



This is to certify that the

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THEA MUSGRAVE'S
HORN CONCERTO

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C. SCOTT SMITH

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THEA MUSGRAVE'S
HORN CONCERTO

By

Charles Scott Smith

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ABSTRACT

THEA MUSGRAVE'S HORN CONCERTO

By

Charles Scott Smith

Although Thea Musgrave has achieved an international reputation as a composer, neither she nor her music is known in many circles in the United States. By way of an introduction, a biographical sketch of her life and a listing of her works are included.

The writer selected the Horn Concerto as a work for detailed study for two reasons: first, a profound interest in the art of horn playing, and second, a desire to examine in detail a significant work for the horn that was written in the 20th Century.

A study of the Concerto's formal design and an analysis of the linear and vertical structures that are contained within it, make up the main body of the work. As an adjunct to this, it seemed appropriate, because of the extensive use of quarter-tones in the solo horn part, to include research about quarter-tones as they relate to horn playing.

In Memoriam:
W. Leigh Smith

ACKNOWLEDGMENTS

I wish to express sincere gratitude to the following professors: Dr. Douglas Campbell and Neill Sanders, for insight in Horn performance; Dr. David Liptak, for his teaching of musical synthesis; and especially Dr. Russell Friedewald, whose guidance has been most inspiring in musical analysis and its presentation.

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INTRODUCTION

At the "Horn Fandango" at Western Michigan University, February 16, 1979, the writer interviewed Barry Tuckwell, hornist, who was there as guest soloist and clinician. After a two-hour lecture-recital, Tuckwell entertained questions about Thea Musgrave's Horn Concerto.

The work was commissioned by Mario di Bonaventura for Barry Tuckwell and the Hopkins Center Congregation of the Arts Festival at Dartmouth College, Hanover, New Hampshire. When asked what kind of piece he wanted, Tuckwell requested that it be for horn and strings. The resultant concerto requires piccolo, flute, oboe, Cor anglais, B-flat clarinet, bass clarinet, bassoon, contrabassoon, four horns (plus three optional extra horns), two trumpets, tenor trombone, prepared piano, celesta, harp, strings, and the following percussion: suspended cymbals: high, medium, and low; two pairs of maracas; tam-tam; side drum; three sizes of tom-toms; conga drum; and vibraphone.

Tuckwell suggested that the concerto contain quarter-tone scales - he had heard these scales on a Don Ellis recording (possibly Ellis' Haiku album). One inspiration for the concerto was a postcard Tuckwell sent Musgrave from Tula, Mexico. He said the postcard, showing four figures

around a central figure, reminded him of the four horn players in the Tula Symphony. This inspiration developed into one part of the work where three horns play at different corners around the hall, creating four points around the soloist.

The only adjustment made after the piece was written involved the first horn off stage at measures 82-85. Originally, Musgrave wanted the first horn stopped, but after the first rehearsal, it was discovered that the sound did not carry. The part was then changed from stopped to open. Tuckwell pointed out that the last note in the solo part, a concert f, should be a concert b¹-flat.

Tuckwell played the concerto approximately twenty times since the work's completion in 1971, and he said that he still receives requests for its performance.

Before leaving the interview, Tuckwell stated that Thea Musgrave was an excellent conductor.

Below are two reviews of the Horn Concerto; the first is from Music and Musicians, November, 1971, Volume 20, No. 3, page 58, and the second, from Musical Opinion, September, 1971, No. 1123, Volume 94, page 607.

The linguistic confusion which vitiated the nocturnal attractions of Thea Musgrave's Horn Concerto, given its first Prom performance by Barry Tuckwell and the Scottish National Orchestra under the composer on August 9, was less overt but more radical. The idea of superimposing musical ideas that are contrasted both in substance and tempo certainly offers a viable, if arduous means of constructing a long single movement. What the composer appears not to have noticed is its most insidious danger ---the unwitting arousal of conflict between fundamentally opposed concepts of sound perception. Between (on one

side) the progressive mode of musical discourse of the great classics with its demand for an answering effort of active thought on the part of the listener, and (on the other) the additive presentation of sound for its own sake---requiring, as Boulez put it in a programme note a few days earlier, '... a contemplative attitude... a different way of listening, attentive to what is happening within the resonance itself' --- initially made available to western music through the agency of Debussy. In the Musgrave Concerto, neither approach is fully realized in its own terms, but each serves continually to interfere with the operation of the other (a pervasive sense of indecision in the work's forward momentum is only the most obvious symptom) so that the impact of the so-called 'dramatic-abstract' elements---the stereophonic perambulation of the brass players---is correspondingly weakened.

...The core of this concert (August 9, 1971) was the horn concerto of Thea Musgrave. Barry Tuckwell was listed as soloist, but since there were at least four or more horns around the R.A.H. as well as a couple of trumpets and a trombone, it was more a new adventure in concertante writing. For one thing, Thea Musgrave, who also conducted, has never hidden her devotion to Charles Ives and she used his trick of contrasting sonorities both within her orchestra and with the help of the peripatetic brass.

There was more than a suggestion of the best of that rare commodity, good electronic music in the sound quality, which ebbed and flowed in the same manner already familiar to the followers of Lutoslawski. The brass suggested the hunt in the forest---or as it suggests here the quest. Voices both of the soloist and orchestra are both intricate and varied, and the whole should be quickly heard again. But one does wonder how the piece will be housed in the Festival Hall without upsetting cash customers in the boxes and circle. Perhaps if it finds itself into a programme of late Bruckner or Mahler it could make economic as well as more interesting musical sense.

It is the hope of this writer that this analysis will lend insight into the Horn Concerto's musical contents. Unless stated differently, all french horn examples are notated in concert pitch. All the musical examples in this thesis are used through the permission of MagnaMusic-Baton, Inc., St. Louis, Missouri: The Musgrave/Horn Concerto Copyright by J&W Chester, London, 1974.

CHAPTER 1 BIOGRAPHY

Thea Musgrave, born on May 27, 1928 in Edinburgh, Scotland, is recognized as a successful composer, accompanist, and conductor. In the last two decades, many of her ballets, operas, music for television and films, chamber, choral, and orchestral works have been commissioned (see Appendix B). She has received the Donald Francis Tovey and Lili Boulanger Memorial prizes, the Koussevitzky Award (1973), and a Guggenheim Fellowship (1974-1975). Performances of her works by the BBC and at the Edinburgh International Festival in the early 1950's opened the road to other European music festivals such as the Warsaw Autumn, Zagreb, Cheltenham, Aldenburgh, Florence Maggio Musicale, and Venice Biennale. Her guest conducting appearances include concerts with the BBC Scottish Orchestra, London Symphony, English Chamber Orchestra, and world premiere performances of her own works with the English Opera Group and Scottish National Orchestra.

Musgrave's formal education at Edinburgh University (1947-51) includes harmony and analysis with Mary Grierson and counterpoint and music history with Hans Gal. From 1952 - 1954, she studied accompanying under Nadia Boulanger at the Paris Conservatory. Ms. Boulanger has inspired many famous American Composers including Virgil Thompson, Aaron Copland, Roy Harris, Walter Piston, and Roger Sessions.

Lyricism, made up of chromatic constructions, is a main feature of her most recent instrumental works, such as the Horn Concerto, Clarinet Concerto, Night Music, and Memento Vitae. She composed many of these works in a "dramatic-abstract" form; the drama stems from theatrical elements, and, since there is no restricting "programme" (program music is usually written from a non-musical idea; musical pieces in this genre depict people or events) within, the works have an abstract nature. For example, in the Clarinet Concerto, the soloist at different intervals joins smaller groups within sections of the orchestra which play in opposition to the conductor.

She has taught at London University (Great Britain) and the University of California, and served on various committees, including: the Central Music Advisory Panel for the BBC, Music Panel for the Arts Council of Great Britain, Executive Committee of the Composer's Guild of Great Britain, and the Committee of Awards for the Commonwealth Fund of New York. She is married to Peter Mark, a conductor and violist, and they live in Santa Barbara, California. As an experienced lecturer in the U.S.A. and U.K., she shares her thoughts about composition with others. Here are her comments about the concerto as an art form:

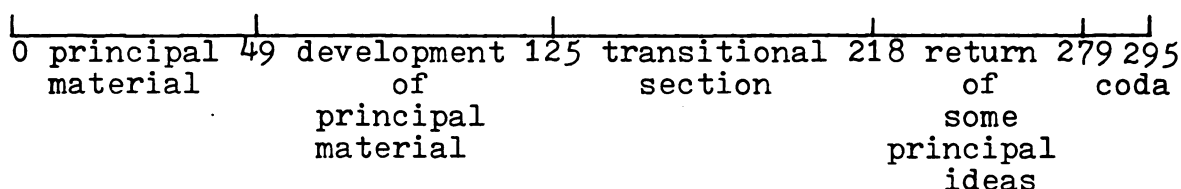
The idea of a concerto fascinates me. Many of my recent works have been concertos, for this is the form that lends itself to the kind of dramatic exploration that stimulates me. Several works have a theatrical element where I use the players almost as a 'dramatis personae.' This is really just an extension of the

concerto principle. I remember being struck by a remark of Tovey's which I read as a student. He describes how the basic idea of a concerto arises from the original meaning of the Latin word "concertus" from "certare," to strive: strive, in the sense of balancing unequal forces --solo or soli versus tutti, or to put it in another way, individuals versus the crowd. The crowd can dominate by sheer force and can easily out balance the soloist, but the soloist has the advantage of greater virtuosity, lyricism, and rubato.

CHAPTER 2 FORMAL ANALYSIS

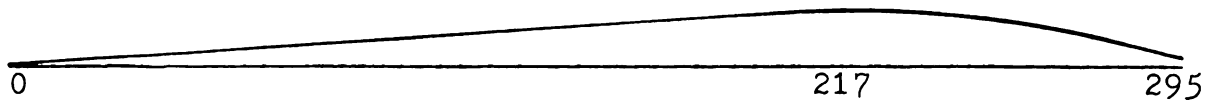
In the shadow of Thea Musgrave's Horn Concerto hides the traditional sonata-related concerto form; but within its structure, the signification of her presentation of a concerto is revealed. Even though the loose structure suggests that she had the traditional concerto form in mind, it would be presumptuous to say that her work follows such a form strictly. In the first forty-nine measures, the principal material involves a series of exchanges between orchestra and solo horn. This material is developed in the next seventy-five measures, and leads into a transitional section of ninety-two measures, which forebodes a return to some of the previously stated ideas. The return, or recapitulation, sixty-one measures long, is followed by a seventeen-measure coda.

FIGURE II-1



This return, which is preceded by a solo horn cadenza (measure 217), creates an arch contour. The synthesis of ideas, improvisatory in nature and lacking regular phrase structure, is presented rhapsodically within the arch.

FIGURE II-2



The sections as outlined in Figure II-1, are labeled by the composer. The first, (measures 1 to 49) bears the inscription: Misterioso: come un sogno, $\text{♩} = 48$ circa ma con rubato. It is in this section, that the traditional concerto approach is suggested, for principal material is shared in a series of exchanges between the tutti orchestra, individual members, and solo horn. For example, in measures 1-9, a tutti orchestral introduction (Ia) leads to a descending bass clarinet scale pattern. The first solo horn statement (Ib) is made up of two phrases; the first (measures 5 and 6) begins with the last note of a descending scale pattern, and the second (measures 7 and 8) follows two statements from the contrabassoon and bassoon. The first orchestral response, Ia' (measures 8-14) precedes a second solo horn statement, Ib' (measure 14) which precedes another descending bass clarinet scale pattern. Like Ia and Ib, Ia' and Ib' involve a series of exchanges. The second orchestral response, Ic (measures 18-20) initiates a third series of exchanges, Id (measures 21-40) until the climactic moment for the solo horn in measure 40. The Misterioso comes to a close with what might be called an unsettled codetta that links the Misterioso with the second section.

FIGURE II-3
FORMAL ANALYSIS: MEASURES 5-8

The musical score is written for four staves, each with a treble clef and a key signature of one flat (B-flat). The staves are labeled as follows:

- Staff 1 (Bassoon):** Labeled "Bassoon:" and "Solo". It begins with a whole note G4, followed by a half note A4, and then a triplet of eighth notes (B4, A4, G4) beamed together. The dynamic is *mf*.
- Staff 2 (AD LIB):** Labeled "AD LIB:". It contains a whole note G4, followed by a half note A4, and then a triplet of eighth notes (B4, A4, G4) beamed together. The dynamic is *mf*.
- Staff 3 (Bass Clarinet):** Labeled "Bass Clarinet:". It begins with a whole note G3, followed by a half note A3, and then a triplet of eighth notes (B3, A3, G3) beamed together. The dynamic is *mf*.
- Staff 4 (Contra Bassoon):** Labeled "Contra Bassoon:". It begins with a whole note G2, followed by a half note A2, and then a triplet of eighth notes (B2, A2, G2) beamed together. The dynamic is *mf*.

The score is marked with a "1" in a box at the beginning and a "5" at the end, indicating measures 5 through 8. The dynamic *mf* (mezzo-forte) is indicated throughout the score.

FIGURE II-4
FORMAL ANALYSIS: MEASURES 14-19

The musical score is arranged in four systems, each with five staves. The instruments and their parts are as follows:

- English Horn:**
 - Measure 14: *mp* (mezzo-piano), *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 15: *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 16: *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 17: *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 18: *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 19: *sfz* (sforzando), *AD LIB* (ad libitum).
- Bassoon:**
 - Measure 14: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 15: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 16: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 17: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 18: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
 - Measure 19: *Solo*, *sfz* (sforzando), *AD LIB* (ad libitum).
- Bass Clarinet:**
 - Measure 14: *mf* (mezzo-forte), *espr.* (espressivo).
 - Measure 15: *mf* (mezzo-forte), *espr.* (espressivo).
 - Measure 16: *mf* (mezzo-forte), *espr.* (espressivo).
 - Measure 17: *mf* (mezzo-forte), *espr.* (espressivo).
 - Measure 18: *mf* (mezzo-forte), *espr.* (espressivo).
 - Measure 19: *mf* (mezzo-forte), *espr.* (espressivo).
- Solo Horn:**
 - Measure 14: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).
 - Measure 15: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).
 - Measure 16: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).
 - Measure 17: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).
 - Measure 18: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).
 - Measure 19: *AD LIB* (ad libitum), *sfz* (sforzando), *espr.* (espressivo).

The score includes various musical notations such as notes, rests, and dynamic markings. The English Horn part is written in treble clef, while the Bassoon, Bass Clarinet, and Solo Horn parts are written in bass clef. The Solo Horn part also includes a *Trio* section starting in measure 18.

FIGURE II-5
FORMAL STRUCTURE OF THE MISTERIOSO

FIGURE II-6
 RETURN OF MATERIAL FROM THE ANDANTE ESPRESSIVO

mm. 219-220 = 188-189

Andante Espressivo 1:54

Solo Horn

Vlns

Vlc

Vc

Vc

FIGURE II-6
RETURN OF MATERIAL FROM THE ANDANTE ESPRESSIVO

mm. 221-224 = 196-199

The image shows a handwritten musical score for three staves. The top two staves are labeled 'Vln' (Violin) and the bottom staff is labeled 'Vla' (Viola). The score is for measures 221-224, which correspond to measures 196-199 of the original work. A boxed measure number '67' is written above the first staff. The notation includes various musical symbols such as notes, rests, and a triplet marking '3'.

222

provides a quote from measure 60. A seventeen-measure coda, starting at measure 279, brings the work to a close.

Throughout the Horn Concerto, material from the Misterioso appears in other sections; this reappearance of material, often literal, strengthens the formal structure. Table II-1 illustrates every occurrence of the bass clarinet statement as it fits into different sequences of events. This returning statement, analyzed by Basic Intervallic

FIGURE 11-7
COMPLETE QUOTEWoodwinds; m. 250:
(Nearly identical to m. 4, 13, & 277)

75 *pp* *d misterioso* *♩ 48*

flc *AD LIB.* *pp*

fl: *AD LIB.* *mp*

ob *AD LIB.* *mp* *pp*

C.A. *pp*

Cl. *AD LIB.* *mp* *pp*

B♭ Cl. *AD LIB.* *mp* *pp*

Bsn. *pp*

C.Bsn. *pp*

Successions¹ (BIS patterns), sometimes returns exactly (for example, measures 5 through 6, are in total invariance with measure 58) and sometimes with a few note changes (the BIS patterns of measures 5 and 14 show an N-1 relationship,² thus they are similar but not in total invariance). A closer look at the three occurrences of descending bass clarinet scale patterns in the Parodia reveals a variation technique. The fixed elements are rhythm and instrumentation; added notes in the solo, woodwind, and brass statements provide a variation of the linear lines.

The over-all aural effect of the Horn Concerto is that of a long continuous movement. The internal sections, Misterioso, Parodia, Capriccioso, Andante Espressivo, and coda give direction to the work. Although the concerto is rhapsodic, cyclic treatment provides unity and variety in such a way that the piece has an arch contour.

¹Basic Intervallic Succession (BIS) is based on a 12-tone concept (Mod 12) and refers to the intervallic relationship of one note to another. A semitone = 1, the closest distance between two notes in music of the common practice period of Western civilization, a tone = 2, a minor 3rd = 3, major 3rd = 4, perfect 4th = 5, and an augmented 4th, or tritone = 6. Intervals larger than a tritone are reduced as follows: 7 to 5, 8 to 4, 9 to 3, etc. A BIS refers only to actual intervals within a pattern of notes.

²When two BIS patterns are compared, one can observe that they are identical, or they differ in one or more interval classes; the symbols N-1, N-2, etc., denote the number of differences.

TABLE II-1
SIMILARITIES OF DESCENDING SCALE PATTERNS USING BASIC INTERVAL SUCCESSIONS

<u>Misterioso</u> (Ib)	5-6 Bass Clarinet (1,1,1,2,2,3,1,2,1,3,1,2,2)	Solo Horn (2,4)	
<u>Misterioso</u> (Ib')	14-15 Bass Clarinet (1,1,1,2,2,3,1,2,1,3,2,1)	Solo Horn (2,1,3,6,1,2,1)	
<u>Misterioso</u> (Id)	27 Bass Clarinet (3,3,1,3,6,3,2,4)	Solo Horn (2,3)	
<u>Parodia</u>	58-60 Bass Clarinet (1,1,1,2,2,3,1,2,1,3,1,2,2)	Trombone (2,3)	2nd Horn (2,3) Trumpet (2,3)
<u>Parodia</u>	78-82 Bass Clarinet & Clarinet (1,1,2,2,3,1,2,1,3,1,1,1)	Trombone (2,1,3,6,1,3)	2nd Horn (1,2,1,6,2,5,4) Trumpet (1,1,6,1)
<u>Parodia</u>	97-100 Bass Clarinet & Clarinet & Contrabassoon & Bassoon (1,1,1,3,2,1,1,2,1,1,1,1) (1,1,1,3,2,3,1,2,3,3,2,1)	Trombone (2,1,3,6,1,4)	2nd Horn (1,2,1,6,2,5,4) Trumpet (1,1,6,1)

CHAPTER 3 LINEAR ANALYSIS

Synthetic, chromatic lyricism, a main dramatic and abstract contributing feature in the Horn Concerto, divides into four categories, of which each contains melodic scale patterns consisting of a minimum of four horizontal intervals (or a BIS with a cardinal number equal to or greater than four), with one interval being an augmented second.¹ Three categories contain an augmented second (interval class 3) at or near the beginning, and the fourth, an augmented second somewhere within its scope.

The pattern which begins with an augmented second (first found in the clarinet, measure 12), is placed in

FIGURE III-1

Clarinet; m. 12:



BIS: (3,1,3,1,2,1,4)

category 1. There are four instances where the pattern begins with an augmented second. All four occur in measures 40 and 267 in a horn or English horn part and have BIS relationships of N-2 at the same pitch level (see Figure III-2). A retrograde variant of the BIS shown in Figure III-3, appears

¹The augmented second is used instead of the minor third because the former notation was the composer's choice.

in a clarinet statement from measures 20 to 21; here, the BIS is (3,1,1). With the exception of this clarinet statement

FIGURE III-2
CATEGORY ONE

English Horn; m. 40



English Horn; m. 267



BIS: (3,1,2,2,1,3)

Solo Horn; m. 40



Solo Horn; m. 267



BIS: (3,1,2,3,2,3)

and the alteration of the BIS in Figure III-1, the lower tetrachord of the statements found in this category (BIS patterns of 3,2,1,...) are identical. These lower tetrachords continue with an interval class of 1,2, or 3; ie., 3,1,2,1; 3,1,2,2; or 3,1,2,3.

The augmented second, traditionally associated with the harmonic minor scale, occurs between the 6th and 7th scale steps. In this work, however, some of the BIS patterns that make up the first tetrachord in category one, suggest

FIGURE III-3
CATEGORY ONE

Clarinet; m. 20-21



BIS: (2,2,2,2,1,1,3)
RETROGRADE BIS: (3,1,1,2,2,2,2)

the Hungarian Major scale¹ BIS of (3,1,2,1,2,1), (for example, the horn quotes in Figure III-2). The BIS of the Hungarian Major scale has an N-1 relationship with that of the 6th mode of the Harmonic minor scale.

FIGURE III-4

Harmonic Minor Scale



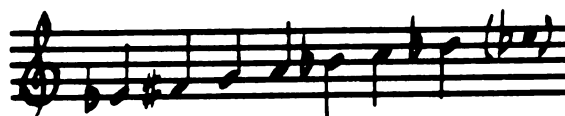
BIS: (2,1,2,2,1,3,1)

Harmonic Minor---6th Mode:



BIS: (3,1,2,1,2,2,1)

Hungarian Major Scale:



BIS: (3,1,2,1,2,1,2)

Category 2 contains patterns that begin with a minor third followed by an augmented second. As seen in Figure III-5, the lower tetrachord of the Hungarian Major scale (BIS: 3,1,2), is evident in the bass clarinet, clarinet,

¹Persichetti, Vincent, Twentieth Century Harmony,
(W.W. Norton & Company, Inc., New York), 1961,
p. 44.

FIGURE III-6 (a, b, & c)

A;

Piccolo; mm. 4, 13, 250, & 272:



BIS: (1,1,1,1,1,3,1)

B;

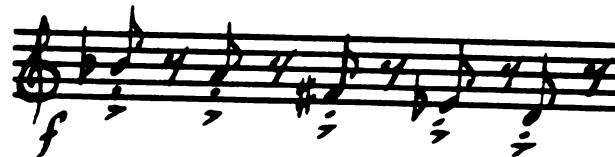
Solo and First Horn; m. 104:



BIS: (1,3,1,2,1,3,2,1)

C;

Horns 1-4; m. 260



BIS: (1,3,3,1)

FIGURE III-7

Figure III-6b:



BIS: (1,3,1,2,1,3,2)

Double Harmonic
Minor Scale:

BIS: (1,3,1,2,1,3,1)

FIGURE III-8

Double Harmonic
Minor Scale:



Figure III-6b:

BIS: (1,3,1,2,1)

Enigmatic Scale:

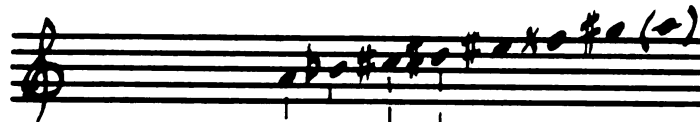
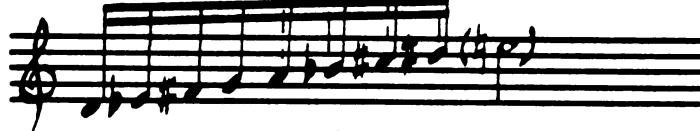


Figure III-6b:



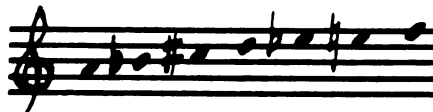
BIS: (1,3,2)

FIGURE III-9

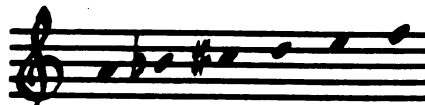
Piccolo: mm. 4,
13, 250, 272:
(Figure III-6a)



BIS: (1,1,1,1,3,1)



Retrograde BIS: (1,3,1,1,1,1)



Retrograde BIS, (minus e-flat); (1,3,1,2,1)

¹Ibid.

contains two augmented seconds. Figure III-6b is constructed from the lower septachord of a double harmonic minor scale and the lower tetrachord of an enigmatic scale.¹ The piccolo statement in Figure III-9 relates indirectly to the double harmonic minor scale; when e-flat is deleted, one finds that the first five intervals (BIS: 1,3,1,2,1), which evolve when the original BIS is reversed, are identical to the first five intervals of the double harmonic minor scale.

Patterns in category 4 contain an augmented second somewhere within their structure and fall into one of four types: (2,1,3,2,1,2), (6,2,1,3,1,2,3,2,1,2), (2,1,3,1,2,1), and (1,3,1,3,1,3,1,3). Besides the null or empty set, the smallest practical subset of all four sets in Figure III-10 is (1,3); two common BISes shared in examples a, b, and d are (2,1,3) and (3,2,1); examples b and d have the largest BISes in common: (2,1,3,1,2).

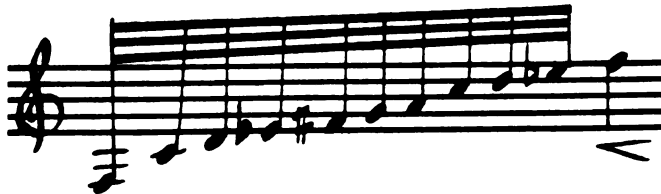
FIGURE III-10

a:
Solo Horn; m. 150:



BIS: (2,1,3,2,1,2)

b:
Solo Horn;
mm. 40 & 268:



BIS: (6,2,1,3,1,2,3,2,1,2)

FIGURE III-10
Continuedc:
Solo Violin; m. 8:

BIS: (1,3,1,3,1,3,1,3)

d:
Clarinet; m. 268:

BIS: (2,1,3,1,2,1)

ALEATORIC FEATURES

With unconventional types of notation, Musgrave includes moments of linear indeterminacy in the Horn Concerto. She allows various performers to become a part of the compositional process as the concerto progresses in performance. Even though the performer has to choose a melodic direction and sometimes rhythm, additional instructions similar to those illustrated in Figure III-11, are needed. In this example,

FIGURE III-11

Violin I; mm. 10-13:



the notes and dynamics are given, but rhythm, bowing, intensity, and interpretation are left up to the string player's discretion. In measure 283, (Figure III-12), exact pitches are given (in any order) and the rhythm is indicated;

FIGURE III-12

Violin I; mm. 283-286:

Presto $\text{♩} = 160$
 ⊕ AD LIB Pitches ascending:
 Rhythm as shown

* Pitches any order;
 Rhythms as shown

pp cresc: ff marcato ff

Tpo I $\text{♩} = 160$

FIGURE III-13

I 1° poco a poco con sord:
 AD LIB: rapido [Not together within section] Tpo

Violin I

mf dim: pp Tpo

fast rhythms, even notes: pitches any order

pp AD LIB: rapido [Not together within section] Tpo

Violin II

mf dim: pp Tpo

fast rhythms, even notes: pitches any order

pp

m: 37

(38)

in measures 284-285, the pitches are not given, but the notation suggests an ascending direction which is to end on a *b* in measure 286.

Sometimes, the composer uses instructions in one or more parts with boxed notation inside and outside of repeat signs (Figure III-13 & Figure III-14).

FIGURE III-14

Boxed Notation Inside Repeat Signs:

Solo Horn; m. 245:

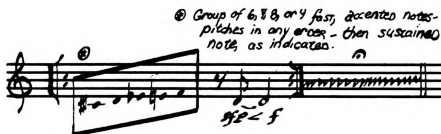


Figure III-15 shows three other means of playing notes in a free fashion. A variation of the notation in Figure III-15c is illustrated in Figure III-16. Except for the first note, this notation is explicitly graphic.

FIGURE III-15

a;
Flute;
m. 40:



FIGURE III-15
Continued

b:
Solo Horn;
m. 260:



c:
Vibes;
m. 53:

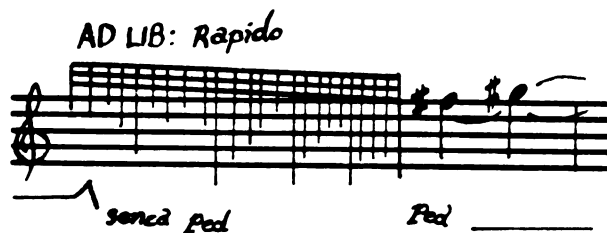
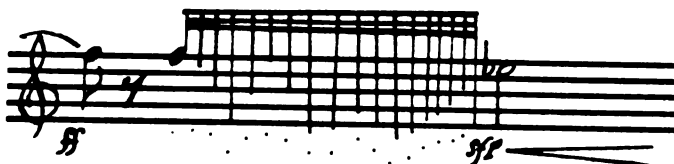


FIGURE III-16

Solo Horn;
m. 217:



When one or more of the above notational devices are used, the conductor, or specific added written instructions provide control; the orchestra, soloist, and conductor must communicate with one another to create the musical experience and hold the concerto together. In the score, solid black arrows indicate the conductor's downbeat to an unmeasured bar, hollow arrows, the conductor's left-hand cue during an unmeasured bar, and small arrows, cues from one player to another.

One final example of boxed notation is given in Figure III-17. Here, the pianist is given several ways to perform certain pitches.

FIGURE III-17

Piano; m. 20:



A controlled yet free type of performance is suggested by the notation that appears at measure 166.

FIGURE III-18

Trumpets I & II
m. 166:

SOLO HORN FEATURES

Although Musgrave does not pioneer any new ideas for the solo horn player, she presents many traditional and non-traditional sounds, some of which are characteristic only to the horn.

Hand-stopped notes, common in horn playing, exist in three timbres. As seen in Figure III-19, the first timbre is a stopped note which is attacked *sforzando-piano*; this

timbre is used throughout the concerto to punctuate different textures. The second and third textures are found in the

FIGURE III-19

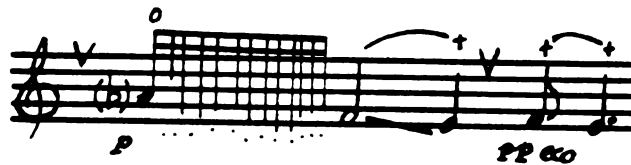
Solo Horn;
m. 17:



horn cadenza. As seen in Figure III-20, the slide from f to e is performed by slowly closing the bell aperture. The next two notes provide a traditional echo effect which is created by closing the bell aperture completely and sounding the given pitch at a dynamic level of p or pp.

FIGURE III-20

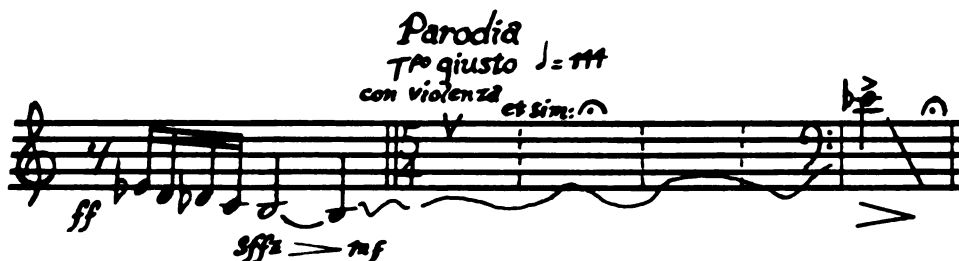
Solo Horn;
m. 217:



The horn sound in the linking measure between the Mis-terioso and Parodia may be explained in several ways. Most

FIGURE III-21

Solo Horn;
mm. 48-53:

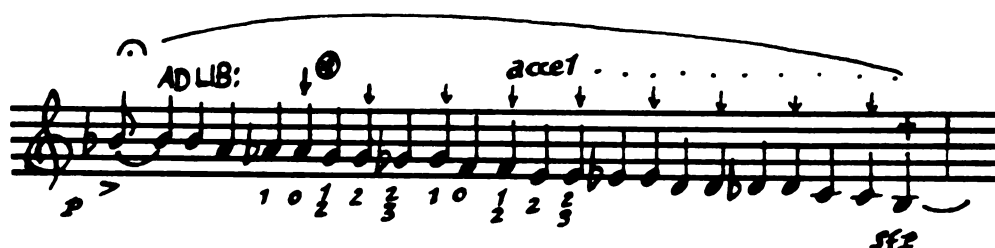


horn players will either "lip" or "bend" a note somewhere in a small register (Figure III-21), or play a combination of half-valves and bend the resulting tone to create a slowly rising and falling pitch. On the recording (Decca - "Musgrave Horn Concerto," 1973) , Barry Tuckwell executes this sound with minor lip pressure and a change of lip tension.

The Horn Concerto might be the first to explore extensively quarter-tone scales on the horn. Theoretically, it is possible for one to lower a pitch a quarter-step by partially hand stopping or lessening lip tension. A more accurate method utilizes the out-of-tune harmonics already located in the acoustical structure of the instrument. With the seventh, eleventh, and thirteenth harmonics approximately a quarter-tone flat, there exists many fingering combinations on the double horn (see Appendix A for a detailed analysis of these scales and fingerings). Figure III-22 illustrates one of these scales and the fingering pattern sequence as it appears in the score.

FIGURE III-22

Solo Horn; m. 250:



One of the theatrical moments in the Horn Concerto

involves the interplay between the soloist and four members of the horn section. Measures 233 and 243-249, where the orchestral horn players are placed around the soloist, are reminiscent of the Scherzo in Gustav Mahler's fifth symphony, in which there are eight measures where each horn player in turn plays a concert f with a bell attack. In the Horn Concerto, the soloist plays a concert g that is answered in turn by successive orchestral horns at the same pitch as in measure 233, and at different pitches, as in measure 243.

FIGURE III-23

Solo Horn and Horns
I, II, III, * IV;
m. 233:

Handwritten musical score for a string quartet. The score is written on four staves, labeled 1^o (Violin I), 2^o (Violin II), 3^o (Viola), and 4^o (Cello/Double Bass). The music features various notes, rests, and dynamic markings such as *sfz*, *cresc.*, and *mf*. There are also handwritten annotations above the staves, including "69" in a box and "Hn 40". The score is written in a cursive, handwritten style.

FIGURE III-24
Solo Horn Answered By Different Pitches

Solo Horn and Horns
I, II, III, & IV;
mm. 243-244:

Handwritten musical score for Solo Horn and Horns I, II, III, & IV, measures 243-244. The score is written on five staves. The top staff is for the Solo Horn (Sb), and the bottom four staves are for Horns I, II, III, and IV (all in C). The Solo Horn part starts with a measure of rest, followed by a series of notes with various dynamics and articulations. The Horns I, II, III, and IV parts enter in measure 244 with a series of notes, each with a crescendo and deceleration marking. The Solo Horn part has a deceleration marking in measure 244. The Horns I, II, III, and IV parts have a deceleration marking in measure 244. The Solo Horn part has a deceleration marking in measure 244.

In summary, Musgrave explores some means and extremes for the horn soloist. Unlike some twentieth century works for the horn, the Horn Concerto does not include any percussive sounds that require tapping the instrument or any chordal writing which requires simultaneous humming and playing.

CHAPTER 4 VERTICAL STRUCTURES

A study of the vertical structures in the Horn Concerto has shown that an approach which uses Roman Numerals and attempts to identify functional harmonic progressions is not appropriate; instead, a number system whose roots lie in set-theory principles¹ reveals more accurately the relationships that exist. All structures are reduced to the base of C in all of the tables in this chapter, and all number sequences begin with zero; this places all the pitches in a given vertical structure in the smallest possible interval. For example, in Figure IV-1, the notes c, d-flat, and e-flat are labeled as 0,1,3; the minor third or augmented second is the smallest possible interval in which these tones can be placed. In the same figure, the notes f#, g, and a are identi-

FIGURE IV-1



(0,1,3)

(0,1,3)

fied as 6, 7, and 9. To reduce these to a base of zero, one

¹Set theory in musical analysis is a system of assigning numbers to the universal set of notes. For convenience, c = 0, c# = 1, d = 2, d# = 3, e = 4, f = 5, f# = 6, g = 7, g# = 8, a = 9, a# = 10, and b = 11. For further information, see Allen Forte's Structure of Atonal Music; Part I: Pitch-Class Sets and Relations, P. 1 - 83.

subtracts 6 from all three numbers, which equates to 0, 1, and 3. Thus, both examples in Figure IV-1 are made up of the same intervals when reduced. This chapter provides a location, reduction, and tabulation of all the vertical structures in the Horn Concerto; the final tabulations reveal the most common vertical intervals.

In the Misterioso, vertical structures occur independently in woodwinds, strings, piano, and harp; (no brass is used in this section and only indefinite pitched percussion instruments are used). In measure thirty, the woodwinds and strings play together, but since the woodwind chord lasts one and a half beats, the two choirs sound separately.

FIGURE IV-2

Woodwinds and
Strings; m. 30:

Vertical structures fall into two categories: those that punctuate the texture (essentially woodwinds), and those that provide a background (strings). In the Misterioso, most woodwind chords answer solo-horn statements; Table IV-1

illustrates the reduced sets of all woodwind structures in this section.

TABLE IV-1

Structure:	Measure Number:	Number of Occurrences:
(0,1,4,7)	8	1
(0,1,5,8)	18, 21, 22, 24, 30	5
(0,2,5,6)	39	1
(0,2,3,6)	40	1
(0,1,3,4)	40	1
(0,1,3,4,8)	41-43	1
(0,1,2,4,5,6)	44-46	1
(0,1,2,5)	40	1

One predominant background vertical structure that first appears in measure 4, is a C minor-major ninth chord. This chord "functions" only as a textural sonority and is analyzed numerically as: (0,1,3,4,8).

FIGURE IV-3

Violas & Cellos;
m. 4:



The subsets (0,1,4), (0,1,5), (0), (0,3), (0,1,3,4), (0,1,3,4,8), (0,1), and the empty set which is shared between (0,1,3,4,8) (the most common structure in the strings), and the sets in Table IV-1, represent the intervals common to both choirs. These subsets reveal an emphasis on minor seconds and thirds.

Table IV-2 contains a listing of all string structures in the Misterioso.

TABLE IV-2

Structure:	Measure Number(s):	Number of Occurrences:
(0,1,3,4,8)	4-8, 13-18, 22-28, 30-31, 34-36, 48-54	6
(0,1,2,4,6,8)	5, 7-8, 17-18, 31	3
(0,1,3,6,9)	11-12, 12, 20-21	3
(0,1,2,3,4,6,8)	14-15	1
(0,1,2,3,5,7,9)	25-27	1
(0,1,3,4,6,9)	28-29	1
(0,1,2,4,5)	32-34	1
(0,1,4,6)	37	1
(0,1,2,3)	37-38	1
(0,2,3,6)	38-39	1
(0,1,2,3,4,7,9)	39	1
(0,1,3,4,7,8)	40	1

Table IV-3 provides another comparison of (0,1,3,4,8), this time, to all the sets from Table IV-2.

TABLE IV-3

(0,1,3,4,8)	compared to:	Subset:
(0,1,3,4,8)		(0,1,3,4,8)
(0,1,3,4,6,8)		(0,1,3,4,8)
(0,1,3,6,9)		(0,1,3)
(0,1,2,3,4,6,8)		(0,1,3,4,8)
(0,1,2,3,5,7,9)		(0,1,3,4)
(0,1,2,4,5)		(0,1,4)
(0,1,4,6)		(0,1,4)
(0,1,2,3)		(0,1,4)
(0,2,3,6)		(0,3)
(0,1,2,3,4,7,9)		(0,1,3,4)
(0,1,3,4,7,8)		(0,1,3,4,8)

These subsets once again indicate an emphasis on major thirds and seconds are more evident.

The piano and harp structures are shown in Tables IV-4a and IV-4b.

TABLE IV-4a
Piano Structures in The Misterioso

Sets:	Measure(s);
(0,1,2,3,5)	2, 4, 11, 13
(0,1,2,3,5,7)	9, 10
(0,1,3,4,7)	19
(0,1,3)	47

TABLE IV-4b
Harp Structures In The Misterioso

Sets:	Measure(s):
(0,1,3,4)	1, 10
(0,1,2,3,4)	4, 13, 13

Of all the subsets in the Misterioso, the most common are (0,1,3) and (0,1,3,4).

Table IV-5 illustrates all unique structures in the Horn Concerto according to the section in which they are found. Since material in the Andante Espressivo and coda derives from previous sections, no new vertical structures occur. The most common set is (0,1,3,4,8).

TABLE IV-5

Section:	Sets:	Measure(s);
<u>Parodia</u> ; Brass:	(0,1,3,4,7,8)	49, 51
	(0,1,3,5,7,9)	52, 57-68, 77
	(0,1,2,4,7,8)	52
	(0,4,6)	54, 72
	(0,1,6)	55
	(0,2,6,8)	71
	(0,1,3,5,6,7)	77-78
	(0,1,2,4,7,8)	89-91,
	(0,2,4,5,6,8)	91
	(0,1,4,6)	91

TABLE IV-5
Continued

Section:	Sets:	Measure(s):
	(0,2,5,8)	93
	(0,1,4,7)	95
	(0,1,2,4,5)	96
	(0,1,3,5,6,9)	102
	(0,2,4)	111
<u>Parodia</u> ; Stirngs:	(0,1,3,4,8)	49-54
	(0,2,4,8)	60
	(0,1,3,6,8)	75-77
	(0,1,2,3,4)	85
	(0,1,2,4,6,7,8,9)	98-101
	(0,1,2,3)	118-119
	(0,1,3,6)	119
	(0,2,3,4,6,7,9)	123-125
<u>Parodia</u> ; Piano:	(0,1,3)	47
	(0,1,3,4,8)	56, 58, 77, 87
	(0,1,5,6)	85-86
<u>Parodia</u> ; Harp:	(0,1)	56, 57, 88, 62, 63, 67, 79, 80, 87
	(0,1,3,7)	60
<u>Capriccioso</u> ; <u>Woodwinds</u> :	(0,3,4,7)	210, 212
<u>Strings</u> :	(0,1,5,8)	138-140, 216
	(0,1,2,3,6)	163-164
	(0,2,3,5)	187

TABLE IV-5
Continued

Section:	Sets:	Measure(s):
<u>Capriccioso</u> ; Brass:	(0,2,3,5,6,8)	172-178
	(0,1,2,3,6)	205-207, 209-210

The most common vertical intervals in the Horn Concerto are the tritone, major and minor seconds, and thirds.

APPENDICIES

APPENDIX A

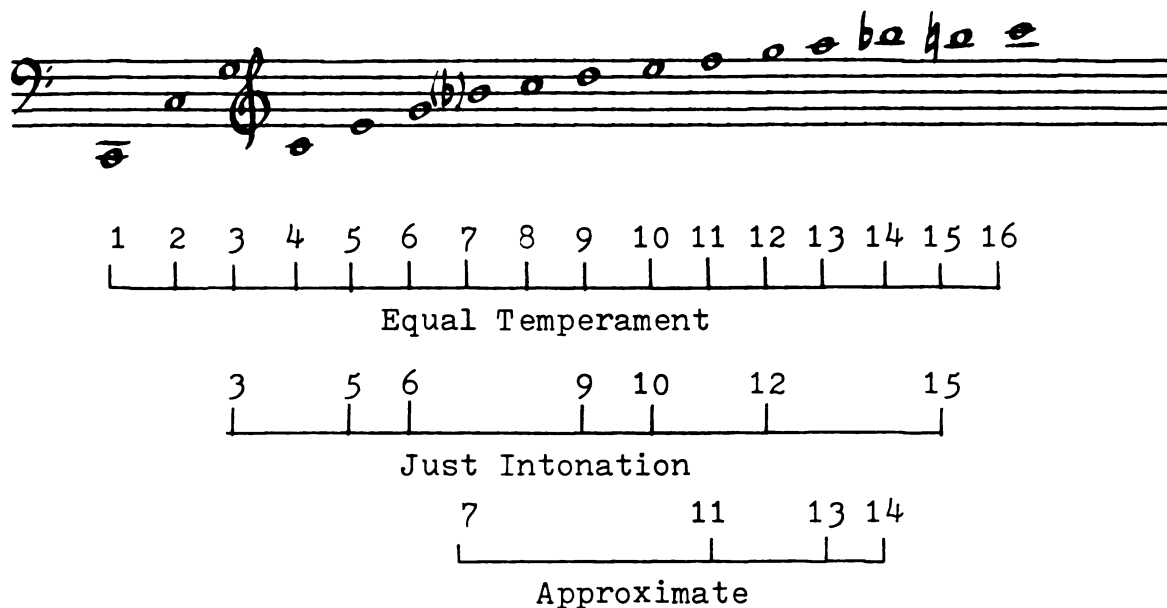
APPENDIX A
DERIVATION OF QUARTER-TONES

This concerto is written for a double horn with an F and B-flat side (side refers to a specific horn on a double horn; ie., F side = F horn); a single F or B-flat horn could not produce all the tones called for. On each side there are seven different fingering combinations available,¹ and each combination enables a player to produce sixteen harmonics. Since there are two fingerings on the B-flat side that overlap the F side (fingerings 1-3 and 1-2-3, on the B-flat horn equal 0 and 2 on the F horn), therefore, twelve different harmonic series exist. Every harmonic series contains five tones of equal temperament (1, 2, 4, 8, and 16), seven of just intonation (3, 5, 6, 9, 10, 12, & 15), and four which approximate tones in today's system of tuning (7, 11, 13, & 14).

Tables A-I through A-V illustrate, at written F horn pitch (a perfect fifth above concert pitch), overtone series for every combination on horns in F, B-flat, A, high f, and

¹On a three-valve horn, the first and second valves lower the open horn a major and minor second respectively. Some Europeans prefer a horn with an ascending-third valve which raises the instrument a major second. However, the most common horns, single and double, have a descending-third valve that lowers a horn a minor third. The total possible fingerings on an instrument with a descending-third valve are: 0, 2, 1, 1-2, 2-3, 1-3, 1-2-3, and 3; but since 3 and 1-2 lower the horn the same distance, and 3 is usually too flat, only 1-2 will be considered. The elimination of the third valve creates seven unique fingering combinations. On some single B-flat horns, 1-2 is too sharp and only 3 is used; this still leaves seven different fingering combinations.

FIGURE A-I



high e (high f horns are one-half the length of a standard F horn; high e horns are one-half step lower than high f horns). Figure A-III illustrates quarter-tones from e-flat to b, along with all possible fingerings from Tables A-I through A-V.

The solo horn fingerings in measure 250, as shown below, relate to the seventh harmonics of the following fingerings: B-flat side: 0, 2, 1, 1-2, 2-3, and F side 0, 2, 1, 1-2.

FIGURE A-II

Solo Horn; m. 250:



↓ = one quarter-tone flat

TABLE A-I
F HORN FINGERINGS AND HARMONIC SERIES IN F HORN PITCH

Fingerings:

0

2

1

1
2

2
3

1
3

1
2
3

TABLE A-II
B-FLAT HORN FINGERINGS AND HARMONIC SERIES IN F HORN PITCH

Fingerings:

0

2

1

1
2

2
3

1
3

1
2
3

Bve

Bve

Bve

Bve

Bve

Bve

TABLE A-III
A HORN FINGERINGS AND HARMONIC SERIES IN F HORN PITCH

Fingerings:

0

2

1

1
2

2
3

1
3

1
2
3

Bve

Bve

Bve

Bve

Bve

Bve

Bve

TABLE A-IV
HIGH **f** HORN FINGERINGS AND HARMONIC SERIES IN F HORN PITCH

Fingerings:

The image displays handwritten musical notation for F Horn Fingerings and Harmonic Series. It consists of six systems, each with a bass staff and a treble staff. The bass staff contains fingerings (0, 2, 1, 1, 2, 2, 3, 1, 3, 1, 2, 3) and the treble staff contains harmonic series notes. Vertical lines connect corresponding notes across systems. A '8ve' label with an arrow points to the first harmonic series note in the first system.

Fingering	Harmonic Series (Treble Staff)
0	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
2	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
1	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
1	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
2	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
3	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
1	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
3	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
1	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
2	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅
3	C ₄ , C ₅ , G ₄ , E ₄ , F ₄ , A ₄ , B ₄ , C ₅

TABLE A-V
HIGH e HORN FINGERINGS AND HARMONIC SERIES IN F HORN PITCH

Fingerings:

The image displays handwritten musical notation for the F Horn pitch harmonics and fingerings. It consists of six systems, each with a bass staff and a treble staff. The first system is labeled '0' and the subsequent systems are labeled '2', '1', '1', '2', and '1' respectively. Each system shows a sequence of notes in both staves, with a vertical line indicating a specific fingering. The notes are written in F Horn pitch, and the fingerings are indicated by numbers 0, 1, 2, and 3. The notation includes various accidentals (sharps, flats, naturals) and a 'Bve' label above the first system. The fingerings are indicated by numbers 0, 1, 2, and 3, and the notes are written in F Horn pitch.

All of the seventh and eleventh harmonics in Tables A-I through A-V were tested on two horns with a Hewlett-Packard 55221A Electronic (frequency) Counter. The first horn tested, a Holton 179, contained an F and B-flat side, and the second, a Paxman 41, contained a B-flat and a high f side, with the addition of a second thumb key which lowered each side one-half step. Table A-VI illustrates tested quarter-tones, Just and Equal temperament frequencies of traditional pitches, and calculated Equal temperament quarter-tone frequencies in Herzt or cycles per second. In most cases, the tested frequencies were higher than the calculated frequencies. These higher pitches can be corrected by the horn player covering the bell aperture with the right hand. Table A-VII shows quarter-tone scale fingerings which are most accurate. However, these fingerings are not the most practical; they require several different horns. The only available instrument that would encompass all possible horn combinations is a triple horn with a second thumb lever that lowers each side a minor second. Although triple horns are available, few performers use them. The fingerings in Figure A-II are practical; they follow a convenient sequence on the double horn. Tables A-VIII and A-IX show two quarter-tone scale fingerings, one for the double horn, the other for a double descant.

JUST	294.3		306.5 312		327		348.8		367.9 376.7		392.4	
EQUAL	293.7		311.1		329.6		349.2		370		392	
HOLTON F		306		326		346		361		387		408
PAXMAN A		301		312		344		359		383		406
HOLTON B-FLAT		296		321		342		363		384		408
PAXMAN B-FLAT		296		321		343		362		383		410
PAXMAN HIGH e												404
CALCULATED												
QUARTER-TONES		302		320		339		360		381		403.6
	h	↓	h	↓	h	↓	h	↓	h	↓	h	↓
	a	h	h	h	a	a	a	h	h	h	a	h

TABLE A-VI
JUST AND EQUAL TEMPERAMENT FREQUENCIES AND TESTED AND CALCULATED QUARTER-TONES
IN CYCLES PER SECOND ON HORNS IN F, A, B-FLAT, HIGH F, AND HIGH E
IN WRITTEN F HORN PITCH

JUST		588.6		613		654.1
EQUAL		587.3		627.9		659.3
PAXMAN A	569		604			
HOLTON B-FLAT	572		604		640	
PAXMAN B-FLAT	572		604		640	
PAXMAN HIGH e	572		604		644	
PAXMAN HIGH f	573		607		647	
CALCULATED						
QUARTER-TONES	570.9		605		640.8	
	$\downarrow$ h-e	$\downarrow$ h-e	$\downarrow$ b-a	$\downarrow$ b-a	$\downarrow$ h-e	$\downarrow$ h-e

TABLE A-VIII
QUARTER-TONE FINGERINGS FOR THE F/B-FLAT DOUBLE HORN

F SIDE: 2 2 0 1 1 2 2 1 2 2 1 0 1 2 2 1 0 1 2 2 1 2 1 2 3 1 2

B $\flat$: 0 1 F: 1 B $\flat$: 2 F: 2 B $\flat$: 0 F: 0 B $\flat$: 2 3 0 2 3 1 2 1 2 1 0 2

APPENDIX B

APPENDIX B
THEA MUSGRAVE'S WORKS
(1953-1977)

BALLETS

A Tale for Thieves (1953)

One act; scenario based on The Pardoner's Tale of Chaucer.

Beauty and The Beast (1968-69)

Two acts; chamber orchestra and electronic tape; scenario by Colin Graham, based on "Bell et la Bete" by Mme de Villeneuve.

Commissioned by the Gulbenkian Foundation.

First performance: the Scottish Theatre Ballet at Sadler's Wells, 1969, conducted by Kenneth Alwyn, choreography by Darrell.

OPERAS

The Abbot of Drimrock (1955)

Chamber opera for seven singers, violin, cello, piano, celesta, percussion.

One act; libretto by Maurice Lindsay, based on one of Wilson's "Tales of the Border;"

First performed in concert version by Park Lane Opera, 1958, conducted by Myer Fredman.

First staged performance: the National School of Opera, 1962, conducted by Lawrence Leonard, directed by Anthony Besch.

The Decision (1964-65)

Three acts; libretto Maurice Lindsay.

First performance by The New Opera Company at Sadler's Wells, 1967, conducted by Leon Lovett, directed by Colin Graham.

The Voice of Adriane (1972-73)

Chamber opera in three acts; libretto by Amalia Eluera, based on Henry James' "The Last of the Valerii."

Commissioned by the Royal Opera House with the assistance

OPERAS

from the Gulbenkian Foundation.
 First performance by the English Opera Group at the
 Aldenburgh Festival, conducted by the composer, directed
 by Colin Graham.

ORCHESTRAL WORKS

Divertimento (1957)
 For string orchestra.

Obliques (1958)
 For harp, celesta, timpani, percussion, and strings.
 First performances by the BBC Scottish Orchestra, 1959,
 conducted by Colin Davis.

Scottish Dance Suite (1959)

Perspectives (1961)

Sinfonia (1963)

Festival Overture (1965)
 Commissioned by the City of Glasgow for the Commonwealth
 Arts Festival, 1965.
 First performance by the Scottish National Orchestra
 conducted by Alexander Gibson.

Nocturne and Arias (1966)
 For harp, timpani, percussion, and strings.
 First performance by the Radio Orchester Beromeunster,
 Zurich conducted by Norman Del Mar.

Concerto for Orchestra (1967)
 Commissioned by Feeny Trust.
 First performance by the City Birmingham Symphony Orchestra,
 1968, conducted by Hugo Rignold.
 U.S. premiere: the Philadelphia Orchestra, conducted by the
 composer, 1976.

Clarinet Concerto (1968)
 Commissioned by the Royal Philharmonic Society.

ORCHESTRAL WORKS

First performance by the BBC Symphony Orchestra, 1969, conducted by Colin Davis; clarinetist, Gervase de Peyer. U.S. premiere, on the West Coast: by the Los Angeles Philharmonic Orchestra, conducted by Gerhard Samuel, Michele Zukovsky, clarinet, 1971; East Coast: by the New York Philharmonic, conducted by Sarah Caldwell, Stanley Drucker, clarinet, 1975.

Night Music (1969)

Commissioned by the BBC.

First performance by the Welsh Orchestra, 1969, conducted by John Carewe.

U.S. premiere, on the West Coast: by the San Francisco Symphony Orchestra, conducted by Niklaus Wyss, 1975; on the East Coast: by the Syracuse Symphony Orchestra, conducted by Calvin Custer, 1975.

Memento Vitae (Concert in Homage to Beethoven) (1969-70)

Commissioned by BBC (Scotland) and the Saltire Society.

First performance by the BBC Symphony Orchestra, 1970, conducted by James Loughran.

U.S. premiere: by the Milwaukee Symphony Orchestra, 1970, conducted by Sarah Caldwell, 1975.

Horn Concerto (1971)

Commissioned by Mario di Bonaventura for Dartmouth Congregation of the Arts, U.S.A.

First performance by the Scottish National Orchestra, 1971, conducted by the composer; Barry Tuckwell, Horn.

Viola Concerto (1973)

Commissioned by the BBC.

First performance by the Scottish National Orchestra, 1973, conducted by the composer, Peter Mark, viola;

U.S. premiere: by the Pasadena Symphony Orchestra, conducted by Daniel Lewis, Peter Mark, viola, 1975.

Orfeo II (1975)

For solo flute and fifteen strings.

First performance by the Los Angeles Chamber Orchestra, 1976, conducted by Neville Marriner; also, same year, same orchestra, conducted by Thea Musgrave, David Shostac, flute.

CHAMBER MUSIC

Cantata for a Summer's Day (1954)

For vocal quartet, speaker, flute, clarinet, string quartet, and double bass; or flute, clarinet, and string orchestra.
 Texts by Hume and Lindsay.

String Quartet (1958)

Commissioned by the University Court (Glasgow) under the terms of the McEwen Bequest.

Colloquy for violin and piano (1960)

Written for Manoug Parikian and Lamar Crowson for the Cheltenham Festival.

Trio for flute, oboe, and piano (1960)

Commissioned by the Mabillon Trio.

Monologue for solo piano (1960)

Written for Margaret Kitchin.

Serenade for flute, clarinet, harp, viola, and cello (1961)

Commissioned by the John Lewis Partnership for the Melos Ensemble.

Excursions for piano - four hands (1965)

Commissioned by the London University Extra-Mural class, Teddington.

(Eight duets for piano - four hands with one easy part).

Chamber Concerto No. 1 (1962)

For oboe, clarinet, bassoon, horn, trumpet, trombone, violin, viola, and cello.

Commissioned by the University Court (Glasgow) under the terms of the McEwen Bequest.

Chamber Concerto No. 2 - In homage to Charles Ives (1966)

For flute (piccolo and alto flute), clarinet (bass clarinet), violin (viola), cello, and piano.

Commissioned by the Dartington Summer School of Music for the Vesuvius Ensemble.

Chamber Concerto No. 3 (1966)

For clarinet, bassoon, horn, two violins, viola, cello, and double bass.

Commissioned by the Anglo-Austrian Music Society for the Melos Ensemble.

CHAMBER MUSIC

Sonata for Three (1966)
For flute, violin, and guitar.

Impromptu for flute and oboe (1967)
Written for Douglas Whittaker and Janet Craxton.

Music for Horn and Piano (1967)
Written for Barry Tuckwell and Margaret Kitchen for the Zagreb Festival.

Soliloquy for guitar and tape (1969)
Tape in collaboration with Daphne Oram.
Written for Siegfried Behrend.

Elegy for viola and cello (1970)
Written for Peter Mark and Geoffrey Rutowski.

Impromptu No. 2 for flute, oboe, and clarinet (1970)
Commissioned by the department of music, University College, Cardiff, in association with the Welsh Arts Council.

From One to Another for viola and tape (1970)
Tape in collaboration with Daphne Oram.
Written for Peter Mark for the Monday Evening Concert, Los Angeles.

Spaceplay: A Concerto for Nine Instruments (1974)
For flute, oboe, clarinet, bassoon, horn, violin, viola, cello, and double bass.
Commissioned by the Koussevitzky Music Foundation.
First performance by the London Sinfonietta, 1974.
U.S. premiere - East Coast: by the Chamber Music Society of Lincoln Center, 1975; West Coast: by the Monday Evening Concert, Los Angeles, 1976.

Orfeo 1, An improvisation on a theme (1975)
For flute and tape.
Commissioned by the BBC Transcription Services for James Galway.

VOCAL AND CHORAL WITH ORCHESTRA

Cantata for a Summer's Day (1954)

For vocal quartet, speaker, flute, clarinet, string quartet, and double bass; or flute, clarinet, and string orchestra.

Texts by Hume and Lindsay.

First public performance by the Edinburgh International Festival, Saltire Singers, conducted by Hans Oppenheim.

Tritych (1959)

For solo tenor, strings, harp, three percussion, celesta (or piano).

Commissioned by the Saltire Society.

First performance by the London Symphony Orchestra, conducted by Meredith Davies, tenor, Duncan Robertson.

The Pheonix and The Turtle for small choir and and orchestra (1962)

Commissioned by the BBC.

First performance by the BBC Scottish Orchestra and Ambrosian Singers, conducted by Norman Del Mar.

The Five Ages of Man for chorus and orchestra (1963)

For timpani, three percussion, piano, strings, and optional brass.

Commissioned by the Norfolk and Norwich Triennial Music Festival.

First performance by the Festival Choir and Orchestra, conducted by Charles Mackerras.

UNACCOMPANIED CHORAL MUSIC

Four Madrigals for SATB chorus (1953)Song of The Burn for SATB chorus (1954)Make Ye Merry For Him That Is Come (1961)

For sopranos, contraltos, and children's chorus (optional organ accompaniment).

John Cook for SATB chorus (1963)

UNACCOMPANIED CHORAL MUSIC

Memento Creatoris for SATB chorus (1967)
Optional organ accompaniment.

Two Christmas Carols in Traditional Style (1966)
For solo soprano, SA chorus with TB chorus optional, oboe,
or clarinet, or solo violin and strings.

Rorate Coeli for SATB chorus (1973)

MUSIC FOR YOUNG PEOPLE AND AMATEURS

Theme and Interludes (1960)
For orchestra.

Marko the Miser (1960)
A tale for children to mime, sing, and play.
Commissioned by Wayney Mann Ltd. for the Farnham Festival
of Schools Music.
For recorders/violin, or clarinet/guitar/piano/percussion
including glockenspiel and chime bars.

Excursions for piano, four hands (1965)

Variations for brass band (1966)

Sonata for Three (1966)
For flute, violin, and guitar.

CONCERT BAND MUSIC

Scottish Dance Suite (1974)

SONGS

A Suite O'Bairnsangs for voice and piano (1953)
Commissioned for the Scottish Festival, Braemar, 1953.

Five Love Songs for soprano and guitar (1955)

A Song for Christmas for high voice and piano (1958)
Commissioned by the BBC, Scotland.

Sir Patrick Spens for tenor and piano (1961)
Commissioned by Peter Pears.
First performance by Peter Pears and Julian Bream at the
Aldenburgh Festival.

Primavera for soprano and flute (1971)
Written for Dorothy Dorow for performance at the Zagreb
Festival.

PIANO MUSIC

Monologue (1960)

Excursions (1965)

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