exception to the process, six sixteenths instead of the expected eight in m. 77, is intentional, ensuring that timpani synchronise with and, thereby, support a special mixed timbre marker signalling the end of the rapid decline and beginning of a new texture. From this point the process resumes continuing with eight sixteenths through to nineteen in m. 88.

Ex. 7.5. Timpani. m. 75-77.

A complementary effect is achieved with additive rhythms in the brass in m. 74-79. They have attained their final summit, and begin a descending chord process with each note stung and sustained. The distance between each sting increases by one sixteenth duration. The pitches are progressively lower and in less penetrating registers as all players diminuendo. This produces a rapid, but smooth decline into the final part of the movement.

Systematic rhythmic and timbral relaxation processes which add more space can also clarify the texture to facilitate increasing intensity. For example, from m. 58-65 a

\(^{3}\) Additional discussions of Husa’s manipulation of pitch and rhythm can be found in Adams “Music for Prague 1968”; Hartzell; Husa “Prague - composer’s analysis”; Husa “Three Dance Sketches”; and McLaurin.
group of bell-like percussion instruments play repeated clusters, the time between iterations increasing by one sixteenth each time. Woodwinds are with the percussion group at first, then gradually leave this process for their own triplet patterns. Thus, as durations between clusters increase timbral intensity weakens, systematically reducing competition from that part of the texture and creating room for increased intensity in other parts. Clanging bell sounds get out of the way of brass runs and woodwind triplets.

Figure 7.2 summarises the contribution of rhythmic activity to the intensity-relaxation process. It shows distinctive subdivisions which propel the intensification. For example, within the context of long durations and low sense of pulse, nervous col legno triplets and flurries of woodwind 32nd-notes set up anticipatory instability. Clarity of pulse, communicated most strongly in brass materials, distinguishes the middle part of the structure. Additive rhythmic processes are shown with the resultant effect of each, some reducing complexity to increase clarity, another increasing complexity to compensate for a volume climax, and another systematically and steadily relaxing intensity by gradually increasing the amount of time between events.

Rhythmic activity functions motivically and as generator of energy shapes. Slow feeling, quiet parts feature long durations, few silences, and short duration notes used in an ornamental fashion. Sustained notes provide stability. Louder, busy sections use short durations as core material, many contrasting rhythm patterns, aggressive articulations and silences. Sustained notes in these sections are in tension with the surrounding activity. Larger scale rhythms – rate of change within elements, length of phrase – also follow the overall mountain shape: all elements change at much faster rates in the build up to the peak and during the decline than they do at the beginning, on the summit, or after the decline.
Rhythmic activity

PULSE UNCLEAR

\[ \text{arco} \quad \text{col legno strings} \quad \text{fl & ob} \quad \text{low w.w.} \]

PULSE CLEAR

\[ \text{all w.w.} \quad \text{horns} \quad \text{harp - driving pulse} \quad \text{many subdivisions} \quad \text{and cross-rhythms} \quad \text{very complex} \]

PULSE: LESS - WEAK - UNCLEAR

\[ \text{energetic and unpredictable} \]

\[ \text{brass} \quad \text{fanfare} \]

\[ \text{//} = \text{Additive rhythm process} \]

Effect: \[ \text{adds clarity} \quad \text{slows down} \quad \text{compensates for climax} \]
Fig. 7.3. 'In Memoriam' Structure and texture, marked dynamics and player numbers.
Priority of elements

Because pitch materials are consistent in character, the elements which demonstrate movement and contribute to growth or decline most strongly are texture, volume, rhythm (activity, pulse, and additive processes) and timbre.

In the first part of the movement the texture is very thin, a single line with cluster accompaniment. The line changes colour frequently, and some pitches are sustained in one instrument while another moves on. This does not create another line of texture – it is more like reverb. Eventually the texture thickens, quite noticeably by m. 36 when the full woodwind choir and most of the strings are in. Intensity builds as Husa continues to thicken the texture from four parts to eight plus staggered entrances. Further into the buildup, the texture becomes simpler without becoming thin. This increased clarity makes it easier to perceive motion in other elements and thus strengthens the intensification process (m. 67-73).

There are two particularly strong tutti events, characterised by a full string sound, supported by other timbres. In the first, m. 48, strings and brass play together, without competition from other instruments. The texture is simplified, with no staggered entrances, while the marked dynamic level and number of parts increase to bring this to the foreground. The second, in m. 57, is not as strong as the brass do not support the strings, but is again effected by reducing textural competition. Further moments of clarity in the intense middle part of the movement are dominated by brass timbre and therefore do not come across as tutti events. In fact in m. 66, Husa has gone to the trouble of placing the woodwinds in unpenetrating registers and a lower dynamic level, fp, as if they might otherwise dilute the brass timbre.

Determining the number of components in textures such as these must be somewhat subjective. There may be several versions, articulations, or staggered entrances of a single idea occurring at a given time. Often one idea is finishing while the next starts up. This provides continuity, and is rarely consciously audible; in fact absence of such overlaps would be much more noticeable. In these cases the consequent higher texture number actually refers to scoring which decreases attention and intensity. The depiction of texture in Fig. 7.3 uses solid black to reflect the number of texture components, and indicates numbers of additional parts resulting from staggered entrances by lines above the solid area.

Marked dynamics represented are averages of those in the score at given points, usually an average of all of those present within a measure. Averaging takes into account timbral balance to some extent (if strings are marked mf and trumpets pp, the average will be mp not p).
Number of parts also takes into account timbral weight. Wind and percussion instruments were weighted at one per player, while each string section equalled two, except one each for contrabass and harp sections. No adjustments were made for mutes. This formula does not reflect actual balance between different timbres but does accommodate the complexity of these textures.

Marked dynamics, number of parts, texture, register, and dominant timbre all contribute to volume. In general these elements follow the overall ascent and descent of the structure. The entire ensemble plays over the approach to the three summits from m. 58-68 as the marked dynamic increases from ff to fff. Quiet parts are dominated by less penetrating timbres and registers – strings and woodwinds in middle or lower registers. When the brass instruments are playing in these parts, they are muted and/or in middle, less penetrating registers. Louder parts are dominated by brass, more penetrating percussion (harder mallets, skins, wood, high bells), and high register woodwinds and strings.

There are also interesting instances of one element compensating for another, smoothing the overall shape. For example, as the number of players increases during the flute-oboe staccato runs in m. 18 the marked dynamic level drops. In general, however, volume changes are supported by scoring.

Timbral saturation also follows the general shape, even though ‘In Memoriam’ is intentionally a tutti piece (Fig. 7.4). The other large movements clearly move from solo to section to choir to full orchestra. This movement begins with sections and sub-groups. Those instruments which play alone are not given soloistic material, particularly in comparison to the rest of the Concerto. Early solo passages are short – punctuation rather than thematic foreground. Frequently changing colours prevent the establishment of a particular characteristic instrument colour. As the movement progresses, clear colours come through: timpani, sections of violins and trumpets; yet the tutti’s intense complexity prevents any one timbre from asserting prominence for very long. In contrast with this dense full choir activity of the middle, the final part of the movement is characterised by longer solo passages for woodwinds. Thus timbral and textural clarity help bring the movement to a close.
Fig. 7.4. 'In Memoriam', Timbral saturation.
Each of the elements intensifies and relaxes over a similar shape. Deviations are compensated for in other elements, making for complementary relationships overall. There is no strong sectional shape since new motivic material is introduced subtly or gradually. To get from one stage of the movement to another Husa has chosen to use gradual transformation of ideas rather than establish clear contrasts. Strong element processes propel the movement with powerful emotional energy.

Fig. 7.5. 'In Memoriam' Mountain-structure divisions.

For the sake of discussion I have divided the 'mountain' into three parts. The boundaries are not clear; a number of things overlap them. The three parts have different rates of change and/or different directions. Part 1: m. 1-42, part 2: m. 43-73, part 3: m. 74-93.

Several things happen near or at m. 43: an audible pulse is established by the horns (harp and piano strengthen it from m. 45), woodwind staccato runs finish in m. 40, string wide-leap melodies finish in m. 43. Part 1, from m. 1-42, is a gentle ascent, its characteristic material is finishing or superseded by m. 43.

Part 2 is the steeper ascent and events at the top. From m. 43 through 73, brass timbres dominate with materials conveying an insistent pulse. Intensity-directed element changes occur at a faster rate, driving a steeper ascent, arriving at a long summit with three peaks: m. 66 brass, m. 68 gong, m. 73 brass. The clean break at m. 67 does not effectively delineate a section because it is followed by similar sounds. Even though the break suggests closing punctuation, nothing new comes to the fore. This overall process peak of seven measures (m. 66-73, or twenty-three seconds: 4:58-5:21) is a rounded mountain, with two or three summits. From m. 68, the middle summit, a gentle decline begins in several elements, particularly marked dynamics, number of parts, and gradual obscuring of rhythmic pulse.

A rapid decline begins at m. 74, with rhythm relaxing in brass and percussion through additive processes, timbre in strings, and volume in all. It arrives at a plateau in m. 79. The decline is much gentler from here, through bassoon and flute solos which contain some material reminiscent of first part, thus confirming a similar elevation. The
contain some material reminiscent of first part, thus confirming a similar elevation. The movement never quite returns to the quiet of the opening.

As ‘In Memoriam’ gains intensity, powerful ideas are overlaid with other powerful ideas. Individually, the ideas do not relax, rather, they lose priority. For example, the woodwind staccato run is a big bump in the ascent the first time, but by the third, it is not so significant, even though the full section makes a bigger presentation. The overall level of activity has increased and it now fits. Increased competition between more powerful ideas results in de-intensification of previously powerful material. Attention-getting is part of this, also sheer mass of sound and experience. It’s too much to attend to. After the summits, we return to a level of activity which can be attended to, allowing for musical reflection on the intensity just survived. Instrumental solos reassert the responsibility of the individual. Husa has suggested that in writing interesting parts for all instruments he hopes to make the ensemble experience more “democratic” (interview). Perhaps it is not too far-fetched to hear this return to soloists as an indication of hope in the power of the individual to counter the mass destruction by large institutions.
<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>'Fantasy'</th>
<th>'In Memoriam'</th>
<th>'Interlude II'</th>
<th>'Game'</th>
</tr>
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<tbody>
<tr>
<td>TIMBRE:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ending:</td>
<td>contrabasses: harmonics, gliss.</td>
<td>muted violas, 'celli</td>
<td>woodblock</td>
<td>strings chord</td>
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<td>hand bell</td>
<td>chimes-vib.</td>
<td>timpani marcato</td>
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<td></td>
<td>strings: quick gliss. up</td>
<td>icy mallets</td>
<td>solo 'cello</td>
<td>solo muted tpt</td>
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<tr>
<td></td>
<td>2 sec. silence</td>
<td>solo clarinet</td>
<td>icy mallets</td>
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<td>Δ</td>
<td>ppp</td>
<td>Δ</td>
</tr>
<tr>
<td></td>
<td>gong: p &gt;</td>
<td>gong: &gt;</td>
<td>ppp</td>
<td>Δ</td>
</tr>
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<td>narrow, single line</td>
<td>Δ</td>
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<td></td>
<td>1.2 octaves (melodic)</td>
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<td>wide</td>
<td>Δ</td>
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<td></td>
<td>4.5 octaves</td>
<td>Δ</td>
<td>narrow: 1.4 octaves</td>
<td>Δ</td>
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<td>= 52 Sereno</td>
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<td></td>
<td>= 152-160</td>
<td>Δ</td>
<td>=</td>
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<td>D-Eb-E-F + mirror out</td>
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<td>F-Db-C</td>
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</table>

Notes: Overall, harmonic materials are very similar. This is a significant contributor to continuity between movements.

'Interlude II' functions as an ending to 'In Memoriam' and transition between the movements.

Key to symbols. Δ contributes to contrast. = contributes to continuity. 0 contributes little effect. Range numbers: octave major or minor interval: 4.6 = 4 octaves * M6 or m6.
Inter-movement junctions and transitions.

The movements of the Concerto are to be played without breaks. Husa has composed the breaks he desires as demonstrated by the junction between ‘Fantasy’ and ‘In Memoriam’. According to the score, ‘Fantasy’ ends with a ripping figure in low instruments and strings, followed by two seconds of silence and seven to eight seconds of ringing gamelan gong. Measured silence provides a break without letting players relax, and the gong changes the mood in anticipation of the next movement (it also ties back to the first part of ‘Fantasy’). Similarly, the wood block entry in the last bar of ‘In Memoriam’ begins ‘Interlude II’. The movements overlap so the flow of the Concerto is not disrupted.

In order then, to establish that the movements are different, Husa makes strong contrasts in many elements (Fig. 7.6). ‘Rhythm,’ as reflected in this chart, refers to characteristic small-scale rhythmic usage and meter, rather than the carefully managed connecting use of time through sustaining and overlapping as discussed above. More elements change between the big movements than between ‘In Memoriam’ and ‘Interlude II’, confirming the connectedness of these two. Yet to ensure continuity, the junction between ‘Fantasy’ and ‘In Memoriam’ happens in stages: the gamelan gong moves toward the texture, tempo and volume of ‘In Memoriam’ before rhythmic activity, timbre and range are established and can be compared.

Timbre contributes more to contrast than continuity with major changes of instrumentation, penetration of sound, and articulation as each new movement begins.

Instrument usage

Husa has chosen a large orchestra for this work with triple woodwinds, full brass section, timpani, four percussion, two harps, piano, and large string section (Fig. 1.1). It is similar to his other large orchestral works such as the 1984 Symphonic Suite or the orchestral version of Music for Prague 1968 (Associated Music Pub.).

Instrument usage will be discussed in terms of roles in the texture and presentation of motivic materials, timbral effects and processes, doublings, and contribution to structure.

‘The other junctions use similar techniques: there is a three-second rest between ‘Cadence’ and ‘Interlude I’, the piano carries through the junction between ‘Interlude I’ and ‘Fantasy’, and strings have similar sustained notes both sides of the junction between ‘Interlude II’ and ‘Game’.
Strings

Strings are the core in this movement – always present, though not always in the foreground. There are no soloists and sections carry very little melodic material at a time. Although they are sometimes reinforced by instruments from other choirs, their material is generally independent.

Players’ parts are demanding, but not as virtuosic as ‘Cadence’ or ‘Fantasy’. The required fingered range is extremely wide for all, plus harmonics. (There are no harmonics for contrabasses; they ended the previous movement with them.) Challenges lie in rhythmic complexity and the range of effects to implement and control.

There are many timbre-changing instructions:
general:
  *con sordino*, *col legno*, natural and artificial harmonics, doublestops with and without open strings, specific strings indicated, glissandi, quartetones, vibrato, tremolo, bow direction, as fast as possible, as high as possible.
combinations of effects:
  glissando - no glissando (in different parts)
  tremolo with quartetones and without (in different parts)
  harmonic - normal/tasto (in same part)
rhythmically measured changes:
  *sul tastonaturale-ponticello* and vice versa
  dynamic swells
  exits: player-by-player
  entries: stand-by-stand
  mute removal: player-by-player
  tremolo: regular and irregular
    addition of tremolo

Gradually measured changes are very important in Husa’s control of processes and spatial effects. Sheer numbers of string players offer more possibilities than other choirs. They are divided in two, six, by stand, and by player. Gradual changes by stand or by player progress from front to back or vice-versa, making timbre or volume changes move through physical space (Ex. 7.6).
Husa quickly establishes the sense of string choir in the opening bars by using a wide range of effects and combinations within a thin and simple texture. For example, viola harmonics are paired with a normal violin sound, obscuring the identity of either, or the same pitch is played by different instruments, therefore in different registers and from different locations. Contrasting dynamic shapes in like-instrument parts add to ambiguity and richness of sound (violins m. 13-15). The sound is always 'string' but rarely characteristic of a particular member of the family. Many string timbres produce an integrated sound, a single-line *Klangfarbenmelodie* from a single choir (Ex. 7.7).

Example 7.8 shows timbral development of simple pitchclass movement in the full string choir. Different octaves and registers, with connecting glissandi in mirrored directions, generate strong timbral content and high player energy.

The few instances of members of other choirs doubling strings include harps joining the string section to provide a plucked attack for *arco* ‘celli and violins in m.25. In this case, the harp sound is more characteristic of string pizzicato than anything percussive. Harps and pizzicato strings are commonly used together so it is not a significant inter-choir relationship. What is interesting is that no strings pluck. The brass and string *tutti* in m. 48 shares common rhythms but not pitch (Ex. 7.9). Woodwinds double string arpeggios in m. 50 with contrasting articulation, and in m. 71 with different pitches at the end of the patterns, requiring different rhythmic subdivisions.
Ex. 7.7. Multi-timbral string melody. m. 1-17.
Ex. 7.8. Strings: timbral development of simple pitchclass movement. m. 69.

Ex. 7.9. Brass reinforcement of tutti string motif. m. 48.
Most of the string material is *espressivo*, legato, and sustained, but moving. Glissandi and tremolos fill pitch and temporal space. The strings have the most potential to completely fill pitch and time — they can play all the microtones between scale degrees, and they can play without breathing or re-attacking the pitch.

Husa has created an extremely intricate string section sound. If they played alone the movement would probably make sense as there is so much direction-giving energy in timbre, range, rhythm, texture and volume.

**Woodwinds**

The woodwind choir serves as counter and partner to the strings, not often as double, and never exactly. In the final part, solo woodwinds interact with solo percussion. Husa uses two main subgroups: flutes-oobes and clarinets-bassoons. The English horn is used independently, with oboes and within the full woodwind choir. Groupings also occur by instrument family: clarinets-bass clarinet, oboe-English horn.

Woodwind parts also include a number of timbral effects: glissandi, vibrato, quartertones, “as high as possible”, flutturtonguing, and a variety of trills. There are not as many effects called for as in the strings and there are no gradual change processes as in the strings. The woodwind choir sound is not as consistent nor is the section as big.

There are some similar scoring techniques used, however. Clarinets and bass clarinet often play in the same range and therefore in different registers creating a mixed timbral effect.

Materials unique to woodwinds are the staccato run which first presents M3m2 materials (m. 18, 26, 40), twittering triplets, a bird-like piccolo solo, and an angular clarinet solo. These are similar in rhythm and articulation to passages for these instruments in the *Concerto for Wind Ensemble* and *Music for Prague 1968*, among others.

The previous movement, ‘Fantasy’, featured extensive solos for bass flute, English horn, contrabassoon and bass clarinet. These do not have solos in this movement. Distinctive solos for bassoon, flute, piccolo and clarinet, more commonly featured members of the choir, occur in the final part of the movement.

Doublings include:

- overlapping of long notes: bassoon ends on the arrival note of viola and 'celli
- low flutes, flutturtongued with muted trumpets, m. 42
- low woodwind group with trombones, m. 50-56.
- full woodwinds with strings, m. 50, 68 and 71.
timpani with contrabassoon (and full woodwinds) triplets, m. 64

Woodwinds have several 'ear-catching' passages:
1.) The first clarinet gesture - a m2 glissando, confirming the movement is about more than strings.
2.) Staccato runs, three presentations: flutes-oobes up-down, clarinets-bassoons down-up, and all woodwinds in their first direction only (m. 18, 26 and 40). The contrasting rhythmic energy suggests the probability of rhythmic development and presents new primary pitch material.
3.) Lengthy solos at the end, giving place to individuals again, clarity after unresolved chaos. Bassoon and flute are similar to the opening strings, piccolo and clarinet introduce very different characters.
4.) The final low Eb in three articulations: sustained, trilled, and with marcato attacks (Eb and E) in bass clarinet at unison with soprano clarinets. (Ex. 7.10)

The clarinet has the first woodwind appearance and the last. Its last suggests the tempo, implied meter and character of the final movement, ‘Game’.

Ex. 7.10. Composite clarinet section Eb. m. 92-93.

Much of the time in the first part, woodwinds play sustained clusters against wide string melodies although successive entries also create close chromatic melodic lines. In the more complex and active middle part, woodwind materials are more independent, except when allied with trombones and doubling strings. They are soloists in the final part and tie over into the beginning of ‘Interlude II’.

Brass

The brass choir is divided into three sections: four horns (five in ‘Game’), four C trumpets, three trombones plus tuba. Different material is scored in each of the three parts of ‘In Memoriam’ (the brass are most present in middle of the movement 40-78).
There are also strong full-choir events, especially swells on clusters. In these, complete versions of multi-part material are scored in each section. If there are three pitches in a chord or cluster Husa gives each section all three. He doesn't give one pitch to the horns another to trumpets, and a third to trombones. When the sections have different material each is rhythmically independent of the others.

Again, a number of timbral effects are indicated: bells up, fluttertongue, quartertones, measured swells, marcato accent, “warm sound”, “echo”, o +, glissando, hand stopping, “brassy” (horns). Mutes include straight metal, plunger (trombones), and brass (horns). Horns have the largest range of timbres and effects. They also have two gradual timbre change processes: an overlapping sequence of different timbres - stopped, open, and two kinds of mutes - and brassy-natural-brassy alteration (m. 51ff). Timbre changes as summarised by mute use correspond to large-scale structure (Fig. 7.7).

‘Fanfare’ motifs and dense clusters are the most characteristic brass materials. Fanfares are built from M3m2 cells (in or out, inverted, etc.). The trumpet line in m. 53 is the clearest statement of the complete pitch row (Ex. 7.2). Volume swells on quarter-and half-notes make distinctive material and establish the sense of pulse. These are built from chromatic clusters (m. 43).

Within the brass choir, horns and trombones sometimes double or alternate attack and sustain, such as in m. 45 and 48: both sections attack the notes with trombones sustaining the first time and horns the second. Brass and woodwind doubles have been described above. In addition, horns double ‘celli on the long E in m. 28ff, trumpets and strings share the high A at m. 55, and the tuba reinforces the contrabass once on a high Eb in m. 58-60.

A particularly ear-catching mixture occurs at m. 78 when marimba and piano jointly attack a low G which the tuba sustains. The result is rich and amplified, like a bass guitar.

The only instances of brass solos are two passages for horn with the final flute and piccolo solos: the first stopped and with quartertones, the second muted.

Ranges are not extreme, although the tuba tessitura is rather high. The brass section has an extremely demanding time ahead in ‘Game’ (they haven't been featured yet - can't give away too much.)

Brass timbres dominate in the middle as intensification peaks. Because the brass material never settles, the climax is not a conclusive arrival. Strong arrivals (m. 66-67, 72-73) are followed by disintegrations rather than confirmations. The other choirs are never converted to obviously supporting the brass material. There is no real victory in war or in this piece.
Brass Presence

Mutes: Mixed

hns
Straight Metal

Plunger - Hon - / S.M.

O S.M. Open B Nat. All Solo Brass
P E
E Raise L Open
N Bell L Solo
S

UP

Fig. 7.7. 'In Memoriam'. Mute usage and structure.
The percussion group, including harps and piano, is large and varied. Fig. 7.8 shows percussion instruments used in each movement of the Concerto. 'In Memoriam' uses the largest battery to this point. The section is located conventionally and parts are written for four players with specific instructions regarding changes of instruments. After performing it with the Cleveland Symphony Orchestra, conductor Steven Smith recommends using five or six percussionists, however.

As in Husa's other works, performance instructions are precise: mallet choice, piano string plucking technique, rhythmic dynamic shapes, arpeggio direction, and damping of harps, vibraphone and piano. Graphic notation indicates rhythms "as fast as possible" and direction of imprecise pitches for timpani and marimba in m. 73.

There are several groupings used within the choir: harps-piano, glockenspiel-vibraphone-chimes-harps-piano, and marimba-piano. Tom-toms, as in the Concerto for Wind Ensemble, are a semi-pitched counterpart to timpani. Most doublings, however, are reinforcements of winds or strings.

Different kinds of sounds carry different material and fill different roles. Three pitched instruments have solos in the first and third parts of the structure: hand bell (metal), marimba (wood) and timpani (skin). (During this part, col legno violins also add percussive sound.) The timpani part is quite independent throughout the movement, joining woodwinds briefly at m. 64-65. These soloists and others (harps or piano) also reinforce other instrument entries to move them into the foreground.

In the second part, percussion instruments reinforce groups of winds and strings, for example, marimba with trumpet fanfares; or the mixed group of temple blocks, tom-toms, harps, vibraphone, glockenspiel and timpani with brass runs m. 62-64. As the decline begins, doublings become more complicated: vibraphone with violas, marimba and piano with brass, harp with other strings.

Pitched-attack instruments suggest or establish prominent pitches by repeating them over long periods of time. In part 1 the handbell reiterates Eb; in part 2 the 'bell' group – vibraphone, glockenspiel, chimes, hand bells, harps, and piano or marimba and vibraphone (with woodwinds) plays G; in part 3 the handbell returns with Eb, and with timpani Eb-D. When the ascent is most chaotic, pitched-attack instruments have pitch-obscuring material: adjacent minor seconds and glissandi over wide ranges.

A powerful event marking the middle summit is the large gong finishing a sequence of four cymbals and gongs, each larger and louder than the last. The third summit is set up with a chime – it is not a strong enough sound to announce a conclusive arrival, thus the descent begins.
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<th>I Cadence</th>
<th>II Interlude</th>
<th>III Fantasy - a</th>
<th>- b</th>
<th>IV In Memoriam</th>
<th>V Interlude</th>
<th>VI Game</th>
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Numbers next to instrument names refer to measure of first entry.
Other independent percussion sounds (those not doubling other choirs) give continuity over the second and third parts of the structure by crescendoing and becoming more active as brass sit on the long chord in m. 73.

Near the end of the movement, Husa creates an icy, spine-chilling timbre combining tremolo string harmonics, hard mallet xylophone and marimba rolls, piccolos, and harp and piano tremolos on a high B. This is new colour, not doubling (Ex. 7.11). It marks the end of the movement, confirmed, retrospectively, by the ‘Game’-like clarinet solo, which is not permitted to take off and blurts to a halt to as if to wait for ‘Interlude II’.

Percussion present independent material and support all three of the other choirs, often two or more of them at the same time. Pitched instruments predominate; unpitched instruments are markers and shape makers. Beginnings and destinations of additive processes give boundary-marking clues to Husa’s priorities. Percussion reinforcements are involved in the most audible clues to the movement’s direction: harp-piano pulsing eighth notes from m. 45, the large gong at the middle summit, timpani slowing from m. 74, the ‘bass guitar’ mixture marking the end of the steep descent, and icy mallet-harmonics-piccolos near the end. The percussion contribution to shape and direction is as powerful and consistent as the strings’ contribution to continuity.
Ex. 7.11. ‘In Memoriam’ ‘Icy’ sound. m. 88-89.
Fig. 7.9. 'In Memoriam'. Timbre contributions to structure - highlights.

Strings
- CE
- Δ
  - col leg
  - long note melody
  - pizz gliss
  - M3m2

Woodwinds
- CE
- Δ
  - cf. answer
  - fl-ob runs
  - low ww runs
  - all ww run

Brass
- CE
- Δ
  - mutes
  - long unisons
  - mixed
  - 2nd f.f.
  - full f.f.
  - hn pulse
  - straight metal plunger

Percussion
- CE
- Δ
  - hand bell
  - timp
  - harp pulse

CE: character - establishing
Δ: contrast
=: maintains continuity

v. high sust. notes
solos: hn fl
cf. answer
trem
cf.
pic
pic. 3csl
fl-ob runs
all ww run
2nd f.f.
full f.f.
hn pulse
straight metal plunger
hn gliss
'dnat'
solo hn
sting chords
solo
hn
tuba
mute
marc. runs
open bells up
bells
gong
chime mar
pno
mar
hi pitched
attack
Summary of scoring characteristics (Fig. 7.9)

Scoring plays a larger role in this movement than in ‘Elegy’ because the structure is dominated by element processes rather than motivically-defined sections.

Within the full orchestra the individual choirs have differing roles. The strings are the core, a continuous presence. They occupy the foreground in the first part, recede as the tutti mixture becomes complex in the second, are background in the third, and the solo ‘cello shares the foreground of ‘Interlude II’ with percussion. Woodwinds support and contrast with strings at first, contribute to the middleground complexity of part two, and take the foreground in the third. Percussion provide reinforcement and punctuation in the first part, join the complex mix in the second, doubling, reinforcing and playing independently, and move to the middleground in the third part. Most components of the second part’s dense, powerful texture are reinforced with percussive attacks for competitive penetration. The brass are energy drivers: foreground in the second part, and not very present in the other parts, except for solo horn in the third. Throughout the work the focus shifts from one instrument group to another.

Husa’s ‘ear-catching’ mixtures – the ‘bass guitar’ sound, piano-piccolo combination (piccolos do not often play solos with piano), and the ‘icy’ sound – serve structural functions marking changes of direction in the decline and plateau. The string Klangfarbenmelodie is particularly effective in its manipulation of string sounds, opening the movement in a single line yet with tutti connotations.

The clarity-diffusion factor is very important in this movement. Unlike ‘Elegy’, manipulation of clarity does not prepare for presentation of new material. Here, clarity is used to draw attention to destinations of processes – the steeper part of the ascent (‘now we’re really going up’), the summits, the bottom of the steep descent, and the coda-like section from the piccolo solo onwards. When rate or direction is about to change, Husa moves some things out of the way so we can tell that we are going somewhere new. As in ‘Elegy’, clarity is achieved through synchronisation of small-scale rhythms, timbral purity and synchronisation of markers within several elements. Instruments within a given choir perform more similar material when ‘clear’ and more diverse when ‘diffuse’. Diffusion generally promotes instability and anticipation of new material (which is not always offered) or new direction (which happens). Diffusion is achieved with contrasting and conflicting small-scale rhythms, dense textures, and mixed timbres.

Vertical harmony is more a result of textural layers than it is of chord or cluster constructions. Since thirds figure strongly in the two versions of the M3m2 cell there are suggestions of triad-based harmonies. Vertical arrangements of the cell are used on
a few occasions (e.g., m. 57 woodwinds) and also result from staggered entrances sustained (m. 74 brass). There is some sense of harmonic progression as the second set of intervals is introduced in woodwinds and confirmed by the strings in m. 21, however, after that point the common vocabulary of the two cells provides continuity throughout the rest of the movement. Harmony in this work consists of not only simultaneous vertical pitch sonorities but also of the general harmonic dialect which results from the consistent set of intervals.

Melodic and motivic ideas do progress through the span of the work. Again, the common intervals give continuity, however new characteristic rhythms or range give new presentations fresh interest. Those presentations which attract interest are also in fresh or contrasting timbres. There is a wealth of melodic material – many ways of using similar pitch materials. This large variety makes it difficult, as a listener, to prioritise motives.

Small-scale rhythm is the strongest motivic factor. General levels of rhythmic activity progress from the opening slow-paced ambiguity through aggressive many-layered complexity to clear spaciousness, with aggressive subdivisions in solos. The progression feels relentless because there is no sense of phrase-length rhythms resolving and relaxing. Only in the final section does the forward motion let up. From the piccolo solo to the end there is contrasting density with new lengths of phrase, still connected by long notes in the strings; in some ways a coda. Additive rhythmic processes also contribute to the structure, most dramatically during the descent through timpani and brass.

Middle-scale rhythm and texture are interrelated. Much of the progressive complexity comes from dense layering of contrasting rhythmic materials. Husa’s complex textures are constructed from a few lines, layered, staggered, fragmented and ornamented into many related but separate components.

Volume gives the strongest surface impression of structure. Texture, rhythm, dominant choir, timbre saturation, and register generally complement the marked dynamics. If not, the inconsistent element is probably compensated for by one or more of the others to smooth the overall intensification or relaxation process. Timbre changes help maintain the necessary attention during the long, relatively smooth intensification.

Even with mixtures and reinforcing doubling, Husa seems still to work with the four instrumental choirs as primary colours and scores distinctive material for each. Aside from two new timbres ('icy' and 'bass guitar' sounds) doublings maintain a dominant timbral quality: clarinets do not change the trombone quality, flutes or marimba do not change trumpet, nor does the vibraphone change the viola. The kinds of ideas scored in each choir stay within the choir and the contrast between these kinds
of ideas is the basis for much of the textural structure. There are more cross-choir reinforcements in this movement, especially percussion, to make competitive the ideas belonging to the other choirs.

The score is packed with detail, nuances of balance, attack and colour change. One kind of detail which warrants attention are spatial effects, mainly within the large string section. These include panning across the ensemble as well as front to back volume and timbre changes. They are not all audible in the recordings, but I imagine, from the score, that they could be very powerful in a live performance. Studying this work certainly deepens my understanding of the conventional orchestral lineup and its possibilities.
CHAPTER 8

Comparison of Husa’s Concerto for Orchestra and Concerto for Wind Ensemble

This chapter compares the findings from analysing ‘Elegy’ and ‘In Memoriam’. Such findings, as discussed in Chapter Four, will be discussed within the categories of structure, element management, and instrument usage. I then note the place of these works in light of the history and traditions of the two ensembles. I will, however, begin by considering the concept of ‘concerto for orchestra/wind ensemble’ as discussed in Chapter Five.

Concerto concept

The Concerto for Wind Ensemble and Concerto for Orchestra are good examples of large ensemble concerti as parades of soloists, sections and tutti. These works celebrate mainstream ensembles, using customary types of instruments.

Husa’s orchestra is large, incorporating full instrument families, including bass flute, English horn, bass clarinet and contrabassoon. Conceptually, the Concerto for Orchestra is a celebration of virtuosity, and therefore features more soloists than the Concerto for Wind Ensemble. Motivic ideas are related to the virtuosic solo idiom for the instruments. For example, melodic lines using open strings and doublestops are more characteristic of string solo repertoire than of orchestral repertoire.

On the other hand, the Concerto for Wind Ensemble explores ideas more related to ensemble idioms. For example, trumpet fanfares are idiomatic to ensembles, not solos. The Concerto for Wind Ensemble is structured around contrasts and interaction between the three instrumental choirs of woodwind, brass and percussion. Instruments frequently used in wind ensemble repertoire which do not fit into these choirs – double bass, harp and piano – are not included.

Neither work incorporates electronics, voice or instruments foreign to the respective tradition. Soloist choices confirm tradition with flute, clarinet, bassoon, horn, violin, and ‘cello; and extend it with piccolo, bass flute, English horn, bass and contrabass clarinets, contrabassoon, and timpani. Thus the two concerti comment upon their traditions and point to further practice.

‘Concerto for large ensemble’ – orchestra or wind ensemble – is a twentieth century concept. It is relatively new territory in the wind ensemble world, and although other significant works have been composed, there is still plenty of scope in the orchestral world for further exploration.
Husa’s ‘concertos for large ensemble’ share the common mission of demonstrating and celebrating the capabilities of the ensembles as wholes, and within their constituent parts. Similarities suggest that, having composed the Conceto for Wind Ensemble first, Husa has taken his ideas further in the Conceto for Orchestra, tailored to the capabilities of the virtuosic New York Philharmonic.

Structure

Movements of both Conceti feature, and by extension, contrast, specific instrumental groups. The large movements proceed from the featured choir to full ensemble. The most developed tutti sections are within ‘Elegy’ and ‘In Memoriam’, and ‘Perpetual Motion’ and ‘Game’. Both pairs of movements are similar in shape, tempo, and characteristic motivic material.

Husa’s design confirms that he thinks in terms of instrumental choirs – strings, woodwind, brass, and percussion. These are featured in the large movements of both works. The ‘Interludes’ in the Conceto for Orchestra explore other combinations, particularly pitched-attack percussion instruments. Motivic materials are idiomatic to the featured instruments.

The Conceto for Wind Ensemble is in three distinct movements, not connected. Most elements contrast at junctions. Timbre contrasts are strong. The Conceto for Orchestra is in six connected movements. Element contrast is still strong at junctions, particularly timbre contrast. Connections are prescribed in detail, whether measured silence or the overlap of some sound or motif. Thus, orchestra members do not relax between movements and neither does the audience, maintaining the emotional flow.

Movements progress from soloist or section to tutti in both works. Types of structures used are related to this pattern of progression. ‘Elegy’ and ‘In Memoriam’ are the only large movements which return to soloist or section at the close.

They have similar shapes: both begin quietly and thinly, build to an intense climax, relax, and finish quietly and thinlly. The structures of the two movements are quite different however. ‘Elegy’s’ structure is sectional as well as process-driven. Most elements change at section boundaries marked by dramatic timbre and texture events, and sections have strong internal process shapes. In contrast, ‘In Memoriam’ is dominated by a long, uninterrupted intensification process with no clear sectional shape.

These differences are consistent with the structures of the preceding movements. ‘Cadence’ begins with solo violin and gradually builds to incorporate the full string choir, and eventually the full orchestra. It establishes a process structure of gradual accretion and intensification, confirmed by ‘Fantasy’ which develops in a similar
manner with woodwinds. ‘Drum Ceremony and Fanfare’, which opens the *Concerto for Wind Ensemble* is clearly sectional, even in its title. It too, builds from a soloist (timpani) into a larger ensemble, but then starts afresh with the trumpet fanfare answered by woodwinds, distinctively new material from instrument groups not yet heard. There are two or three sections which follow – new starts to smaller-scale process shapes. ‘Elegy’s’ sections-within-process structure mediates between this sectional first movement and process-dominated third movement, ‘Perpetual Motion’.

**Element use**

The function and management of the various elements is similar in both movements.

**Pitch**

There are many similarities in the function and management of pitch materials in the two movements. In both, motivic materials are generally timbre-specific. If doubled, as in ‘In Memoriam’ for competitive strength within complex textures, the presenting timbre remains dominant.

The overall vocabulary of intervals provides continuity throughout movements and, to differing extents, the complete concerti. There is some sense of harmonic progression as new interval relationships are established, such as string confirmation of the M3m2 cell in ‘In Memoriam’ or clear triads at ‘B’ in ‘Elegy’; however once this has happened the consistency of harmonic dialect is stronger than any sense of development through transposition, inversion or other transformation. Husa limits his pitch materials but uses them freely and creatively. Process structures are dependent on some element or elements providing strong continuity against which other elements can progressively change. Pitch is one source of continuity for both movements’ process structures.

Common aspects of pitch vocabulary include quartertones and lines or clusters using all twelve pitchclasses. Pitch structures incorporating all twelve pitchclasses result from mirroring and transposing small three-pitch cells into a full row or superimposing three- and four-pitch chords in different transpositions. These transposed chords are also derived from the row and are usually related to each other by intervals from the original cell.

1 Coincidentally, both movements share Eb and A as central pitches, but for different reasons. ‘Elegy’ is the middle movement of a work based on pitches derived from the initials, MSU, S being si or Eb. ‘Cadence’ in the *Concerto for Orchestra* is designed as a string feature, exploiting the solo string idiom. It’s primary pitch material accommodates the open string A. ‘In...
Husa’s use of quartertones is a good example of his control of effect and function. In ‘Elegy’s’ ‘A’ section, quartertones are used to more closely surround important pitches (Thompson describes their function as “cadential” (65)) and to destabilise pitch in the transition section. In ‘In Memoriam’, quartertones are used in a connecting function, to fill the distance between semi-tones. Thus the same technique serves distinctive structural needs of each movement.

Harmonic (vertical) structures are more important in ‘Elegy’ than ‘In Memoriam’. Clusters in ‘In Memoriam’ are more easily perceived as concurrent sustaining melodic lines. In contrast, ‘Elegy’s’ ‘A’-section clusters are strongly harmonic, and the ‘B’ section is dominated by triad-based progressions. In ‘In Memoriam’ pitch usage is based most strongly upon horizontal motifs generating a common dialect of intervals used both melodically and harmonically, while in ‘Elegy’ horizontal and vertical structures are more distinct – melodic movement largely based upon seconds and vertical structures based upon triads.

In ‘Elegy’ melodic motivic materials also define the sectional form of the movement. New ideas are generally presented clearly. An exception is the timpani entrance beginning the transition, which is characterised by rhythmic complexity and textural diffusion rather than pitch structure. This is similar to the subtle introduction of motivic ideas typical of ‘In Memoriam’, for example, the first presentation of the M3m2 cells in woodwinds and brass are indistinct. It is not until later, as they are taken up by more of the orchestra, that they begin to function motivically. Subtle introduction of motivic materials keeps the process smooth. Clear presentations make sections obvious.

In both movements increased harmonic density (number of concurrent pitchclasses or cell transpositions) contributes to processes increasing tension and instability. Harmonic clarity, through decreased density, helps establish section junctions by facilitating the presentation of new material in ‘Elegy’ and helps confirm changes in process rate or direction in ‘In Memoriam’. Increased density is a product of textural complexity, and/or rhythmic dis-synchronisation of Husa’s carefully layered lines.

**Rhythm**

Similar rhythmic processes are used in both movements at all scale levels. On the largest, synchronisation of motion between elements makes for clear section

Memoriam' carries on with related pitch cells. The mirroring and cell-interval based transposition used to construct twelve-pitchclass rows produce tritone relationships. Hence ‘Elegy’ also emphasises A as well as the MSU-sourced Eb, and ‘In Memoriam’ also emphasises Eb as well as the string-influenced A. Well, that’s my suspicion, at any rate. Make of it what you will.
boundaries, as happens between movements; unsynchronised motion supports continuity. ‘In Memoriam’ does not have clear sections because element motion is not synchronised – new material may happen in one element while others remain (relatively) unchanged. Element intensifications share directional shape but are not parallel, thus as one element relaxes another is uncovered to propel the process direction. As these change, the listener’s interest remains engaged yet the long process is not disrupted. In contrast, ‘Elegy’s’ sections are distinct because significant changes occur at the same time within several elements.

Both movements use long durations, few silences, and unclear pulse in slow feeling, quiet parts. Sustained notes override phrase shapes. Louder, busy sections use short durations as core material, simultaneous contrasting rhythm patterns, and aggressive articulations. Sustained notes in these sections are in tension with the surrounding activity. Short duration notes in quiet parts are either ornamental, as in ‘Elegy’ or in tension with the slower context, as in the final solos of ‘In Memoriam’.

They each open with a free sense of time, and little suggestion of steady pulse. As they intensify the pulse becomes present and insistent; as they relax the pulse weakens and disappears. Pulse presence is a clarifying factor, pulse ambiguity diffuses.

Synchronisation of textural components produces middle-scale clarity, dis-synchronisation generates complexity and diffusion. In ‘Elegy’ Husa uses more cross-rhythms or conflicting subdivisions of the beat to achieve diffuse complexity. In ‘In Memoriam’ rhythmic grouping and accents conflict. Percussion reinforcement of instrument lines increases the penetration of these contrasting attacks.

Systematic additive rhythmic processes are used in ‘In Memoriam’ to maintain long process directions. ‘Elegy’s’ process intensifications and relaxations happen over shorter time spans so long systematic additive processes are not as useful.

Rhythmic clarity in ‘Elegy’s’ ‘B’ section half-note chord progressions is also motivic, a factor developed by disintegration – gradual staggering of entrances until the progression is so fragmented it is no longer recognisable.

Small-scale rhythmic events, such as the ‘B’-section half-note progression, measured volume swells, aggressive 32nd-note clarinet solo, or long, off-the-beat sustained melodies; function motivically in both movements, and more strongly than pitch motives in ‘In Memoriam’. Within each movement characteristic motivic rhythms are consistently linked to timbre: measured volume swells are brass (IM), long-note melodies are strings (IM) or flutes and double reeds (E). Fast triplet twitters are woodwind (IM), the aggressive bursts of 32nd-notes occur in timpani and counterpart tom-toms in both.

Rhythmic materials used to intensify processes occur across several timbre
groups, mixing and diffusing colour. For example, in both movements fast runs are played by all choirs. The half-note triad progression in 'Elegy', although played by both brass and woodwinds, is initially dominated by brass timbre. As the progression becomes unsynchronised, mixed timbres also dilute and diffuse.

Rhythmic materials and use are very similar in the two movements. The differences are ones of scale as the longer processes in 'In Memoriam' demand greater continuity and gradual change.

**Texture**

Texture and rhythm are closely related, for Husa often develops texture by rhythmically displacing statements of an idea or by juxtaposing contrasting rhythmic ideas. Clarity-diffusion processes are structural features of both movements, achieved by manipulating textural and rhythmic complexity, timbral purity, and dominant choir. Increasing clarity through simpler textures, pure timbres, and cooperative rhythm patterns produces stability which may effect a climax, junction or an uncompetitive context for new material. Each of ‘Elegy’s’ section junctions requires relative clarity. Unsynchronised rhythms, mixed timbres, pitch-obscuring techniques (microtones, close harmonic intervals, or glissandi), less penetrating registers, and diminishing brass timbre diffuse and relax energy. ‘In Memoriam’ uses additive rhythmic patterns to achieve both clarity and diffusion. In fact its long intensification process requires diffusion to maintain process continuity by delaying resolution.

The kinds of textures used are very similar in the full, complex intensifications, but differ in the calmer sections. ‘Elegy’ has more foreground-with-accompaniment textures: flute line with cluster chords, surround-pitch woodwinds with brass unisons, or moving triads with aggressive percussion and intensifying drones. ‘In Memoriam’s’ foreground shifts between two or more instrument groups and is commented upon rather than accompanied by others. For example, the opening strings and woodwinds with percussion give the effect of statement-and-response, rather than statement-with-support. This contributes strongly to the *tutti* effect of the movement – the foreground does not remain the territory of any one group for long.

**Volume**

In both works, volume gives the strongest surface impression of structure of all elements. Husa consistently scores for volume: quiet passages are thinly scored, loud ones densely. Number of players, timbre saturation and dominant choir all support
marked dynamics. On a few occasions, he deliberately compensates for strength in one element by weakening another, such as the first woodwind runs in 'In Memoriam' in which the increased number of players and stronger timbre is offset by softer marked dynamics. Husa rarely relies on marked dynamics alone to accomplish his volume intentions, however. Other aspects of scoring assure his intended volume shape will happen.

When a passage is loud most instruments are in penetrating registers. Those whose colour is characteristic of the passage will be most penetrating. To move material into the background he uses less penetrating registers, mixed timbres and/or obscured pitches. Mutes, mallet choice, bowing and other effects are also carefully prescribed to support the foreground or background role.

**Timbre and instrument usage**

A feature of Husa’s scoring in both works is his detailed attention to nuances of timbre and effect, evidenced by precise mute and mallet choices; rhythmically measured timbre, volume and pitch shifts; bowing and articulations; and spatial location of sounds. He adds timbral shape to sustained pitches and single lines with these details. Process structures require much gradation, and therefore consideration of detail in all areas.

Husa is very conscious of his place in the orchestral lineage and is interested in adding to the timbral palette. He knows what other composers have done before him and is concerned that he does not sound like them. He wants to create new sound - a different voice. His music is about its medium – in these works, the orchestra and wind ensemble – as well as a vehicle for powerful statements about his time and culture.

He considers all instrument timbres as he puts together a work. He has structured in the opposition of instrumental choirs, generally maintaining clean timbral divisions. Dialogues and alliances are part of textural design.

Motivic materials are instrument-specific – presentation of an idea remains within the presenting instrument and closely related ones. Melodic materials are not developed by changing timbre. Other timbres may reinforce them, but not in a way that changes the timbral identity. Husa is more likely to manipulate saturation (density of similar timbres), than to mix colours.

Those instruments common to both ensembles are treated similarly. Flute and double reed sections are essentially the same in the two ensembles. There are two more flutes in Husa’s wind ensemble than orchestra but they do not change the colour or deployment of the section significantly. One mixture he uses in both ensembles is flutes
and oboes together. The English horn is a specialist soloist in both. Piccolos extend the woodwind range in loud sections in both, and feature with a solo in ‘In Memoriam’.

Clarinet sections are used as a section and with bassoons in both works. The orchestral section is small – only three members. The twelve-member wind ensemble family is much larger. A full section of nine soprano clarinets adds further colour to the palette. Husa exploits this by using the section as nine individuals, three subsections and all together. Low woodwinds – bass and contrabass clarinet, bassoon and contrabassoon, and low saxophones – are used together in ‘Elegy’ as a group large enough to compete with a distinctive reedy quality.

Brass and percussion choirs are similar, with some differences in use. The wind ensemble’s euphoniums and doubled trumpet section provide more power, especially for the first movement fanfare material. Mute use is similar: least brassy in woodwind or string dominated quiet sections; most brassy (straight metal or open) in loud, brass-dominated sections. To maintain balance with woodwinds in ‘Elegy’ Husa keeps the brass muted throughout the loudest part. Opening brass is part of ‘In Memoriam’s’ powerful intensification, dominating the peak.

The wind ensemble’s larger brass instrument sections can better fill sustaining background roles and contrast with each other. Horns are used independently of the rest of the brass section more in ‘Elegy’ than they are in ‘In Memoriam’. Only the horn has a solo in either movement – the group sound of brass is predominant. Yet motivic materials for brass and percussion in both works have much the same character.

The percussion choir is also handled differently in the two concerti. In the Concerto for Wind Ensemble the percussion choir opens the first movement, ‘Drum Ceremony and Fanfare’. Percussion forces used are similar throughout the rest of this Concerto – parts are prominent and independent, providing continuity. Although the overall group is similar to that of surrounding movements, within ‘Elegy’ different percussion types feature in different sections of the structure, delineating by contrast.

In the Concerto for Orchestra, percussion forces are more varied, assisting with inter-movement contrast. Different groups of percussion instruments are also featured in the two ‘Interludes’. Within the broad category of percussion are piano and harps, not present in the Concerto for Wind Ensemble. There is much more emphasis on these and other pitched-attack instruments, largely because percussion often reinforce the other choirs melodically. They are not as independent as in the Concerto for Wind Ensemble.

Percussion instruments often serve marking functions. Similar instruments are

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1Laudermilch (58) points out, however, that C trumpets used in orchestras have a more brilliant sound, which makes up for at least some of the difference in numbers.
used thus in both works: timpani, chime or hand bell, large gong, or mallet instrument rolls. Special mixed timbres are created for additional markers in the last part of ‘In Memoriam’: the ‘bass guitar’ and ‘icy’ sounds.

Strings are a strong colour in the Concerto for Orchestra but not a dominant colour. ‘In Memoriam’ begins with strings but quickly establishes interaction between the other choirs. They are present throughout the movement, thus, in some sense they are a ‘core’ sound. As the movement is intended as an orchestral tutti this is logical – it will not sound tutti if the strings are absent. Strings sustain over changes in other choirs and over the structural bumps in the descent of ‘In Memoriam’; their timbre helps maintain continuity.

String parts are significant, challenging and very detailed. Husa has obviously given much thought to their use. Since they were introduced as soloists in ‘Cadence’, it is appropriate to observe the choir sound that opens ‘In Memoriam’. As it is a single line, it would be easy, but predictable and old-fashioned to score it in octaves for the respective sections. Husa wants to create something different, and he has in this carefully constructed, multi-timbral single-choir line exploiting a wide range of string timbre and techniques.

Other instruments not common to both ensembles – saxophones, baritones, piano and harps – are used within their respective choirs and also across boundaries. Saxophones are used most often with woodwinds, frequently as a section but sometimes divided by range (the low woodwind group has been discussed above). Harps play with strings and with percussion. Baritones are most often used with brass, but also within a mixed group of low woodwinds, and saxophones. Piano is used percussively and as soloist, most often within the pitched-attack group.

Neither ensemble is poorer for the absences. Because Husa mixes colour rarely and uses pure timbre groups, the difference between having three or four choirs is not significant. His orchestra and wind ensemble sounds are very similar – one hears the same kind of organisation of primary colours. Mixed sounds, when they occur, are used for reinforcement, for passing lines from one instrument to another in ‘timbre melodies’ and for moving accompaniments into the background. Extreme registers and special effects intensify the differences between instruments. He is interested in all players having something interesting to play, and wants to find new sounds – something different to add to the heritage of Western art music which he knows so well.

Conclusions

‘Elegy’ and ‘In Memoriam’ have different structures because the two concerti
are exploring, exploiting and expanding upon different aspects of their ensemble's heritage. Husa's orchestral celebration of individual virtuosity is accomplished by gradual introduction of individual players and instruments; hence process structures built through gradual accretion. 'In Memoriam' has to make sense within this context, contrasting as a *tutti* movement, deliberately not featuring soloists until the end.

The *Concerto for Wind Ensemble* celebrates ensemble idioms – larger groups of instruments are used for shifting accompaniment textures, sections of the form feature sections of the wind ensemble. Soloists, such as 'Elegy's' opening flautist are featured as individuals making statements rather than as virtuosi (the timpanist is an obvious exception to this).

The two movements share a common theme of grieving over humans' inhumanity to each other and the planet. Similar energy shapes – quiet to full and chaotic to quiet – grow from this theme.

Both energy shapes are constructed by manipulating contrasting materials within carefully paced textures. Structural junctions are reinforced or created with changes of timbre. When an instrument is to present important material, Husa keeps it out of the preceding passage (although he sometimes includes it subtly, perhaps to 'warm up'). The differences between Husa's wind ensemble and orchestral scoring are ones of degree, not kind. He pushes the orchestral players to greater extremes.

Figure 8.1, 'Comparison of structure and scoring in 'Elegy' and 'In Memoriam'” shows similarities and differences in the overall structure depictions and some common and contrasting scoring features. Although the processes’ broad sweeps are quite similar, 'Elegy's' strong section markers make for a more staged ascent. Intensity is relieved and regained within the 'A' section as well at through the transition, climbing to the decisive climax, in three discernible steps. 'In Memoriam' is much more gradual; intensity is never relieved on the ascent, the climax area is strong but no particular point is clear or definitive.

Similar small-scale timbral events occur at similar places within the form: the use of chime or handbell at or near beginnings, trumpet-led brass and large gong at the top, flutes and bassoons to reclaim calm and quiet, clarinets to close (although different family members). More significant, however, is Husa's use of similar techniques to propel the processes through the various intensifications and relaxation. He uses saturation and clarity-diffusion relationships in similar ways, and strong choir contrast at significant points of directional change. Since volume shapes so closely support structure, scoring for volume – marked dynamics, number of players, saturation, effects, register and dominant choir – is very similar.
The place of these works within orchestral and wind ensemble tradition.

Just as most composers still find plenty to say with twelve pitches, not needing to add microtones; so Husa has demonstrated there is still much to be said with the conventional orchestra and wind ensemble. In some ways, in choosing to continue with the traditional orchestra, he is continuing the line of “brilliant and colorful orchestration inherited from Romanticism” (Todd 224), but with twentieth century expansion in percussion and woodwind families. No doubt there are more adventurous works pushing the boundaries of tradition such some by as Tippett, Schwantner, or Musgrave, or others by Husa such as Apotheosis of This Earth. He shows in these two concerti that he can work within boundaries of tradition in fresh ways.

Husa’s concern for detail includes spatial effects – how the work is experienced by the listener. He prescribes a specific seating arrangement for the wind ensemble which encourages soloistic playing, left-right dialogue between timpani and percussion, and panning effects in the brass. He does not change the orchestra’s seating arrangement but has included effects which move sound across, forward or backward through the orchestra, particularly within the large string section.

Elements contributing most strongly to design are contrast-providers: volume, texture, foreground timbre, and rhythm. Pitch and background timbre contribute to continuity. Both contrast and continuity are necessary for effective structure.

Husa’s approach to scoring is not changed for the wind ensemble. The only significant concern might be that player endurance limitations have influenced lengths of the last movements\(^3\). Commonalities and consistencies of his scoring language – the

\(^1\) Because the wind ensemble has a higher proportion of brass players, Husa suggested that he had gone as long as he felt he could. The proportion within the whole, however, is well-balanced. If Husa felt he needed a longer last movement in the Concerto for Wind Ensemble he would have found a way, perhaps by using more brass subsections.
CHAPTER 9

Evaluation of analysis method

This final chapter considers the analysis method’s effectiveness. Does this analysis yield answers to the questions: 1) How does Karel Husa use the large instrumental ensembles of orchestra and wind ensemble to make effective musical structures, as exemplified in these two works? and 2) What are significant scoring similarities and differences between the two pieces for the two different ensembles? I believe it does yield answers, although not without demonstrating some concerns and limitations. I will discuss both limitations and strengths under the following headings: kinds of findings, method – framework and procedures, language – terminology and metaphor, applications for composition, and directions for further investigations.

Kinds of findings

These kinds of findings were anticipated in Chapter Four:

structure: how it can be described, and in which element-terms

element management:

intensification-relaxation: how these processes are generated within each element

continuity-contrast: which elements contribute and how, and the function of continuity and contrast for sectional and process structures

clarity-diffusion: manifest within processes, how activity within multiple elements is combined

instrument usage:

timbre-material relationships: carrier or content (or within continuum)
special sounds and combinations
correlation of instrument usage with element management and with general structure description.

comparison of instrument usage, element shapes, other processes (clarity-diffusion, saturation) in each work.
Following is a summary of findings:

1.) Structure

Both movements have similar overall energy shapes: quiet, unpulsed, thin – loud, full, brassy, rhythmically complex – quiet, unpulsed, thin. Movement-level structural differences result from different structural agendas for the complete works: 'In Memoriam's' process-dominated structure follows from the gradual-accretion norm established in preceding movements, while 'Elegy's' sections-within-process structure mediates between the sectional first movement and process-oriented third movement. Section or movement junctions are established or confirmed by timbre contrast. Other elements may be complementary, according to the degree of contrast required, thus, at junctions, element activity is more complementary in Concerto for Wind Ensemble than in Concerto for Orchestra.

2.) Element management

In addition to marking junctions with element contrast, in both movements Husa has constructed carefully paced, but not parallel, intensifications and relaxations within the elements of rhythm, texture and volume. He has scored for volume with marked dynamics, texture, number of players, and timbre saturation moving similarly. To this end, he has also taken great care with effects and register. Diffusion processes are generated by mixed timbre, pitch and rhythmic complexity or ambiguity. Clarity is achieved with pure timbre, clear, simple rhythms, presence of pulse (sometimes), and general element synchronisation. Pitch materials, on the other hand, provide continuity through the movements, and to a lesser extent, through each concerto.

Management of elements is similar in the two works, using similar means for similar structures. Management differences correspond to structural differences.

3.) Instrument usage

Timbral energy shapes – intensifying and relaxing through register, effects, colour penetration, and saturation – complement those of other moving elements. Timbral contrasts also mark section boundaries. Motives are timbrally consistent – recurrence of material is confirmed timbrally as well as harmonically and rhythmically.

These are some of the more significant similarities and differences between the movements.
Similarities:

- Pure colours (mostly)
- Materials are instrument specific
- Equality of choirs
- Unusual soloists
- Extremes of register, special effects, very detailed timbral instructions
- Uses flute-oboe group, and occasionally, low-range group

Differences:

- Orchestral writing is more demanding in rhythm, range, fluency, and endurance.
- Orchestral passages refer to soloist idiom, wind ensemble passages to ensemble idiom. (exceptions: wind ensemble flute, bassoon, and timpani are soloistic.)

Instrument usage is very closely tied to structure in all elements. At any point in the work choices of instrument, effect and register make sense within the prevailing process shape or sectional definition. Husa’s work is extremely intentional and integrated.

I was able to find what I set out to find. Along the way, of course, many other directions of inquiry emerged, and I am only too aware of the gaps in this study. Still I believe many of them could also be addressed in a similar manner. The method I have described, albeit time-consuming, is a useful addition to the analysing composer’s toolbox.

Method – framework and procedures

1. Framework: structure versus texture

Structure proved to be a more appropriate framework than texture for this study. Because Husa’s works are very process-oriented, his textures continually develop and change. He expands textures with reiterations (‘staggers’), multiple timbre constructions (mixed attack-sustain), or breaking up lines between multiple timbres. All are means of development of texture available because of the large timbral palette. In these works Husa’s textures are constructed from a small number of ingredients but are manipulated in ways suited to large numbers and colours of instruments. Perhaps texture might be more useful in more traditional or sectional works, however a primary objective of this study was to find a way to understand scoring in contemporary, less conventional works. The purpose of this structure analysis is to provide a prioritising
tool for studying scoring, a framework on which to hang and organise observations, therefore I have not pursued it with great depth.

My descriptions are deliberately simple and non-technical. They are functional enough to accommodate the element and instrument usage information I want to organise over the duration of this study and they have endured as my listening and understanding have matured. I am certain that there can be other, well-justified structure descriptions. The point of this study is not undermined by those.

With this method I have shown how Husa uses scoring to reinforce and create structural design using timbral contrast at junctions, timbral content (motivic function and character), and processes based upon instrument deployment to manage intensity-relaxation shapes: clarity-diffusion, textural density, scored volume, register, effects, and dominant timbre group. I have also shown how Husa uses pitch consistency for continuity, and other elements for contrast and shape. These findings demonstrate some of the fruits of a structure focus.

2. Further reflections on structure

Viewing structure as the combination of sections and processes – a mix which will have a different balance in different works – is one of the method’s strengths. It enables evaluation of events according to their contributions within the process and/or the section, illuminating their functions.

The ‘time-line’ format is a clarifying means of summarising observations. ‘Time-line’ in the strictest sense, is a misnomer as I have organised the line by score reference and measure numbers rather than by absolute recorded time, albeit making some allowances for tempo fluctuations, and pauses. ‘Real’ proportions are found within clock time, unique to a particular performance. Organising by measure numbers makes it easier to refer to the score which is the intended primary point of reference. Discussion can still be considered easily in relation to other performances.

By dealing with cadences primarily as junctions rather than as closure events I have passed over some aspects of their structural function. Process-structure functions – those looking toward connections and moving ahead – were given priority in the discussion. This may be an area worth further exploration.

I have given minimal written attention to hierarchical levels of structure. I certainly noticed them and made distinctions within my evaluation process, but found

1 Pitch is the only element with externally generated content, yet even the rows may be influenced by instrumental technique. Those rhythmic devices externally generated are for specific structural process, such as additive rhythmic processes in 'In Memoriam' (or a magic square for 'Game').
they added more confusion than clarity to the discussion. Hanging this range of elements on a one-level structure description is enough, although I am certain there would be value in working through more levels, perhaps with fewer elements.

These are substantial works and this has been a challenging project. Analysts tend to demonstrate their methods on smaller, safer works. I was able to put a myriad details into perspective without generalising them into insignificance; for one of my objectives is to find a way to study larger, complex, modern works. This is a framework for celebrating the particular.

3. Listening

Listening provided a base or safety-check to confirm the significance of particulars. If an event attracts attention it begins to function structurally whether so intended or not. It had better point to something structurally significant, and in good work it will. Ultimately, I was able to understand the structural function of all of the strong scoring events I heard in the early listenings.

Because timbre is so complex in these works, my perceptions changed over time, successive listenings and ongoing study. New score-based discoveries were heard, former aural surprises lost their surprise factor. When absorbed in the score, small visual events sometimes lost priority, even though they represented huge sounds, such as unison trumpet section on a whole note, or large gong. As I worked through each element, I also caught myself trying to hear my charts as well as chart my hearings. Yet, although small- and middle-scale evaluations flexed, the large structure impression remained consistent. There is room in such complex works as these for many hearings. There is so much to attend to that any number of listenings to the same performance can produce an equal number of interpretations. I have tried to represent the consensus of my experience in both modes of study as accurately as possible.

4. Element analysis

Separating ‘Sound’ (LaRue and White) into timbre, texture and volume was very important. More systematic separation of timbre might have been useful, perhaps into register, effects, dynamic penetration, and articulation. I considered all of these in the part-by-part examination, but did not transfer them systematically into the next level of evaluation and discussion. Rather, I mentioned them as required when discussing specific scoring events. Thus I have less sense of movement-length timbral shape in most of the sub-categories. Notable exceptions are brass mutes and clarinet section
deployment.

Element analysis gives a layered perspective on the same series of aural events. Qualities of these events, distinguished by element categories, contribute to the total meaning and direction of the work in different ways. Attention to pitch and rhythm elements is necessary because those are the elements through which we customarily define musical content. Discussion would be impossible without a clear understanding of the content scored. But for my purposes, emphasis on 'Sound'-related elements is essential. By necessity, this analysis addresses most of the elements covered in a comprehensive style analysis, with the balance tipped steeply toward timbre, and with a minimum of historical or contextual consideration. There are also further categories within 'Sound' which I considered and ultimately chose not to emphasise.

For example, I examined total ensemble range, but discussed it minimally as it does not contribute in these works as much as expected. Register is more important—highness and lowness are timbral qualities. Fullness of range span is roughly equivalent to number of parts/players and density of texture. Exceptions are noteworthy for timbral reasons, such as the contrabass clarinet and piccolo duet closing the 'A' section of 'Elegy'.

Spacing, another common concern of scoring is not discussed either. It correlates roughly to clarity-diffusion states. Husa's spacing is effective—when clear, low range gaps are wide, when diffuse, small intervals obscure pitch in all ranges, especially low. Most vertical material is related to the intervallic content of his pitch cells. The octaves in which they are set for instruments appear to take register into account as much as overall ensemble chord spacing.

Counting things for graphs, including counting subjective evaluations (for example, whether something is an element of texture), is a suspiciously quantitative activity in a qualitative study. 'Quantifying' helped group large lots of observations while the timeline helped maintain contact with details. I did not graph timbre comprehensively to avoid losing detail to generalisation, this after all, is the point of the study—'what do those details do?' Too many diverse kinds of information had to be combined to get a y-axis location.

Some element relationships described in the literature which I found interesting or attractive did not ultimately make their way into this discussion, for example, expansion-compression, acceleration-deceleration, or primary-secondary. In part, this is because these relationships overlapped others which were discussed such as additive rhythms, or foreground-background. Some did not fit these works as well as they fit other works not included in the study—they are useful in other contexts. For the analysis to serve the analysed work, the terms are dictated by the work to some extent.
Elements with fewer variables are easier, and consequently more tempting, to examine and discuss. Pitch therefore, is relatively easy while timbre is loaded with variables and more difficult. Given Husa’s careful approach to pitch content, I gave it a good deal of attention which may still be disproportionate.

Graphed data also may have gotten disproportionate attention, merely from the procedure of charting. Elements with fewer variables lend themselves more easily to two-dimensional graphic representation. Graphs are limiting, but do show progression over the entire time span. Vertical axis locations are not always easy to specify. As mentioned above, I found it is not desirable to graph timbre, the focus of the study, because of the complex number and quality of variables. To counter this I made every effort to view all elements through the ‘window of timbre’.

5. Timbre as window

The simple discipline of including timbral labels, at least to the level of instrument group, in all element discussions enabled me to keep timbral contribution within peripheral view at all times. This suits Husa’s work because motivic materials have strong timbral identities. (It would be more cumbersome for a work in which materials are developed through timbre change, in which the identity of motivic ideas may have to be timbre-neutral.) Thus as I look around the large picture, I am able to hold onto clear details. It provides a way to give place to the contribution of details without averaging or generalising them into insignificance, and to study exceptions to the norm – being exceptions may be the reason for their effectiveness. I can also more clearly see how Husa has paced his use of resources and managed his large timbral budget. Other elements could be treated in a similar ‘window’ mode for other focus studies.

Timbre-centric viewing, while clarifying in the end, can be muddling mid-process. It is difficult to focus on an element when it is not primary. The temptation to analyse other elements more thoroughly or more clearly is strong. It has been challenging to keep scoring in view, particularly timbre (volume and texture are also easier to discuss).

John D. White, who suggested that the dearth of ‘Sound’ analyses is related to difficulty of codifying it (Theories of Musical Texture in Western History 386), also observed,

“Today theory courses in most schools still emphasise harmony and counterpoint to the near exclusion of the other musical elements. Where is the course in melody, the seminar on rhythm, the workshop on musical
sound? The answer isn’t difficult. Formal courses in the other elements of music are almost nonexistent because the mysteries of melody, rhythm and sound don’t lend themselves well to the neat conceptualization that has been possible with harmony since the development of equal temperament, tonality, and functional harmony” (Theories of Musical Texture in Western History 138).

Avoiding codification helps keep the messy element of timbre in the analytical foreground.

**Language – terminology and metaphor**

Unstandardised terminology is perhaps the biggest frustration I have faced. Converting understandings of multidimensional musical sound into words, especially those which are understood as musical sound, is a challenging exercise in any instance. In this field it is aggravated by the lack of standardised terminology which made it difficult to find the most useful sources, largely because of idiosyncrasies of usage and terms which have meaning in so many other fields.

Yet as I try to communicate my ideas and experience I find myself uncomfortable with many of the terms that have been used before. So I too, exacerbate the problem by supplanting LaRue’s ‘Shape-Movement’ with my ‘section-process’, or Berry’s ‘progressive-recessive’ with my ‘intensifying-relaxing’. In addition there are words which have two or more meanings relevant to the discussion, such as movement (this is why I did not use LaRue’s), process, and clarity. Let the writer stay alert!

The use of metaphor and analogy is another sticky area. Most composers are concerned with the effect their music has on listeners. Husa is too, not to compromise his intent and keep them comfortable, but to anticipate what it would be like to listen to his work and maximise his impact. Composers also write in response to non-musical events and ideas. I have deliberately minimised discussing these works in terms of their representation of grief, in order to maintain focus upon the craft of scoring, however, there are structural and scoring correlations which have been suggested and I will summarise here. Avoiding such analogies is not totally desirable, nor is it desirable to

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1 Thus, the process of constructing my method was anything but neat and tidy. The works which proved most useful also turned up at times when they resonated with what I was constructing or wrestling with. They did not exactly provide the raw ingredients from which I built my method, rather, they validated certain choices I had made, helped me eliminate as well as select ingredients, suggested new angles or refinements, or, frequently, clarified a concept that had been too vague to use. I trust their priority – it has stood the test of the longer process of analysis and reflection, while others have not.
hang the entire analysis on that framework.

Structural features which tie into Husa’s concern for the victims of war and hope for a more free and democratic society include:

- overwhelming intensification, leading to a climax but no triumphant resolution, resolving to calm, but not victorious or vindicated, emphasising individuals and suggestions democracy and of nature.

Timbral features include

- brass domination of intensification (more militaristic timbre)
- alliances of instrument groups as intensification steepens
- disintegration of brass material after un-victorious climax (war did not work)
- few brass (military) solos at the end
- solos are woodwind, the least homogeneous choir, capable of singing lines (democracy, nature and individuals)
- piccolo: bird-like solo referring to nature and hope for the future (as in Music for Prague 1968).

Application to composition problem-solving

When I asked composers what advice they would give the beginning orchestrator they all said, ‘read scores’. This method leads to reading multi-dimensionally, to understanding the impact as well as the pattern of timbre, texture and volume choices. Reading scores around structure reveals how the composer managed the forces available to make energy shapes. Compositional clues may include ways to set material so its intended structural functions come off: to establish character, mark a boundary, drive a process, or subtly reinforce something in the foreground.

In addition, these analysis techniques can be used to solve problems in works-in-progress. For example, in a work for clarinet quartet and orchestra³, I wanted a long, orchestrated crescendo, and was having trouble getting the last stages to work. I compiled graphs of texture, dynamics, and timbre, indicated the instrumental forces and texture I wanted at the climax, and worked backwards to the beginning of the crescendo, now able to pace instrumental entries and changes.

Another work, this one for intermediate-level band⁴, posed a different challenge. I wanted a disintegrating transition from a lush romantic section to the quiet, thin ending. The intermediate level players’ rhythmic skills were not up to Husa-style

³ Emerald Boa for clarinet quartet and orchestra, 3rd movement, m. 35-46. See Appendix D.
⁴ Looking for Edges, rehearsal J. See Appendix E.
additive rhythm techniques. The solution was a chord progression that progressed but overlapped, in that most chords shared two or more pitches. The full ensemble started together, then from the third chord, each player proceeded in his or her own time. The last chord was held (or patterns repeated) as the conductor led them through one or two dynamic swells to regain togetherness and prepare for the following thin clear section. Even though I could not use Husa’s additive process, I was able to find a way to achieve gradual diffusion and partial return to clarity within the skill range of the performers.

A third example demonstrates another timbre management strategy, gleaned from Husa’s ‘In Memoriam’. In a work for electric guitar and wind ensemble, the jazz-influenced second movement required a walking bass line. I have heard walking bass lines assigned to a group of low instruments in large ensemble arrangements and find it rarely works. It is too ‘square’ because all accents and colours are the same. Composer and jazz clarinetist, William O. Smith once described the difference between a string of classical eighth notes and swing eighth notes as the difference between a string of perfectly matched pearls and a string of multi-coloured, multi-shaped beads. So I used a Klangfarbenmelodie technique by passing fragments of the bass line around a group of lower range instruments, overlapping, so the colour and density (number of players) constantly changed. I used solo instruments to maximise timbral contrasts.

In these examples I did not appropriate Husa’s sounds, but took from the strategies I discovered in his works – the relationships between scoring and making the structure work. I believe combined element analysis, viewed through the window of timbre has made those relationships much easier to see.

Directions for further investigations

Further investigations could compare works for other parallel ensembles demonstrating different timbral possibilities and degrees of homogeneity, for example, string, saxophone and wind quartets. Other interesting comparisons might be found between works for string orchestra and symphony orchestra, or brass band and wind ensemble.

I have done some work with the method on large ensemble pieces by other composers, and believe this is an area with great potential. Husa’s wind ensemble and orchestral scoring styles are much more similar than those of the other composers. There are cultural differences between the two large ensembles and composers respond to those in different ways. Writing for the Dallas or Cincinnati Wind Symphony need

'On Power 2nd movement, 'Interlude,' m. 49-60. See Appendix F.
not be very different from writing for a professional symphony orchestra, but
expectations of students, who do not necessarily expect to be able to play anything put
in front of them, may be different from those of professional orchestral players who
believe that is expected of them. Rehearsal logistics certainly are different between
professional and student ensembles, although this could compensate for some other
differences – a university ensemble may be able to spend many more rehearsals on a
work and thus bring a different depth than could be achieved in the usual four available
with a professional orchestra. This too is a subject for another study.

I have introduced structure-based timeline analysis to students of various levels
and have found it helps them see larger scale motion and invigorates their analytical
curiosity. It is particularly useful for works without scores, and helps those with lower
music literacy dare to make and defend musical judgments.

Many of the difficulties encountered stem from text-based presentation. I
would welcome a CD-ROM-style presentation to facilitate listening concurrent with
multi-layered visual analysis, especially with the facility to zoom in and out of the score
and layers of graph-type representations, thus allowing some musical understandings to
remain musical rather than be translated into verbiage.

In conclusion, I believe that the combination of timbre-focused, multi-element
analysis within a structural framework can and has yielded useful findings. To compose
well for these two large ensembles requires a deep understanding of the ways the
instrumental possibilities can be channelled into meaningful and powerful structures.
To acquire that understanding requires time with and quality attention to the
construction of great works. This is a tool which helped me along that journey.

Now, back to composing.
WORKS CONSULTED


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---. Biographical statement, c.v. and list of works. ts.


---. Lecture notes on Concerto for Orchestra. ms.


---. Personal interview. 9 Dec. 1996.


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Stock, Jonathan P. J. “Orchestration as Structural Determinant: Mozart’s Use of Woodwind Timbre in the Slow Movement of the C minor Piano Concerto K.


Appendix A. Instrument and other abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>asx</td>
<td>alto saxophone</td>
</tr>
<tr>
<td>bar</td>
<td>baritone horn</td>
</tr>
<tr>
<td>bdr</td>
<td>bass drum</td>
</tr>
<tr>
<td>br</td>
<td>brass</td>
</tr>
<tr>
<td>brsx</td>
<td>baritone saxophone</td>
</tr>
<tr>
<td>bscl</td>
<td>bass clarinet</td>
</tr>
<tr>
<td>bsfl</td>
<td>bass flute</td>
</tr>
<tr>
<td>bsn</td>
<td>bassoon</td>
</tr>
<tr>
<td>bssx</td>
<td>bass saxophone</td>
</tr>
<tr>
<td>cb</td>
<td>contrabass (strings)</td>
</tr>
<tr>
<td>cbcl</td>
<td>contrabass clarinet</td>
</tr>
<tr>
<td>cbn</td>
<td>contrabassoon</td>
</tr>
<tr>
<td>ch</td>
<td>chime</td>
</tr>
<tr>
<td>cl</td>
<td>clarinet</td>
</tr>
<tr>
<td>c.l.</td>
<td>col legno</td>
</tr>
<tr>
<td>db</td>
<td>double bass</td>
</tr>
<tr>
<td>ehn</td>
<td>English horn</td>
</tr>
<tr>
<td>fl</td>
<td>flute</td>
</tr>
<tr>
<td>gl</td>
<td>glockenspiel</td>
</tr>
<tr>
<td>hn</td>
<td>French horn</td>
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<tr>
<td>hp</td>
<td>harp</td>
</tr>
<tr>
<td>mar</td>
<td>marimba</td>
</tr>
<tr>
<td>ob</td>
<td>oboe</td>
</tr>
<tr>
<td>perc</td>
<td>percussion</td>
</tr>
<tr>
<td>pic</td>
<td>piccolo</td>
</tr>
<tr>
<td>pno</td>
<td>piano</td>
</tr>
<tr>
<td>scym</td>
<td>suspended cymbal</td>
</tr>
<tr>
<td>sdr</td>
<td>snare drum</td>
</tr>
<tr>
<td>str</td>
<td>strings</td>
</tr>
<tr>
<td>tba</td>
<td>tuba</td>
</tr>
<tr>
<td>tbl</td>
<td>temple blocks</td>
</tr>
<tr>
<td>tbn</td>
<td>trombone</td>
</tr>
<tr>
<td>timp</td>
<td>timpani</td>
</tr>
<tr>
<td>tpt</td>
<td>trumpet</td>
</tr>
<tr>
<td>tsx</td>
<td>tenor saxophone</td>
</tr>
<tr>
<td>t-t</td>
<td>tom-toms</td>
</tr>
<tr>
<td>va</td>
<td>viola</td>
</tr>
<tr>
<td>vc</td>
<td>violoncello</td>
</tr>
<tr>
<td>vib</td>
<td>vibraphone</td>
</tr>
<tr>
<td>vn</td>
<td>violin</td>
</tr>
<tr>
<td>wbl</td>
<td>wood block</td>
</tr>
<tr>
<td>ww</td>
<td>woodwinds</td>
</tr>
<tr>
<td>xyl</td>
<td>xylophone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ</td>
<td>change</td>
</tr>
<tr>
<td>=</td>
<td>continuity</td>
</tr>
<tr>
<td>CE</td>
<td>character-establishing</td>
</tr>
<tr>
<td>ctrpt</td>
<td>counterpoint</td>
</tr>
<tr>
<td>FX</td>
<td>effects</td>
</tr>
<tr>
<td>jct</td>
<td>junction</td>
</tr>
<tr>
<td>str</td>
<td>straight</td>
</tr>
<tr>
<td>w/</td>
<td>with</td>
</tr>
</tbody>
</table>
‘Elegy’ Listening data Two sets, done about 2 years apart

0:32 flute solo
1:14 vibes? enter (cluster includes winds by 1:25)
1:34 flute solo
1:46 answering instrument - another flute
2:21 fuller woodwinds

2:35 trumpet <>

2:59 upper woodwind tutti line
3:12 solo oboe
3:21 clarinets

3:57 vibes and piccolo
4:07 drum
woodwind cascade downwards with woodblock

4:45 brass and timpani join

5:02 silence then brass chord and snare drum roll

6:00 long note
6:25 long note ends. upper woodwinds and bassoons

7:03 solo english horn
0:02  chime
0:07  flute (*chord) with oboe?
0:29  solo flute
1:10  clarinets enter (*chord 1:13-1:21)
1:34  solo flute, becomes duet

2:17  double reeds enter  ‘band’ sound
2:27  drum
2:35  trumpets - muted
2:46  low reeds
2:58  tutti melody - flutes and *?
3:12  solo oboe
3:22  tutti clarinets: loud (and then full woodwind in octaves)
3:50  octaves
3:57  chime, piccolo and contrabassoon?, bass drum roll
4:07  timpani and tomtoms: more rhythmic section. tempo change?
4:22  descending woodwind motif
4:40  accented snare drum roll crescendo
4:47  brass in
4:57  brass chord
5:02  silence
5:08  brass chorale chords
5:29  tamtam
5:44  tamtam ‘groove’ stops until
5:56  mallets ‘in time’ briefly, also 6:04 and 6:13 in timpani

6:24  flutes and bassoons 2-part counterpoint. Slow tempo/feel
6:56  oboe?
7:04  english horn solo, *accompaniment thins to nothing by 7:34
7:40  bass clarinet solo. unaccompanied
7:55  *chord - horns?
8:04  contrabass clarinet solo
8:25  bass drum roll
8:40  end

*compare the chords - sound very related
‘In Memoriam’ listening notes.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00</td>
<td>middle strings - unison</td>
</tr>
<tr>
<td>0:10-12</td>
<td>bell - clarinet (low, solo, microtone?)</td>
</tr>
<tr>
<td>0:25</td>
<td>violins, sim. to beginning</td>
</tr>
<tr>
<td>0:36</td>
<td>col legno</td>
</tr>
<tr>
<td>0:39</td>
<td>clarinets: 2, sim to before</td>
</tr>
<tr>
<td>0:46</td>
<td>bsn: high</td>
</tr>
<tr>
<td>0:52</td>
<td>string motif again</td>
</tr>
<tr>
<td>0:57</td>
<td>harp rip, strings divide line up/down</td>
</tr>
<tr>
<td>1:02</td>
<td>bell, cresc: strings &amp; other ww? bsn or hn?</td>
</tr>
<tr>
<td>1:16</td>
<td>marimba: low, fast</td>
</tr>
<tr>
<td>1:25</td>
<td>fl. &amp; ob. detached and fast: feels like effects, not motivic</td>
</tr>
<tr>
<td>1:38</td>
<td>fuller string sound</td>
</tr>
<tr>
<td>1:47</td>
<td>long note: e. hn?</td>
</tr>
<tr>
<td>1:59</td>
<td>low pizz and slide up; inversion of 1st motif?</td>
</tr>
<tr>
<td>2:04</td>
<td>all ww. detached (esp. bsn.) sim to 1:25</td>
</tr>
<tr>
<td>2:15</td>
<td>and onwards: tutti strings</td>
</tr>
<tr>
<td>2:30</td>
<td>tutti woodwinds</td>
</tr>
<tr>
<td>2:40</td>
<td>brass in by now</td>
</tr>
<tr>
<td>2:43</td>
<td>timpani, strings cresc.</td>
</tr>
<tr>
<td>3:09</td>
<td>muted brass - tutti ww. detached f sim to 2:05</td>
</tr>
<tr>
<td>3:17</td>
<td>xylophone f, trbs?, no ww?</td>
</tr>
<tr>
<td>3:21</td>
<td>brass swells &lt;&gt;</td>
</tr>
<tr>
<td>3:41</td>
<td>tutti chords</td>
</tr>
<tr>
<td>3:50s</td>
<td>tpts? &lt;, ww</td>
</tr>
<tr>
<td>4:04</td>
<td>tpt: fanfarish</td>
</tr>
<tr>
<td>4:07</td>
<td>xylo. roll, harp arpeggio? pulse = 60ish</td>
</tr>
<tr>
<td>4:20</td>
<td>bells</td>
</tr>
<tr>
<td>4:30</td>
<td>brass swells with bells continue through</td>
</tr>
<tr>
<td>4:40</td>
<td>just before: weak string run up</td>
</tr>
<tr>
<td>4:45</td>
<td>unpitched skin: tomtom?</td>
</tr>
<tr>
<td>4:58</td>
<td>long brass chord, feels like a climax but section doesn’t end.</td>
</tr>
<tr>
<td>5:08</td>
<td>tamtam ff</td>
</tr>
<tr>
<td>5:15</td>
<td>brass fluttertongue</td>
</tr>
<tr>
<td>5:18</td>
<td>ww. run up - also weak (sim to 4:40)</td>
</tr>
<tr>
<td>5:21</td>
<td>3-chord progression (compare to ‘Elegy’?)</td>
</tr>
<tr>
<td>5:28</td>
<td>activity stops, not quite silence</td>
</tr>
<tr>
<td>5:29</td>
<td>bell, brass sting chord downwards</td>
</tr>
<tr>
<td>5:34ff</td>
<td>timpani: additive rests</td>
</tr>
<tr>
<td>5:46</td>
<td>low mixed note, sounds like bass guitar</td>
</tr>
<tr>
<td>5:48</td>
<td>double reed solo (bsn), very wide range high to low</td>
</tr>
<tr>
<td>5:59</td>
<td>flute solo with microtones</td>
</tr>
<tr>
<td>6:04</td>
<td>add horn with microtones</td>
</tr>
<tr>
<td>6:16</td>
<td>piano arpeggio and piccolo solo: birdlike</td>
</tr>
<tr>
<td>6:27</td>
<td>trill: flute or clarinet? strings all out (thinned out from loud section chord)</td>
</tr>
<tr>
<td>6:30</td>
<td>horn stopped or muted (whale)</td>
</tr>
<tr>
<td>6:35</td>
<td>icy sound: xylophone and high strings</td>
</tr>
<tr>
<td>6:45</td>
<td>xylo or marimba, and clarinet solo wide leaps, energetic</td>
</tr>
<tr>
<td></td>
<td>last note: 2 clarinets, more icy sounds (continue until woodblock)</td>
</tr>
<tr>
<td>7:04</td>
<td>woodblock</td>
</tr>
<tr>
<td>7:11</td>
<td>end of track</td>
</tr>
</tbody>
</table>
Appendix C. Concerto for Orchestra lecture notes. Karel Husa.

**CONCERTO FOR ORCHESTRA by Karel Husa**

Commissioned by the New York Philharmonic
Premiere: 25 September 1986, Avery Fisher Hall, Lincoln Center, N.Y.
For Zubin Mehta and the New York Philharmonic

I. Cadence
II. Interlude 1
III. Fantasy
IV. In Memoriam
V. Interlude 2
VI. Game

*(Played without pause)*

Duration: Approx. 39 minutes

**Strings (+ Woodwinds, + Brass)**
Harp, Piano, Marimba (Xylo)

**Woodwinds** (solo quartet: Bass Flute, English Horn, Bass Clarinet, Contra-bassoon); Trombones, String Bass solo

**Full Orchestra**

**Violoncello solo, Percussion**

Brass solo + Percussion (+ Woodwinds, Strings), Bassoons solo, Woodw. + Str. and Trumpet solo, Full Orchestra
**INSTRUMENTATION:**

1. Piccolo (also 3rd Flute)
2. Flutes (1st also Bass-Flute, 2nd also 2nd Piccolo)
3. Oboe
4. English Horn in F
5. 2 Clarinets in B flat
6. Bass Clarinet in B flat
7. 2 Bassoons
8. Contrabassoon (also 3rd Bassoon)
9. 4 Horns in F (also 1st Assistant plays the 4th part in the GMM)
10. 4 Trumpets in C
11. 3 Trombones
12. 1 Tuba

**EXPLANATORY NOTES:**

- \( \frac{1}{8} \) quarter-tones higher
- \( \frac{1}{16} \) quarter-tones lower
- \( \frac{1}{32} \) progressively faster
- \( \frac{1}{64} \) progressively slower

- Repeat freely between signs, and as fast as possible
- Left hand pizzicato, marked above the note
- Each player performs freely and not necessarily together with other players

- Highest pitch possible
- Lowest pitch possible

- Softest possible start with no attack

- Different notations of the grace-notes should be observed in performance: fastest, slower, etc.

- Play either just a little before or after the beat

- Different mallets for the Percussion instruments as well as for the Timpani are often indicated as follows:
  - S - soft, MS - medium soft, M - medium, MH - medium hard, H - hard, W - wooden, BR - brass, HP - hard felt, R - rubber, HR - hard rubber, HP - hard plastic, P - plastic, VH - very hard, VH - very hard, etc.

- Play always very fast, freely and most of the time independently

- Irregular tremolo
Appendix D. *Emerald Boa* for clarinet quartet and orchestra.

3rd movement, m. 35-46.
Appendix E. *Looking for Edges* for concert band. rehearsal J.
Appendix F. On Power for electric guitar and wind ensemble.
2nd mvt. 'Interlude' m. 49-60.

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