

Zones of Coherence

David Rosenboom

for
Solo Trumpet
or
Multiple Trumpets

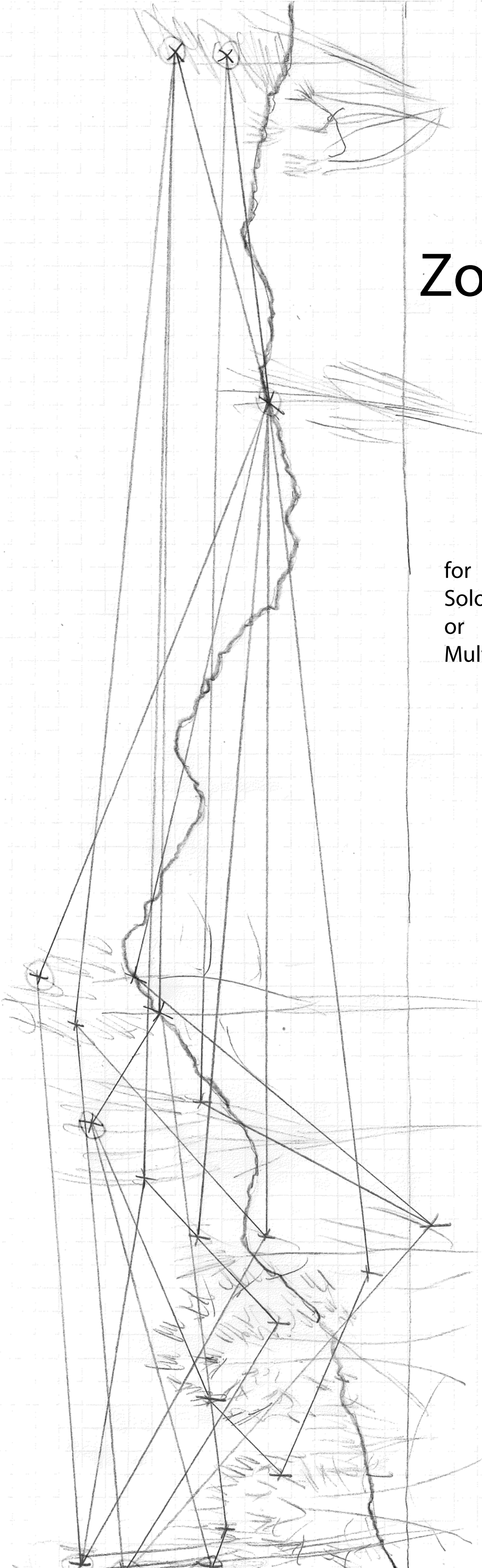
feeling the changing configurations

*feeling the elastic tension of each
differentiation in relation to a perceptual anchor*

*making the relationships (EMTS split) from
need to know relation of self-differentiation
to others - self-preservation - we
make EMTS this way*

composed for
Daniel Rosenboom

*Write phrases - free now -
to fill + reacting to
chant +
read instructions
down from my hands to
write vocalises +
develop according to
chant*



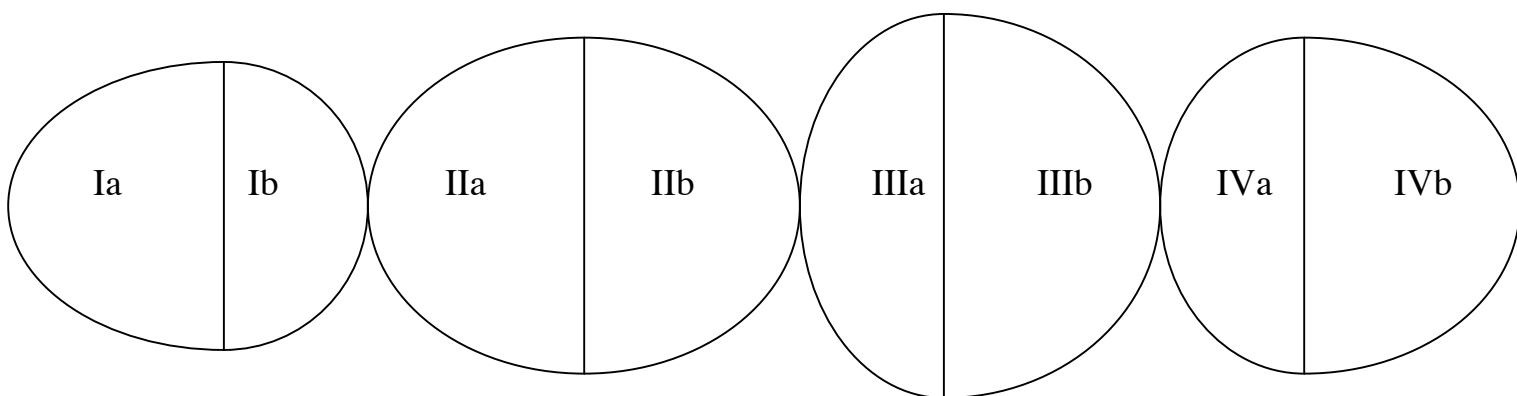
(x) ≈ enter or leave configuration

Zones of Coherence

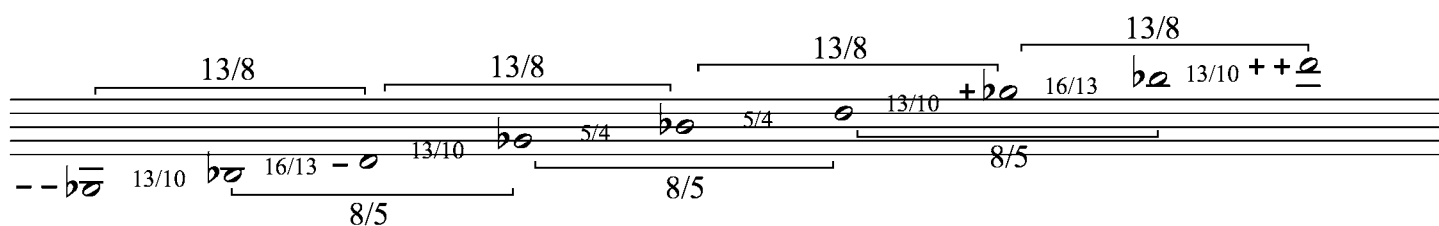
How to Interpret the Score

The notation for *Zones of Coherence* comprises four musical *configuration spaces*. These appear as four printed panels, labeled I, II, III, and IV, each of which is completed by joining a set of two pages, Ia with Ib, IIa with IIb, IIIa with IIIb, and IVa with IVb. Each whole panel corresponds to a section of the complete composition. Inside each of these configuration spaces, musical time does not exist a priori, though each section and subsection is given an overall duration defining its relative extension in the time-space that will emerge during performance. The configuration spaces contain collections of *musical units* delineated by solid black bar lines. Each of these may be thought of as a coherent musical phrase or gesture. Within each subsection, Ia, Ib, IIa, IIb, IIIa, IIIb, IVa, and IVb, these musical units may be combined and/or sequenced in any manner chosen by the performer. From the relationships manifested by the player among these distinct musical units, entwining and interweaving them with their individual interpretations, their combinations, connections, sequences, links, warps, loops, and twists, a shared, musical time-space is materialized creating the localized mass and energy of each individual performance. In this way, the performer is also invited into the creative process of the composition.

To this manner of interpretation is also added an overall, compositional architecture and dramatic form. The panels comprising the score are to be played in order, I through IV. The musical elements of each sub-panel, Ia, Ib, IIa, IIb, IIIa, IIIb, IVa, and IVb, are to be realized within the timeframe of each sub-panel. In other words, the material of sub-panel Ia is to be grouped within the timeframe of Ia, the material of Ib stays within the timeframe of Ib, and so on. When viewed as a whole, each section panel may appear visually somewhat like a warped balloon. This graphic form may suggest a natural expanding and contracting of density and dramatic intensity. When viewed in the context of the overall compositional form, a shape something like this may emerge.

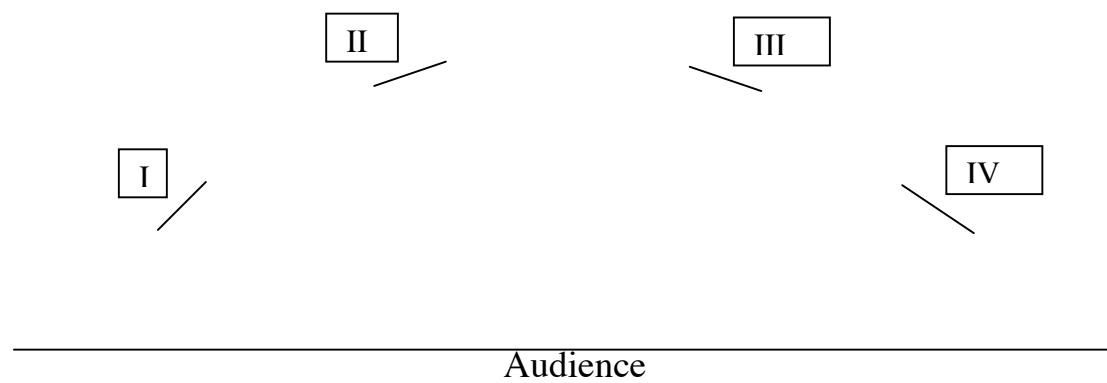


A temporal architecture is articulated by the relative duration extensions of each sub-section. The score was constructed with the intent of reflecting beauty inherent in special relationships of nature described by the expression, $1/p = 1 + p$ where $p = (\sqrt{5} - 1)/2$. The resulting proportions are deeply imbedded in the structural elements of the score. If taken literally, the long and short subsections of the form might articulate the proportion 70:43, though individual performers should regard this flexibly according to emerging interpretations of the musical material. Two other important ratios, 13:8, and 8:5, are reflected in certain rhythmic forms and harmonic structures in which the harmonic series of Bb is a central reference linked with those of D and Gb. Some notes have the symbols, --, -, +, and ++, appended. These correspond to altered tunings, very flat, flat, sharp, and very sharp, necessary to express the 13:8 and 8:5 relationships shown here.



The intertwining of harmonic series elements from these three tones is imbedded in many of the tonal structures. In the last sub-section, IVb, these relationships become highly chromatic, and finally, the eight valve combinations for the trumpet are specifically notated along with harmonic melody contours for each.

The performer might arrange each of the four score panels on four separate music stands placed in the performance space in a manner articulating interesting characteristics of that space. In a typical concert venue, this might take the form of a simple arc as follows.



Different venues may suggest other possibilities for effective arrangements.

Section I is scored for the Bb trumpet. It gives particular emphasis to the phenomena of breath and how the resonances of this horn turn breath into tone. Section II contains the *Vocalise Glyphs Field*, an array of modular, lyrical, ornamented melodic shapes, which can be combined and sequenced in any order. With this in mind, the qualities of the mellower, Bb cornet are most appropriate, though the Bb trumpet may also be used and the Flügelhorn may be considered. The player is invited to experiment with Harmon or plunger mutes to embellish the lines with timber changes. Only mutes that allow such dynamic shaping should be used. Mutes with fixed timbres, such as straight or cup mutes are not appropriate. These musical glyphs should be approached with the qualities of expressive singing in mind. Small notes, always appearing in permuted groups of three pitches, are to be thought of as fast, free ornamentations. Section II is scored for the Bb piccolo trumpet. It includes characteristic, sometimes referential, phrases evolving eventually towards regular rhythmic forms. Finally, Section IV is for the open C trumpet. Sub-section IVa introduces a time frame of regular, incessant, driving pulses with extremely sharp accents delineating metric groups. IVb evolves into player determined, temporal units for groups of notes accelerating into virtuosic, harmonic series flourishes. These are built on the physical and acoustical structure of the trumpet. They should be tuned with the natural resonances of the horn using the specified valve combinations. Some of these will naturally deviate from common practice, tempered tuning.

Throughout the score, accidentals apply only to the notes they precede.

Zones of Coherence may be realized as a solo piece. It may also be realized by multiple players or by one player with recorded parts.

Program Note

In organic terms, this piece is partly about the beauty of forms in nature reflected in the qualities of the trumpet itself and all the human symbolism it contains. It is also about evolution and the spontaneous emergence of forms, a consistent theme in much of my music. The score for *Zones of Coherence* contains four musical *configuration spaces*. Inside each of these configuration spaces, musical time does not exist a priori. Each configuration space contains a collection of *musical units*, which may be combined and/or sequenced in a manner chosen by the performer. From the relationships manifested by the player among these distinct musical units, entwining and weaving them with their individual interpretations, their combinations, connections, sequences, links, warps, loops, and twists, a shared, musical time-space is materialized creating the localized mass and energy of each individual performance. In this way, the performer is also invited into the creative process of the composition. The title refers how zones of musical meaning emerge from a form in which the parts are modular, and though they require considerable virtuosity to master and arrange them in configurations, they are designed to be combined in many forms, each of which is equally, musically coherent.

The musical material of each section moves through a progression suggesting how the breath of life evolves into tone mediated by the trumpet, how breath energizes differentiated resonances, how the resonances organize themselves into scales, and how fluid lyricism emerges from this organization, characteristic virtuosity develops, rhythmic forms appear in a shared time-space, and virtuosity accelerates into clouds of complex, harmonic-temporal configurations. A synopsis might read: breath -> movement -> directionality -> resonance -> substance -> scale -> form -> construction -> virtuosity -> materialization of the present, a shared *now*. This reflects the natural form of the trumpet itself as an articulator of life, its flared bell symbolizing the exponentially expanding potential for human awareness awaiting its full realization.

The natural resonances of the three-valve trumpet's physical structure with all its eight possible valve combinations provide important metaphors for architectural components of the composition. These sometimes result in "altered" tunings, deviating from common practice, equal-tempered tuning. They are also related to links found among the overtones of the pitches Bb, D, and Gb, which reflect the beauty in special forms of nature described by the expression, $1/p = 1 + p$ where $p = (\sqrt{5} - 1)/2$. These are evident in the appearance of three important ratios: 70:43, 13:8, and 8:5. Relationships like this are deeply imbedded in both the harmonic forms and structural proportions of the score.

The score's cover sketch, viewed horizontally, depicts a mountainous horizon line viewed from the composer's back yard, suggestions of foliage, and a configuration time-space created by the most commonly used flight paths and landing spots for the birds in this ecosystem. X's mark these spots, lines are the flight paths, and X's in circles indicate commonly used points from which the birds enter or exit the space. In this system, as in *Zones of Coherence*, one feels the elastic tensions among each differentiation in the space, shifting positions creating individual *nows*, delineating the relationships in energy-matter-time-space (EMTS) we need to preserve our own self-differentiation.

DR

December, 2003

Zones of Coherence

Special Symbol Definitions

Musical units:



Thick barelines delineating musical units.



Brackets for musical units that may be repeated continuously at will.



Dashed barelines subdividing musical units into cells for notation clarity or structural reasons. In Part IVa they delineate rhythmic cells with specific numbers of pulses.

Attacks, releases, and breath sounds:

Defined style of attack or release of sounds. Circles have a "sweet" manner, boxes have a more "harsh" or "hard" character, especially in the player's attitude and emotional communication.



Extremely breathy.

Breathy with little or no tongue.

Softer than normal with tongue.

Strongly articulated with tongue.

Without mouthpiece, directly into leadpipe.

Inhale through horn, audible air, no lip buzz.

Exhale through horn, audible air, no lip buzz.

Special symbols for crescendo and diminuendo while changing timbre, (only crescendo shown here.):



Normal symbol.



"Sweet" quality with small timbre change.



"Sweet" quality with large timbre change.

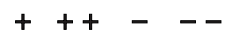


"Hard" quality with small timbre change.



"Hard" quality with large timbre change.

Altered intonation symbols:



sharp, very sharp, flat, very flat

Additional effects and other symbols:



Symbols for different, improvised, valve combinations.



Change valves to alter timbre, timing ad lib.



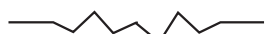
Unpitched, fast tonguing effect.



Tremolo between valve combinations; flutter tongue, if used with single note.



Unpitched, air flutter effect.



Symbol for a special effect unique to each individual performer, perhaps invented by the performer.



Play into an acoustic chamber or object that emphasizes a strong resonance in the trumpet sound. Object may also ring with that resonance.



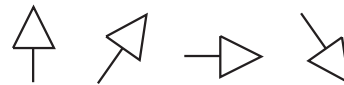
Submerge bell of trumpet under water as tone is played.



Flurry of improvised sound going up.



Flurry of improvised sound going down.



Point bell of horn in specified direction, i.e. up, up and right, right, down and right, etc.



Sweep bell of horn left to right across audience sound field.



Same, right to left.



Same, back and forth.



Fast duplet, double tongued, (Part II).



Fast triplet, triple tongued, (Part II).



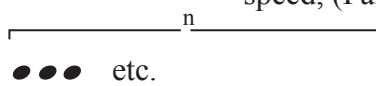
Doubly articulated, double tongued tone, in time, double speed, (Part III).



Repeat last specified pitch, (Part IVa).



Specified valve combinations, i.e. open, 1, 1 and 2, 1 and 3, etc., Part IVb).



Temporal unit determined by player within which a number of notes, n, are played. Duration of bracket, temporal unit, remains fixed within corresponding musical unit, though number of notes, n, changes. A regular pacing of note groups with different temporal densities should result, (Part IVb).

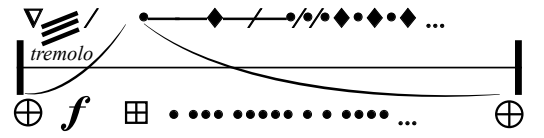
Zones of Coherence—Ia

Bb Trumpet
(written in Bb)

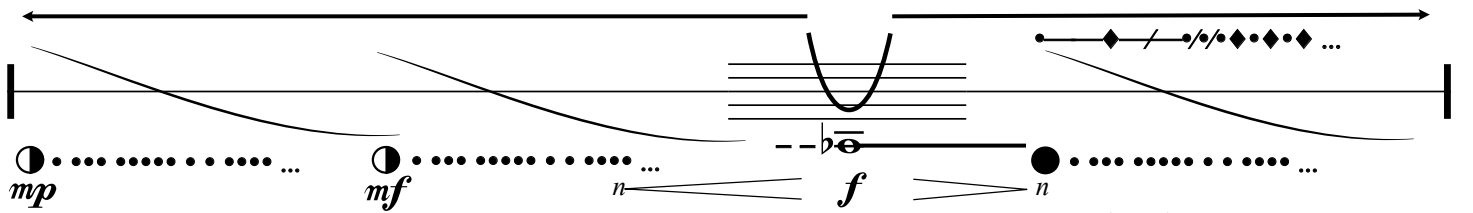
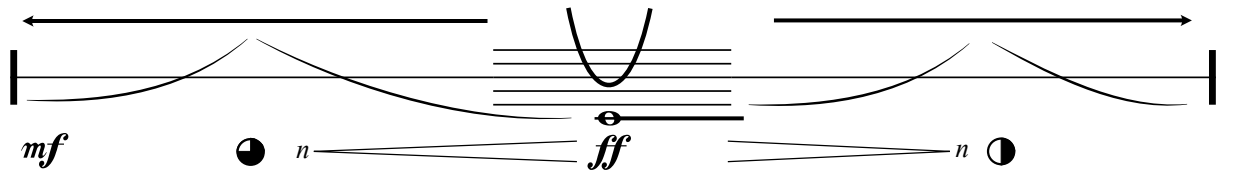
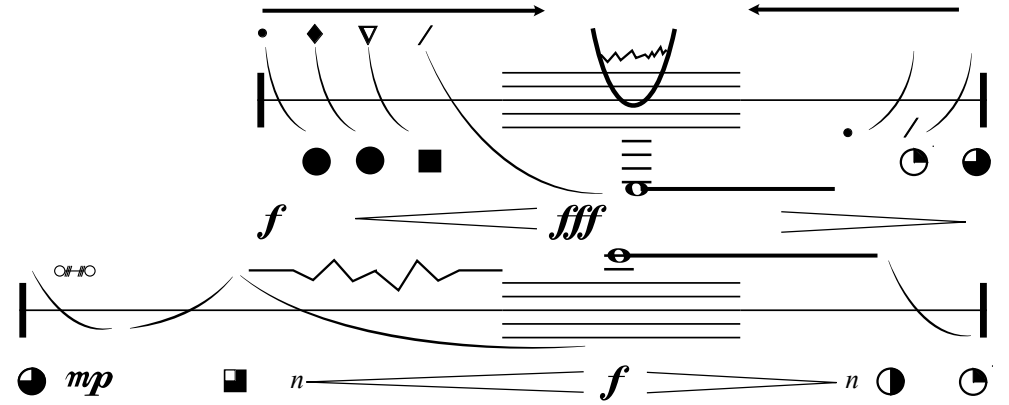
Warp
Energy

...breath
movement...

(without mouthpiece)

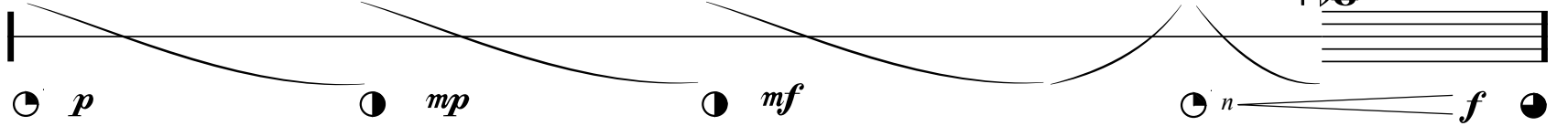


resonant
wells



move.....from.....far.....to.....close.....

breath to tone

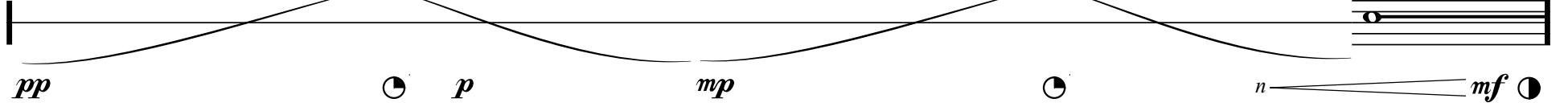


move.....from.....far.....to.....close.....

back away.....

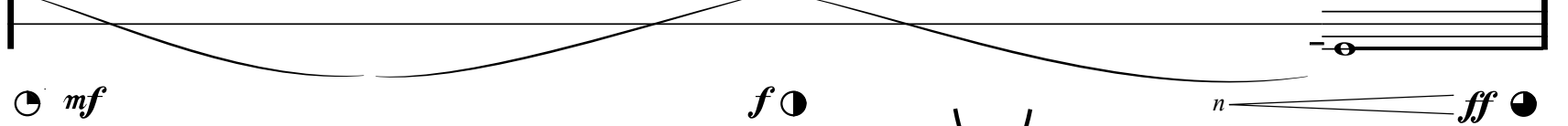
(continuous sweep across audience back and forth)

breath to tone



move.....from.....close.....to.....far.....

breath to tone



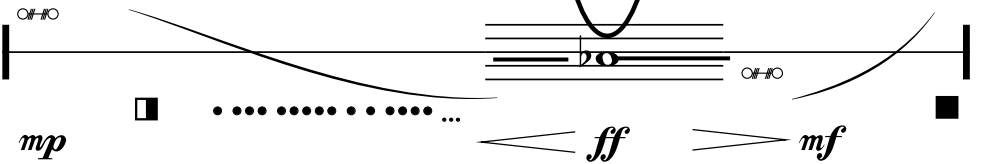
tremolo

(as possible)

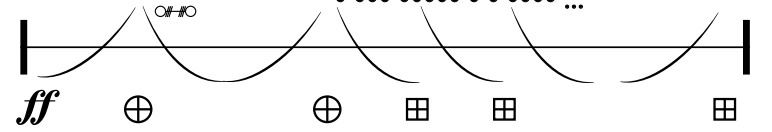
mp

mf

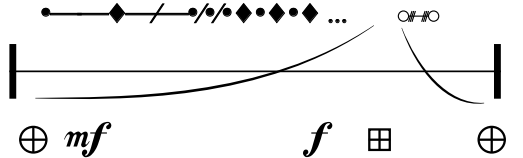
invisible
breath
walking



(without mouthpiece)



(without mouthpiece)



Zones of Coherence—Ib

Warp
Energy

...directionality

f *simile...*

temporary
localizations

mf

mf *f*

mf harmonic gliss smeared by 1/2-valves

f *simile...* *ff* *mf*

f *simile...* *mp*

mp

p *ff*

f *8vb*

wind
of
light

mf *simile...*

(8vb or 16vb ad lib)

Zones of Coherence—IIa

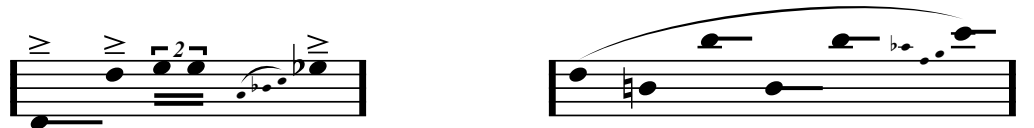
**BbCornet, Trumpet,
or Flugelhorn**
(written in Bb)

The end of any phrase glyph may connect directly to the beginning of any other with or without pause. Player may freely embellish with Harmon or plunger mutes to enhance phrase glyphs with improvised timbre shaping.

*Link
Mass*

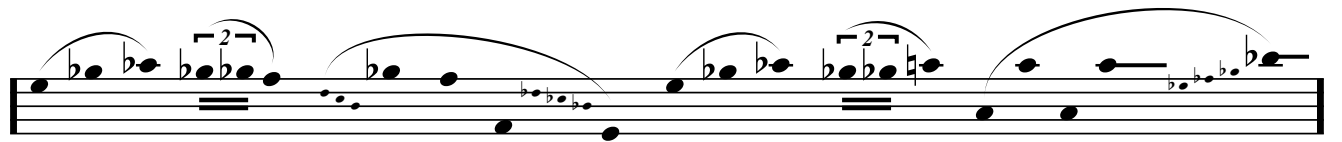
...resonance 

*Vocalise
Glyphs
Field*



Dynamics

pp to *ff*
freely
expressive
throughout

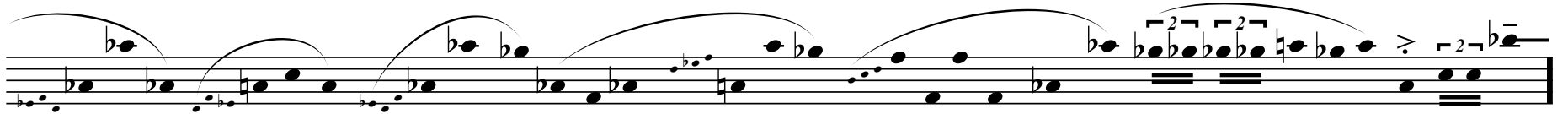


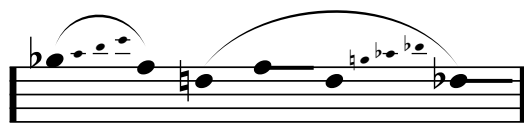



Interruption at

2:14








*extensions
of
resonance*

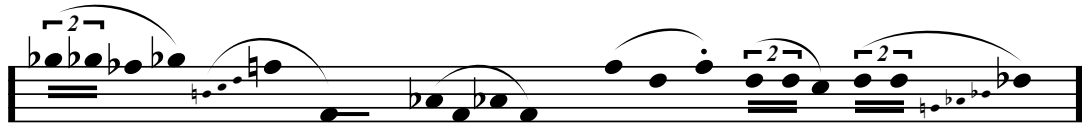




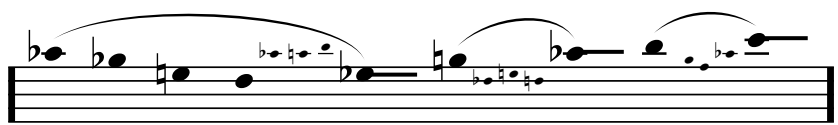
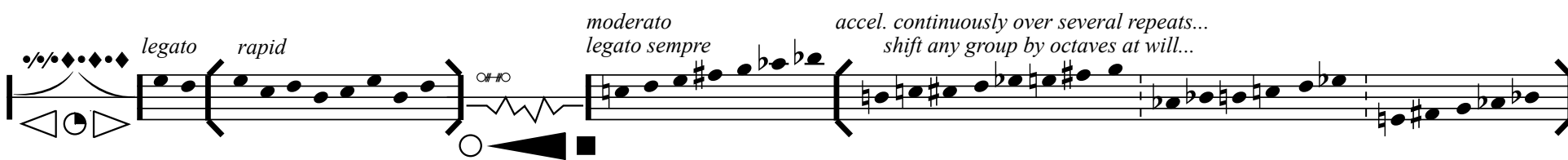
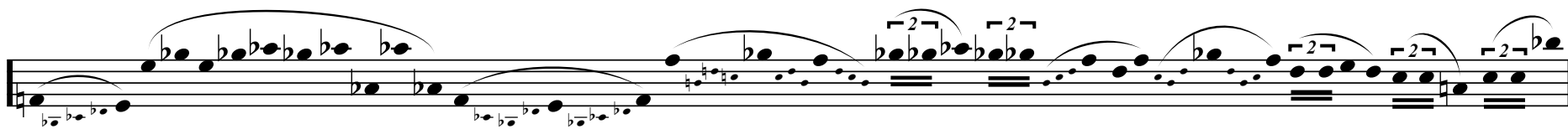
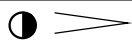

Zones of Coherence—IIb

Link
Mass

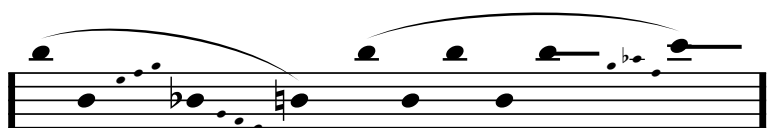
...scale



continuity
couplings



timeless
configurations



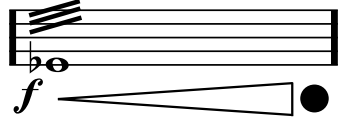
Zones of Coherence—IIIa

Bb Piccolo Trumpet
(written in Bb)

Twist
Fluidity

...form

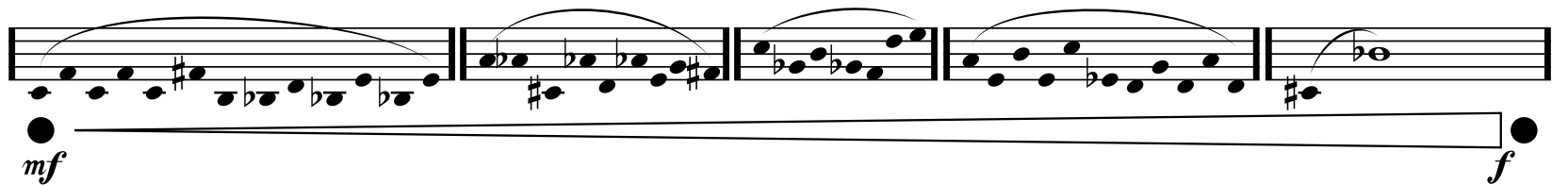
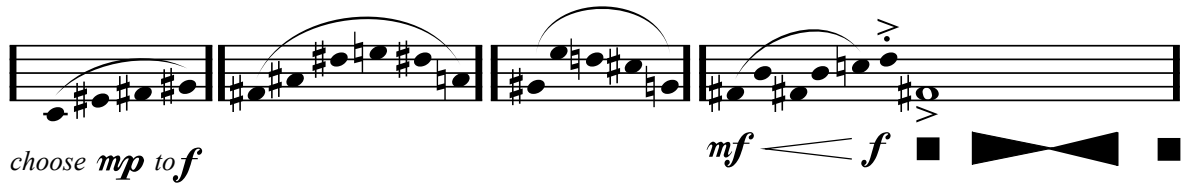
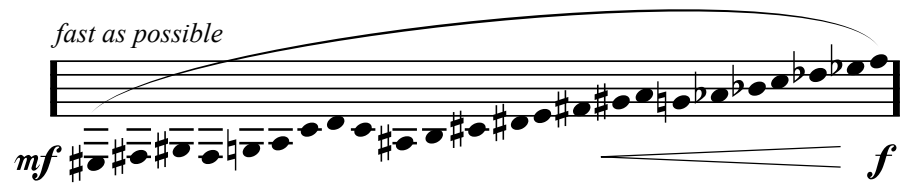
(flutter)



(double tongue)



fields
of
meaning
potential



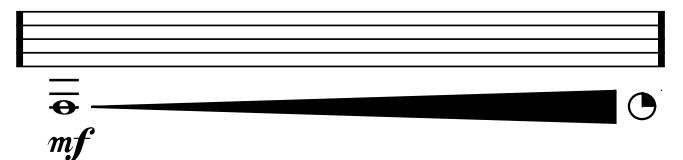
bird call



fast fanfare (on a "Tewa" rhythm)



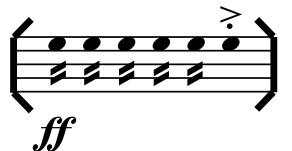
interaction
combinations



shake



(double tongue)



Zones of Coherence—IIIb

Twist
Time

fast regular—detached

mf

...characteristic
construcion

fast fanfare (on a "Tewa" rhythm)

f

p *f* 8^{vb} pedal

emerging
time-space
shared

fast fanfare (on a "Tewa" rhythm)

f (flutter)

fast as possible

f *mf*

bird call

ff fast regular—detached *f*

fff fast regular—detached *f* *mp* rallentando last time

fast regular—detached *mf*

bird call *ff*

fast regular—detached *f*

bird call *ff*

fast regular—detached *f*

repeat and combine phrases in any order

mp

fast fanfare (on a "Tewa" rhythm)

f

configuration
contexts

(flutter) pedal *f* pedal

fast regular—detached *mf*

Zones of Coherence—IVa

C Trumpet

(written in C)

Connect parts in any order without pauses. Section duration will be 43" if all parts are played once at indicated pulse tempo. Numbers in boxes indicated pulses per measured rhythm cell. Tempo = 292 pulses per minute.

Loop

Space

...virtuosic

Dynamics

f

except center line

The musical score for C Trumpet, Zones of Coherence—IVa, is composed of several distinct rhythmic and melodic sections. The central part features a melodic line with triplets, marked *mf* and *mp*, with a *simile...* instruction. Surrounding this are various rhythmic patterns, each with a boxed number indicating pulses per measured rhythm cell and a time signature. The patterns include:

- 8 pulses, 8:4 time signature
- 3 pulses, 8 pulses, 8:4 time signature
- 8 pulses, 2:4 time signature, 6:4 time signature, 7 pulses, 8:4 time signature
- 1 pulse, 8 pulses, 8:4 time signature, 4 pulses, 8:4 time signature
- 8 pulses, 1:4 time signature, 7:4 time signature, 6 pulses, 8:4 time signature
- 2 pulses, 8 pulses, 8:4 time signature, 3:4 time signature, 5 pulses, 8 pulses, 8:4 time signature
- 8 pulses, 3:4 time signature, 8:4 time signature, 2 pulses, 8:4 time signature
- 6 pulses, 8 pulses, 7:4 time signature, 1:4 time signature, 8 pulses, 8:4 time signature
- 4 pulses, 8 pulses, 8:4 time signature, 1 pulse, 8:4 time signature
- 7 pulses, 8 pulses, 6:4 time signature, 2:4 time signature
- 8 pulses, 3 pulses, 8:4 time signature
- 8 pulses, 5:4 time signature, 8:4 time signature

The score is annotated with 'Loop', 'Space', and '...virtuosic' to indicate performance instructions. Dynamics include *f* (except center line), *mf*, and *mp*. The tempo is 292 pulses per minute.

time-like configurations

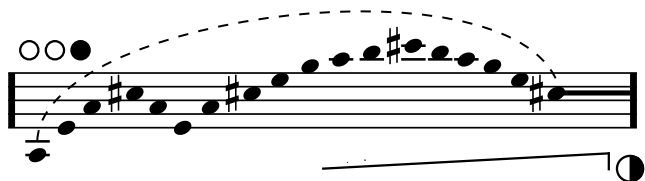
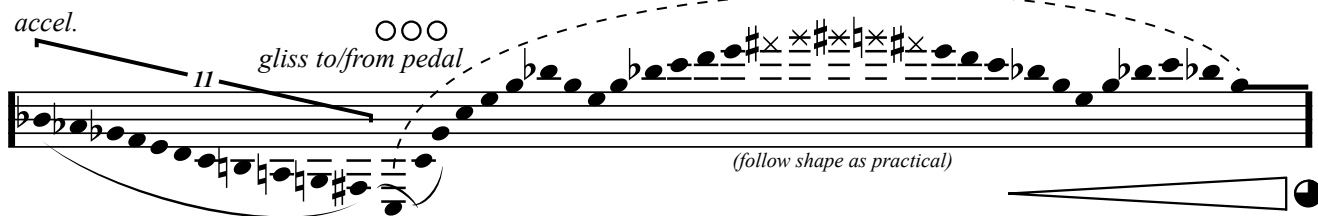
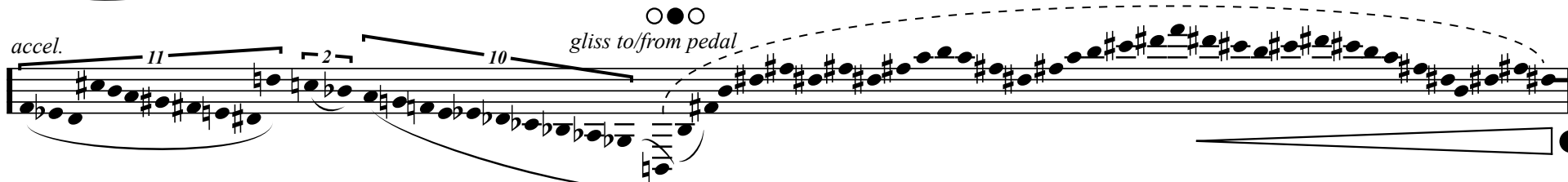
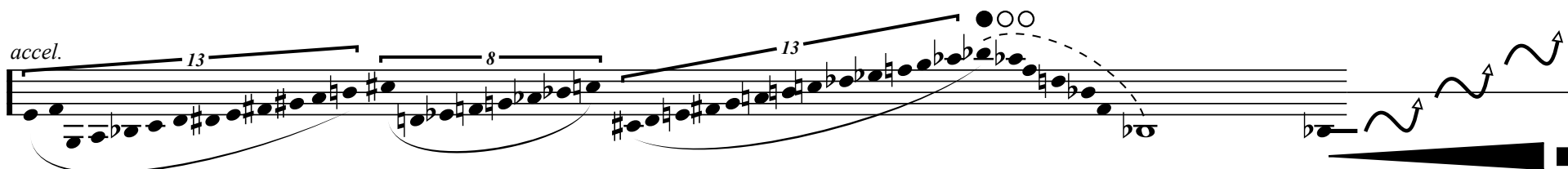
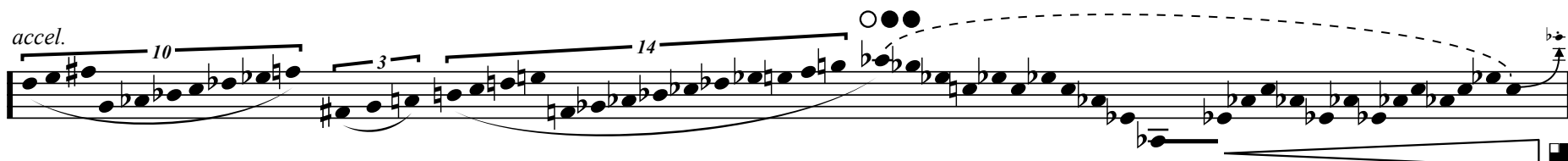
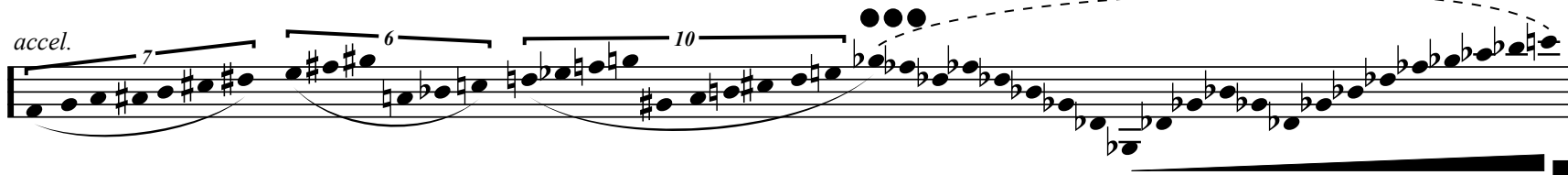
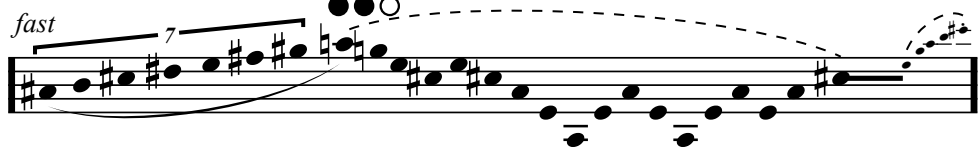
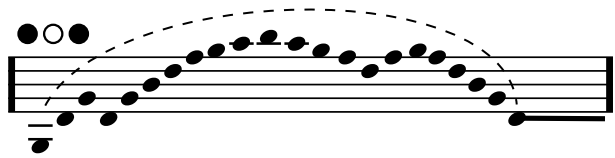
Zones of Coherence—IVb

Loop
Space

...virtuosic

Tuplet brackets indicate fixed, equal, temporal units determined by the player.

Dynamics progress from *mp* to *fff* over the course of the section.



fibrous
time-space
in a
configuration
field