PIECE FOR COMPUTER AND 4 TROMBONI

(DEATH ON THE BORDER)

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A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

MASTER OF MUSIC

Department of Music

ILLINOIS STATE UNIVERSITY

1992

ACKNOWLEDGEMENTS

The writer wishes to thank John Chowning and CCRMA (Center for Computer Research in Music and Acoustics) of Stanford University, California, who supported my visit with a tuition waiver, David B. Williams and ORAT (Office of Research in Arts Technology) of Illinois State University, Illinois, who supported my research efforts continuously with scholarships during my studies at ISU. He also supported my visit to CCRMA.

Also special thanks to Arthur Corra and John Rehm and ISU music department, Betty Plummer and ISU's International Studies Office.

The piece is dedicated to my MIDI class teacher Charles Stokes.

A.R.S.

PIECE FOR COMPUTER AND 4 TROMBONI

(DEATH ON THE BORDER)

Ali R. Saral

May 1992

Death on the Border is a piece for computer generated tape music and 4 tromboni. It is composed of 7 movements; The Prologue, The Moment, The Yearning, The Ritual, The Oblation, The Lamentation.

The tape part is generated at CCRMA (Center for Computer Research in Music and Acoustics) of Stanford University, California, on a NEXT workstation with a DSP card and the COMMON MUSIC package written in LISP computer language by Heinrich Taube.

Computer graphics techniques such as rosette, infinite regressions, tiling, tweening are used in the composition of the trombone parts.

The Prologue and the Epilogue are for tape only and all the other movements are for tape and tromboni. The durations are as follows : The Prolog 36 sec, The Moment 20 sec, The Yearning 1 min 50 sec, The Ritual 2 min 50 sec. The Oblation 2 min 5 sec, The Lamentation 2 min 30 sec, The Epilogue 40 sec. The total duration is approx. 10 min 50 sec.

The Prologue is an isorhythm based on a 12 tone series. The Moment is a single section emphasizing e as a so called tonal center. The Yearning is in AB form using the modal qualities of the 12 tone series of the first movement, with e as the modal center. The Ritual emphasizes the relations between spesific notes of the 12 tone series and causes a modal effect. It has an ABA form from the point of the use of the composition algorithm. It uses isorhythmic structures and slightly alters them through the movement. The Lamentation is an AB form. B is the reverse of A in the trombone part.

The tape part loses the meter in the second section. The Epilogue is an isorhythm based on 3 chords. built by grouping the notes of the 12 tone series in 4 voice chords.

The piece is composed as an abstraction of an East German escaping to the West.

APPROVED:

_____

Date Arthur B. Corra, Chair

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Date John T. Rehm

_____

Date Joaquin A. Villa

PIECE FOR COMPUTER AND 4 TROMBONI
(DEATH ON THE BORDER)

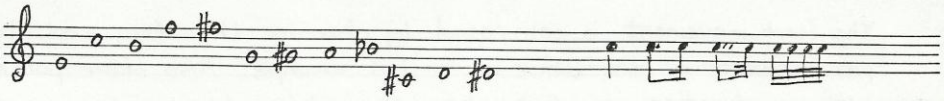
for tape and 4 trombone ①

Dedicated to my MIDI class teacher, Charles Stokes.

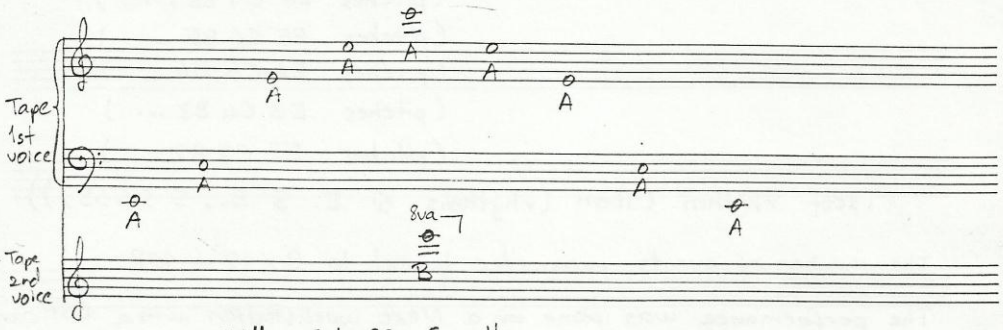
Ali Riza SARAL

I. PROLOGUE ②
(for tape only)

COLOR TALEA



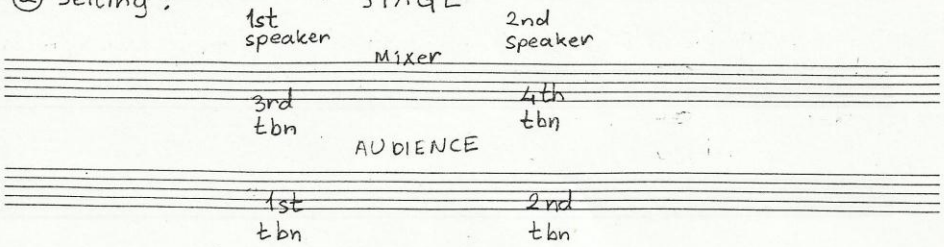
This isorhythm structure is called A, symbolizing both the color and the talea. The color is played according to the talea by the computer, A is played from different octaves. Also, an other voice plays A in a very fast tempo from a very high frequency. This is called B. The music can be symbolized as seen below:



Duration = 36" July 30, San Hose

① The tape parts have to be performed using a mixer and echo generator.

② Setting :



The tone meister is supposed to direct the performance if needed.

COMMON MUSIC (LISP) NOTATION:

CCRMA 1990 Summer Course example files are created by David A. Jaffe using COMMON MUSIC package. COMMON MUSIC package is composed of a group of Common Lisp functions. They can be found in the Common Music Manual (Preliminary Draft) by Heinrich Taube. David A. Jaffe and Heinrich Taube are both musicians doing research work at CCRMA (Center for Computer Research in Music and Acoustics), Stanford University, California.

The first movement is composed by changing the freq and rhythm parameters of the Wave1i_1.lisp example. Also other parameters such as duration, waveforms have been changed.

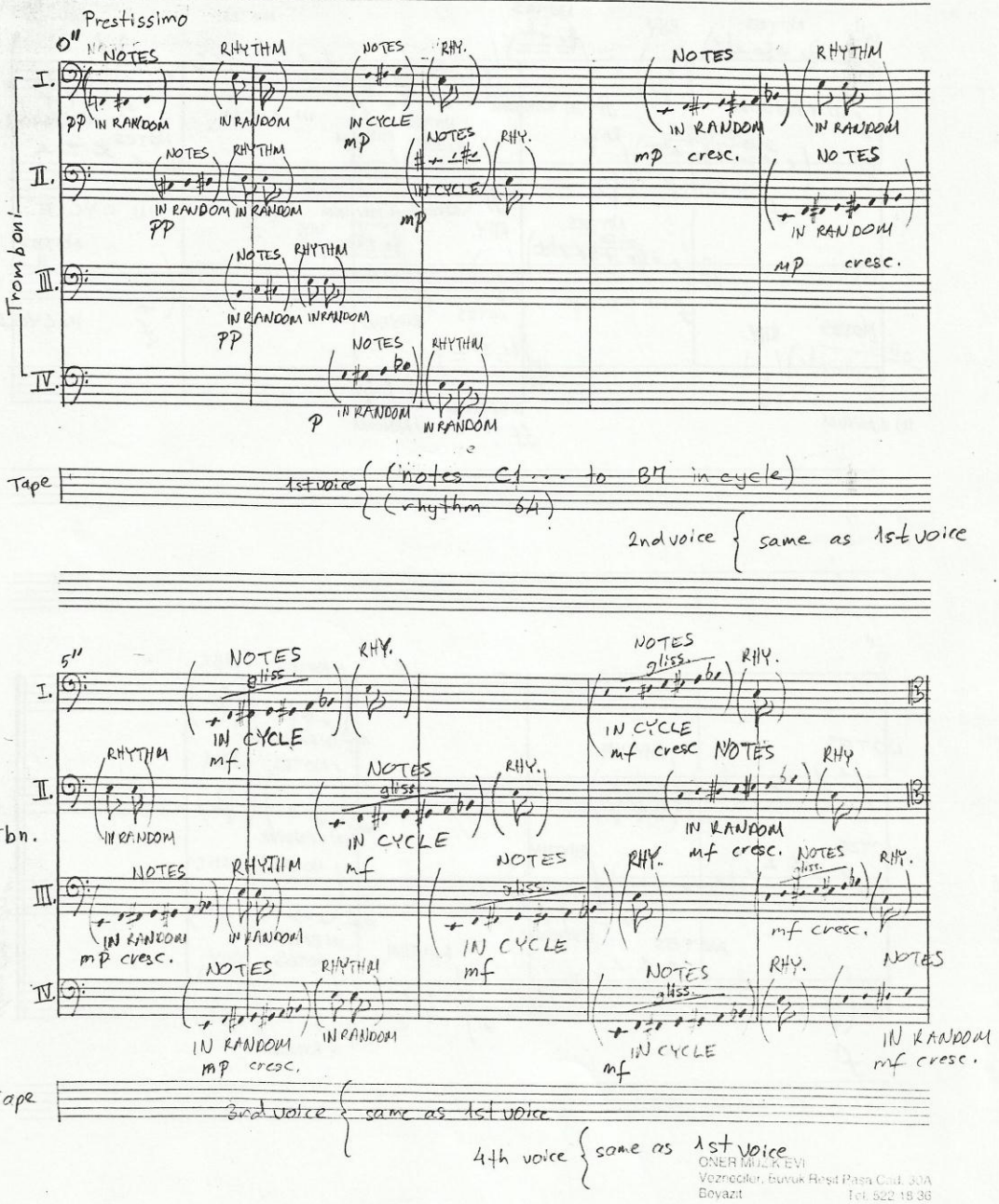
```
(setf freq (item (pitches  (pitches E2 C3 B2 .... )
                           (pitches E3 C4 B3 ... )
                           (pitches E4 C5 B4 ... )
                           (pitches E5 C6 B5 ... )
                           (pitches E6 C7 B6 ... )
                           (pitches E5 C6 B5 ... )
                           (pitches E4 C5 B4 ... )
                           (pitches E3 C4 B3 ... )
                           (pitches E2 C3 B2 ... )
(setf rhythm (item (rhythms Q E. S E.. S SSSS)))
```

The number of events parameter is set to 9 x 12 = 108.

The performance was done on a Next workstation with a DSP card.

II.

THE MOMENT



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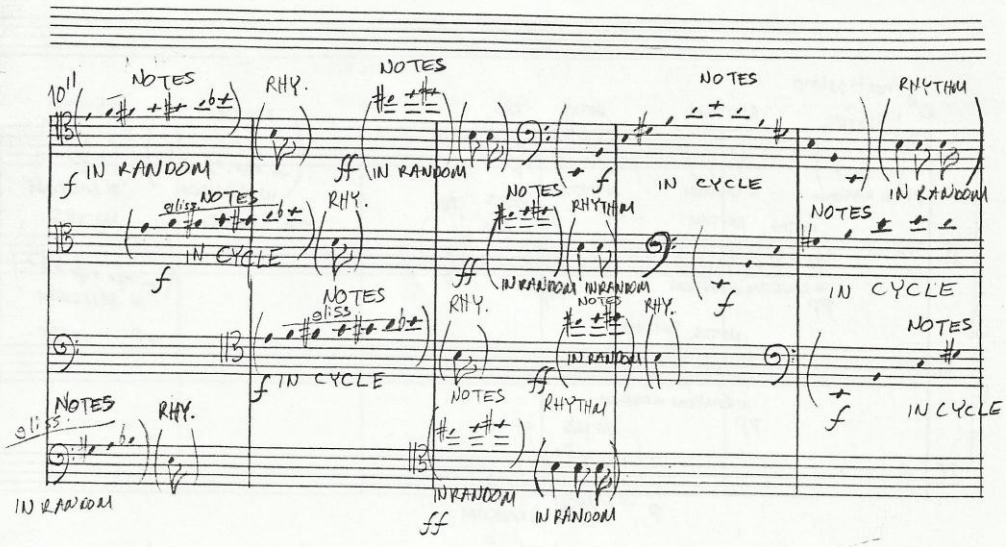
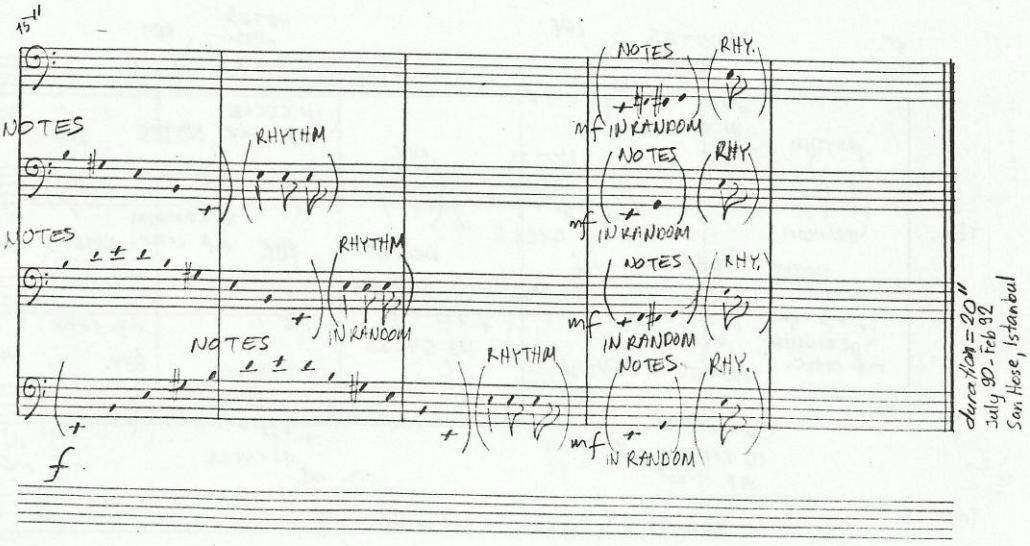
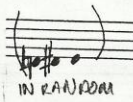
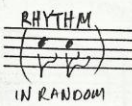

NOTES
RHY.
IN RANDOM
IN CYCLE
RHYTHM
gliss.


NOTES
RHYTHM
RHY.
IN RANDOM
mf
duration = 20"
July 90 - Feb 92
San Hese, Istanbul

(1) NOTES indicates that those notes have to be played randomly according to the rhythm pattern that is given next to it.



(2) RHYTHM indicates that the notes that are indicated before should be with either eight or sixteenth values which are chosen randomly.



(3) Unless indicated (by rests) the players have to continue playing the given structure until the next one.

(4) The density of the texture is left to the choice of the performers' taste and physical ability. This movement is supposed to have a blasting effect.

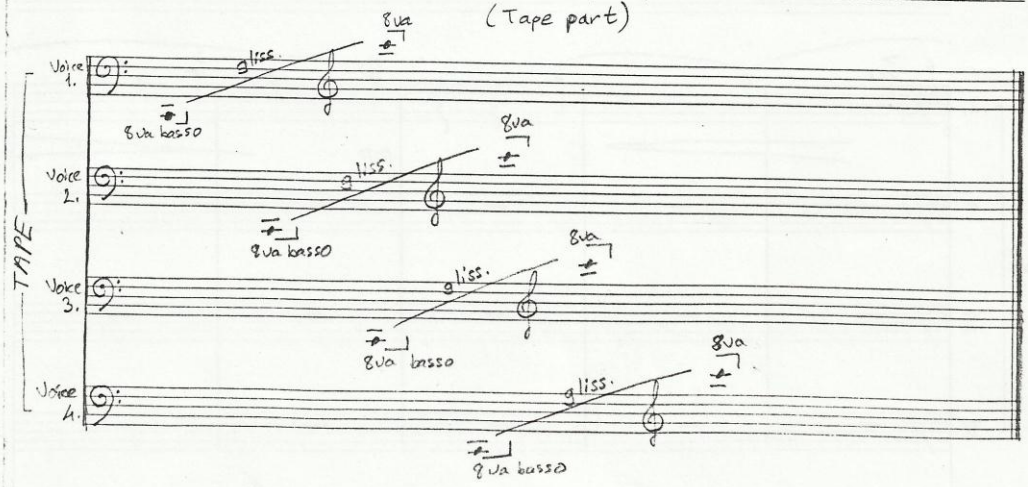
(5) The bar lines indicate the absolute time in seconds.

(6) The notation of the trombone parts are adopted from the COMMON MUSIC notation of Heinrich Taube of CCRMA.

II.

THE MOMENT

(Tape part)



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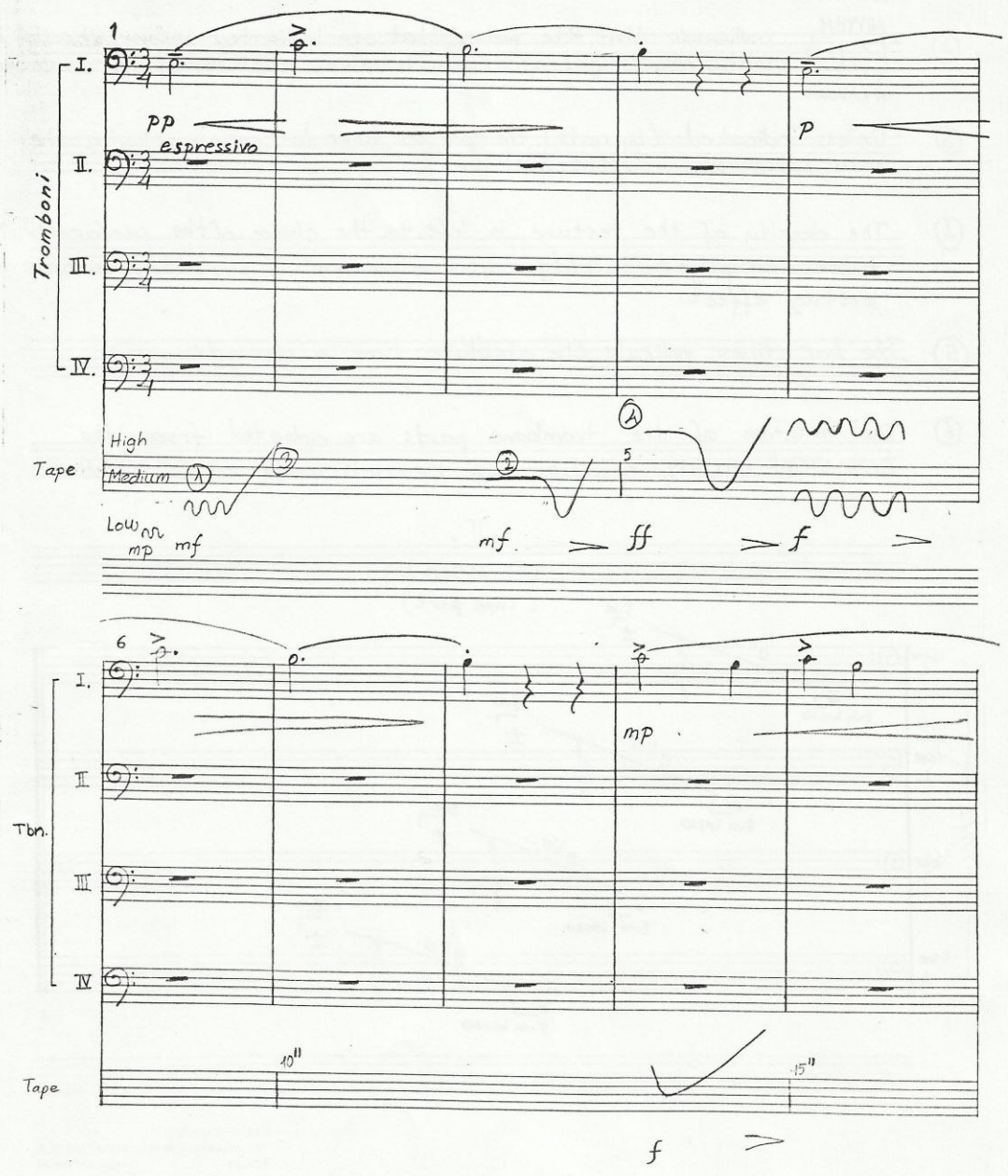
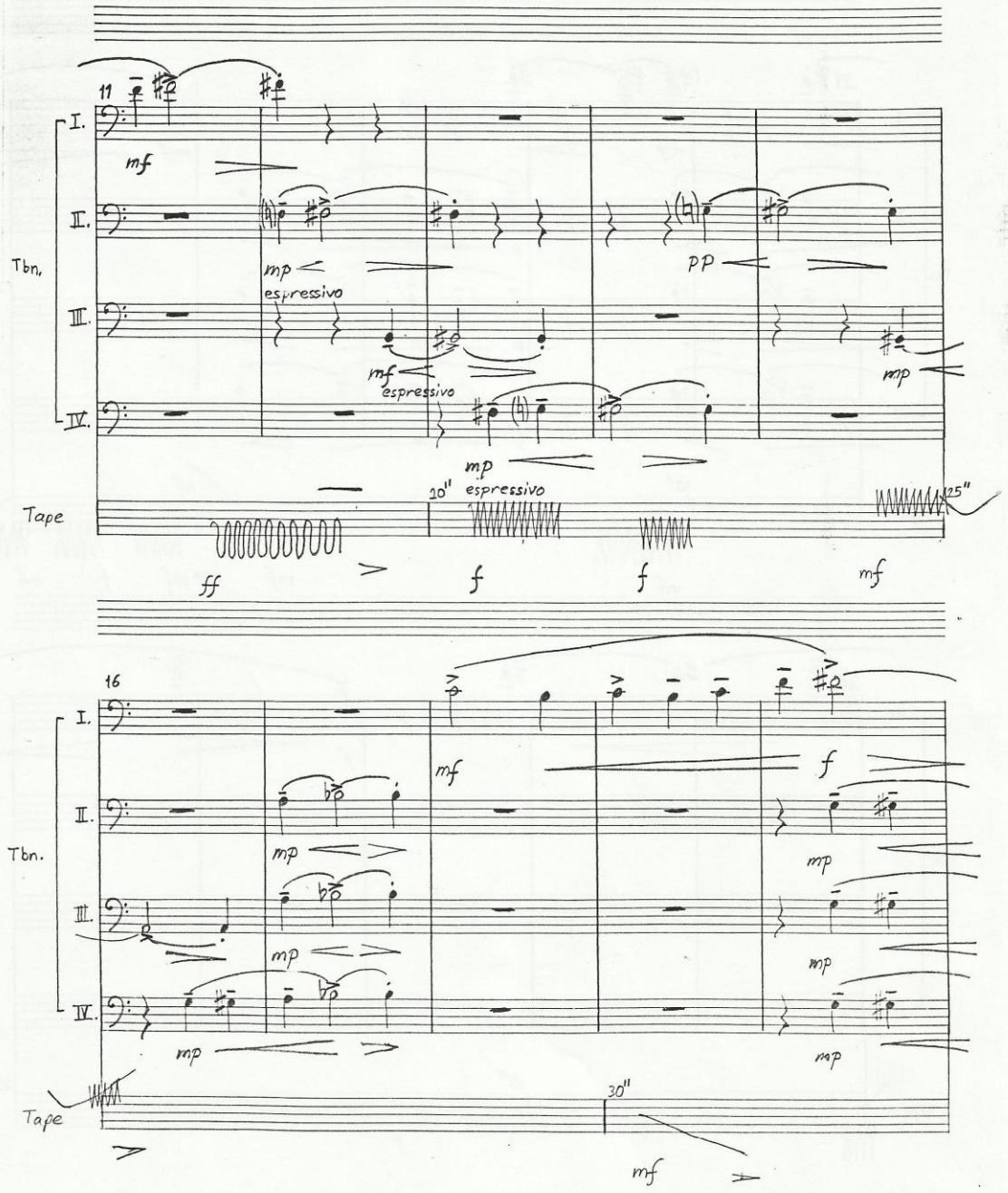
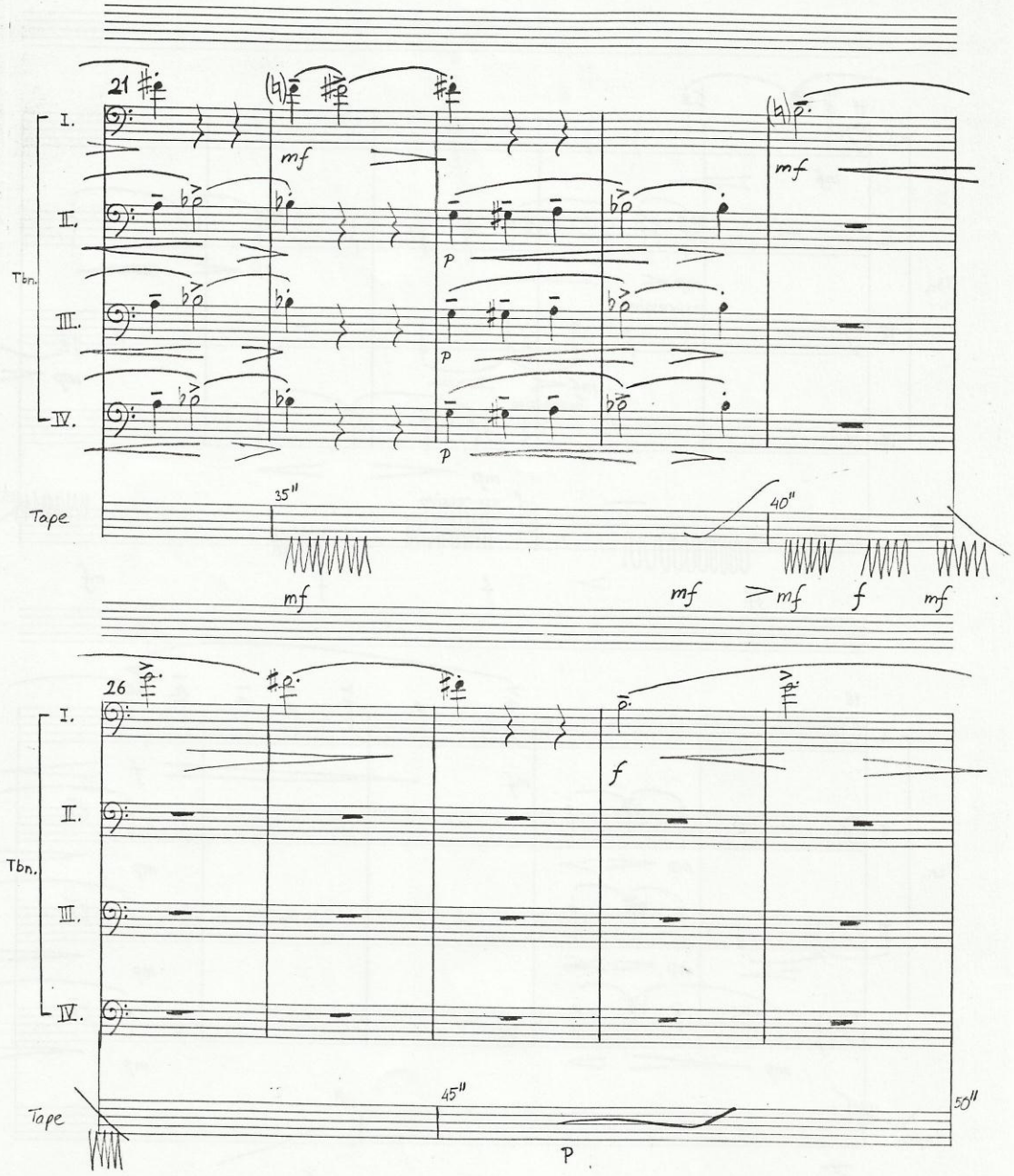
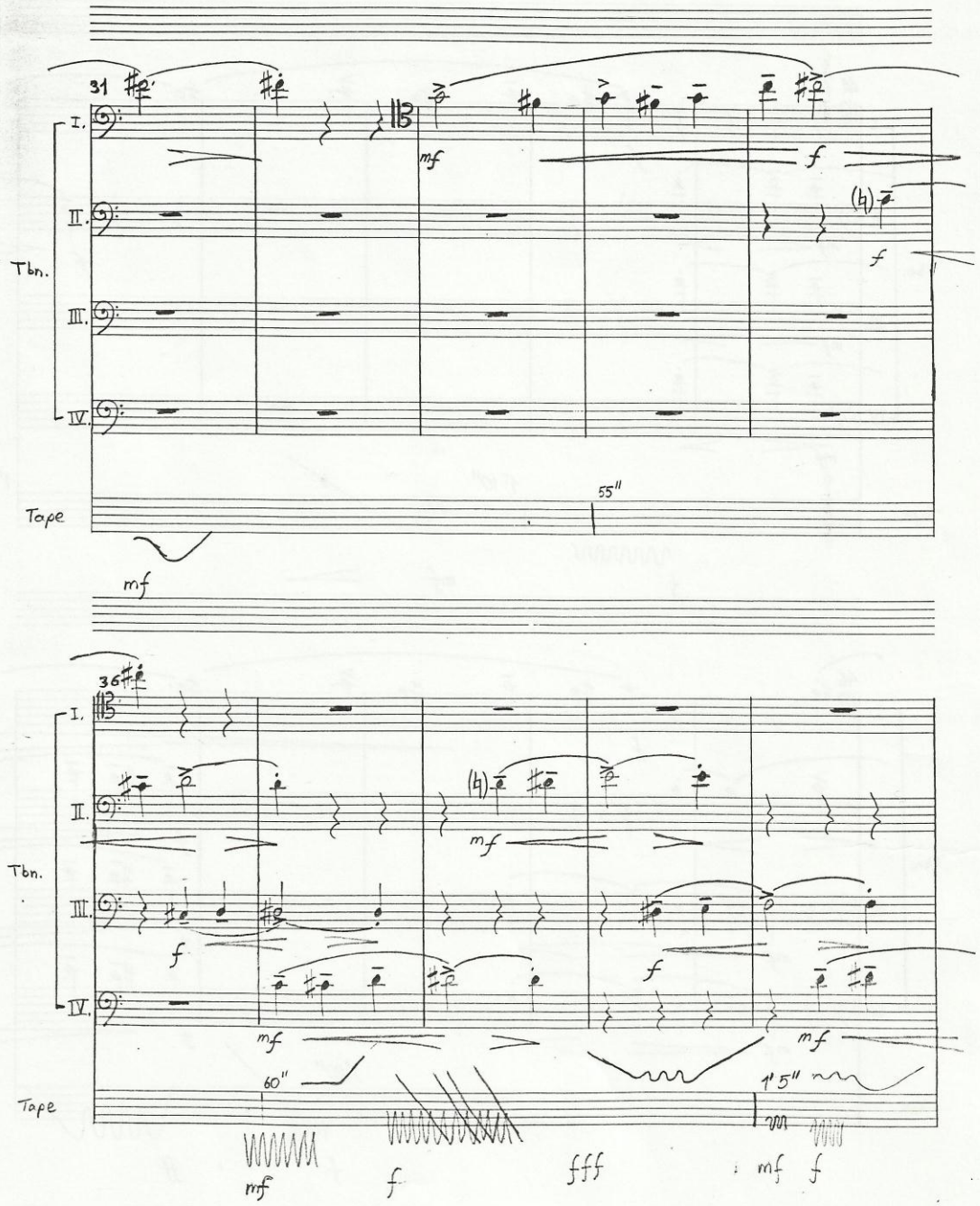
III.
THE YEARNING

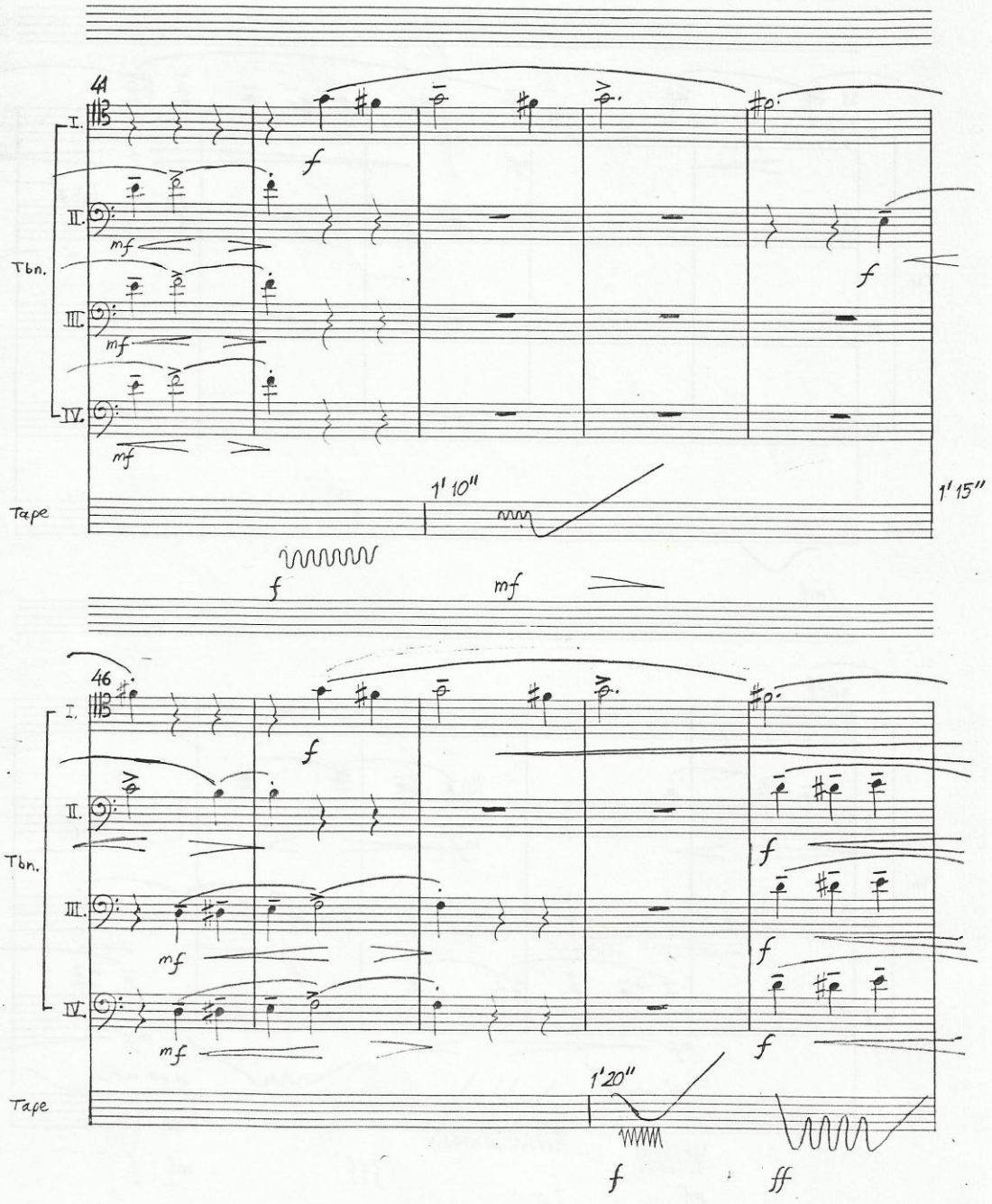
Moderato cantabile ♩= 108

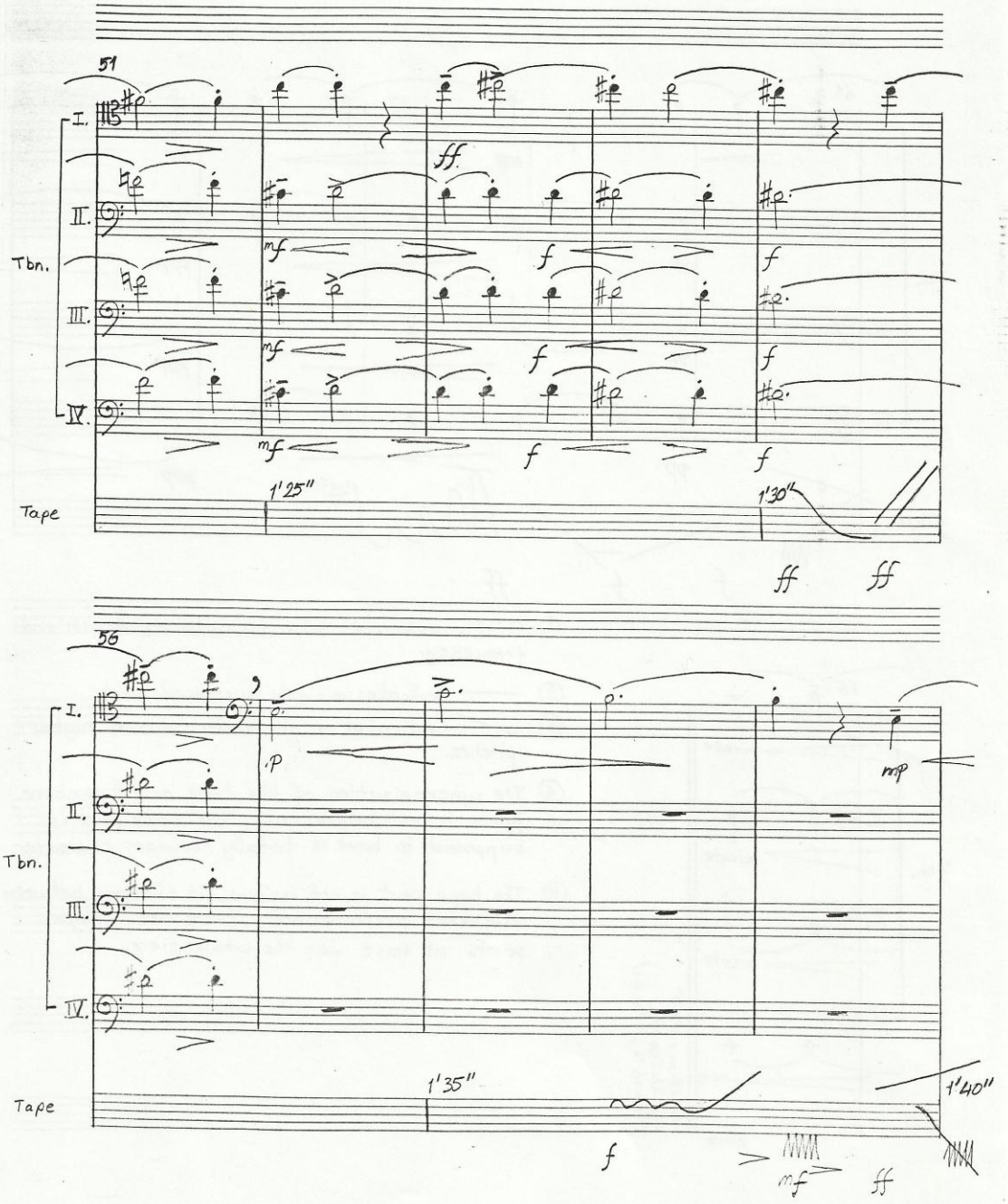


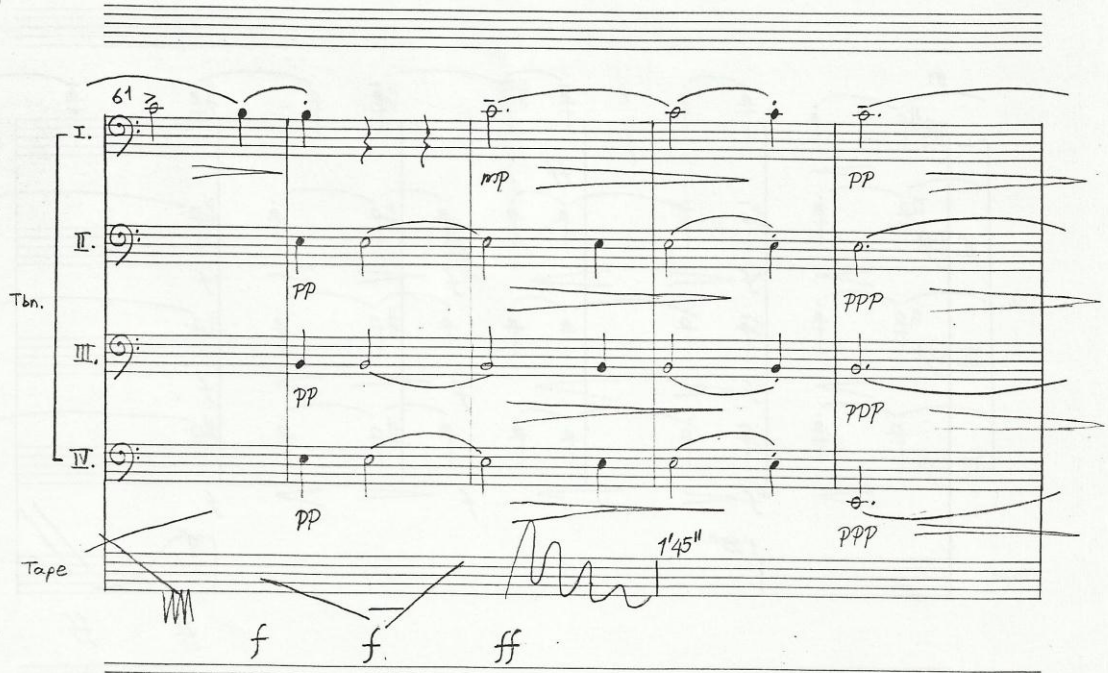

11
I.
II.
III.
IV.
Tbn.
mf
mp espressivo
pp
mf espressivo
mp
mp espressivo
Tape
20"
25"
ff
f
f
mf
16
I.
II.
III.
IV.
Tbn.
mf
f
mp
mp
mp
mp
mp
mp
Tape
30"
mf


21
I.
II.
III.
IV.
Tbn.
mf
p
Tape
35"
40"
mf
mf > mf
f
mf
26
I.
II.
III.
IV.
Tbn.
f
Tape
45"
50"
p


31
I.
II.
III.
IV.
Tbn.
Tape
mf
f
55"
36
60"
1'5"
fff


44
I.
II.
III.
IV.
Tbn.
f
mf
f
mf
mf
Tape
1' 10"
1' 15"
f
mf
46
I.
II.
III.
IV.
Tbn.
f
f
mf
f
mf
f
Tape
1'20"
f
ff

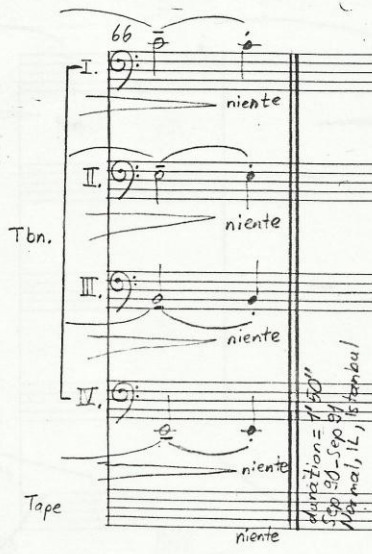

51
I.
II.
III.
IV.
Tbn.
Tape
ff
mf
f
1'25"
1'30"
ff
ff
56
I.
II.
III.
IV.
Tbn.
Tape
p
mp
1'35"
1'40"
f
mf
ff



① ∿∿∿ indicates vibrato, with its depth and frequency.

② —— indicates a single sustained pitch.

③ ⁄ indicates a glissando towards higher pitches.

④ The syncronization of the tape and trombone parts is not important. The tape part is supposed to have a totally random character.

⑤ The tape part is not unique, it changes between different performances. There are 2 tape parts at least for the whole piece.