Marc Sabat

Lying in the grass, river and clouds

for 15 solo instruments

PLAINSOUND MUSIC EDITION

Lying in the grass, river and clouds (2012)

for 15 solo instruments

Alto Flute in G(Piccolo), Oboe d'Amore, Clarinet in A, Bassoon, Double Horn in F, Tenorbass Trombone (with F Extension), F Tuba (5 Valves), Percussion (1 Player on Crotales, Vibraphone, Chimes, Low Tuned Gongs), Solo Piano, Digital Keyboard, Violin I, Violin II, Viola, Violoncello, Contrabass (5 Strings tuned G-D-A-E-C)

commissioned by Alexander Moosbrugger and the Bludenzer Tage zeitmäßer Musik
with assistance from the Ernst von Siemens Musikstiftung and the Canada Council
for Daan Vandewalle and Ensemble Contrechamps

This work is the fourth piece of music belonging to *Wave Piano Scenery Player*, preceded by Part 1: *WAKE for JIM*; Part 2: *to Damascus*; Part 3: *Wave Scenery*. It may be performed as a concert work, either on its own, or taking place alongside a setting of the three earlier works in a scenery with Lorenzo Pompa's paintings *Mapping the Universe.* The solo piano part is identical with *to Damascus*, but here is played on a normal concert piano rather than an acoustic computer piano, while the 14 additional solo instruments superimpose a free elaboration replacing the computer-generated harmonic cantus firmus.

Lying in the grass, river and clouds is a sound machine observed as landscape, a gradual coming into being and dissolving of sonorities: harmonic relationships, enharmonic variations, interferences. The equal-tempered points of the piano intonation are connected within a larger frame of 23-limit Just Intonation based on tuneable intervals.

Each player, including the conductor, are free soloists. Time is conducted very slowly, about 1–3 seconds per beat, and flows in a continually changing rubato grouped in 2, 3 or 4 patterns without accented beats, allowing the various solo lines to remain harmonically co-ordinated. The individual lines are written in 4/4 subdivisions of the conducted pulse, but may be interpreted with considerable freedom, as precise intonation and phrasing might require.

Dynamically, the music is generally soft, taking place in the resonances and interferences between sounds produced by the sometimes complex Just Intonation intervals. Tone production should seek to emphasize the resultants between instruments (combination tones, shared partials, periodic beating patterns) and allow expressive phrases to arise of themselves as a result of listening precisely to these sound characteristics.

The solo piano part will often produce detunings and collisions with the microtonal instruments, which are asked to adjust to each other based on modulating, interlocking natural harmonic and subharmonic series. The piano is always related to these harmonies, even if distantly, a connection articulated by pitches doubled and echoed by the percussion, and by the sum and difference tone structures generated by the digital keyboard.

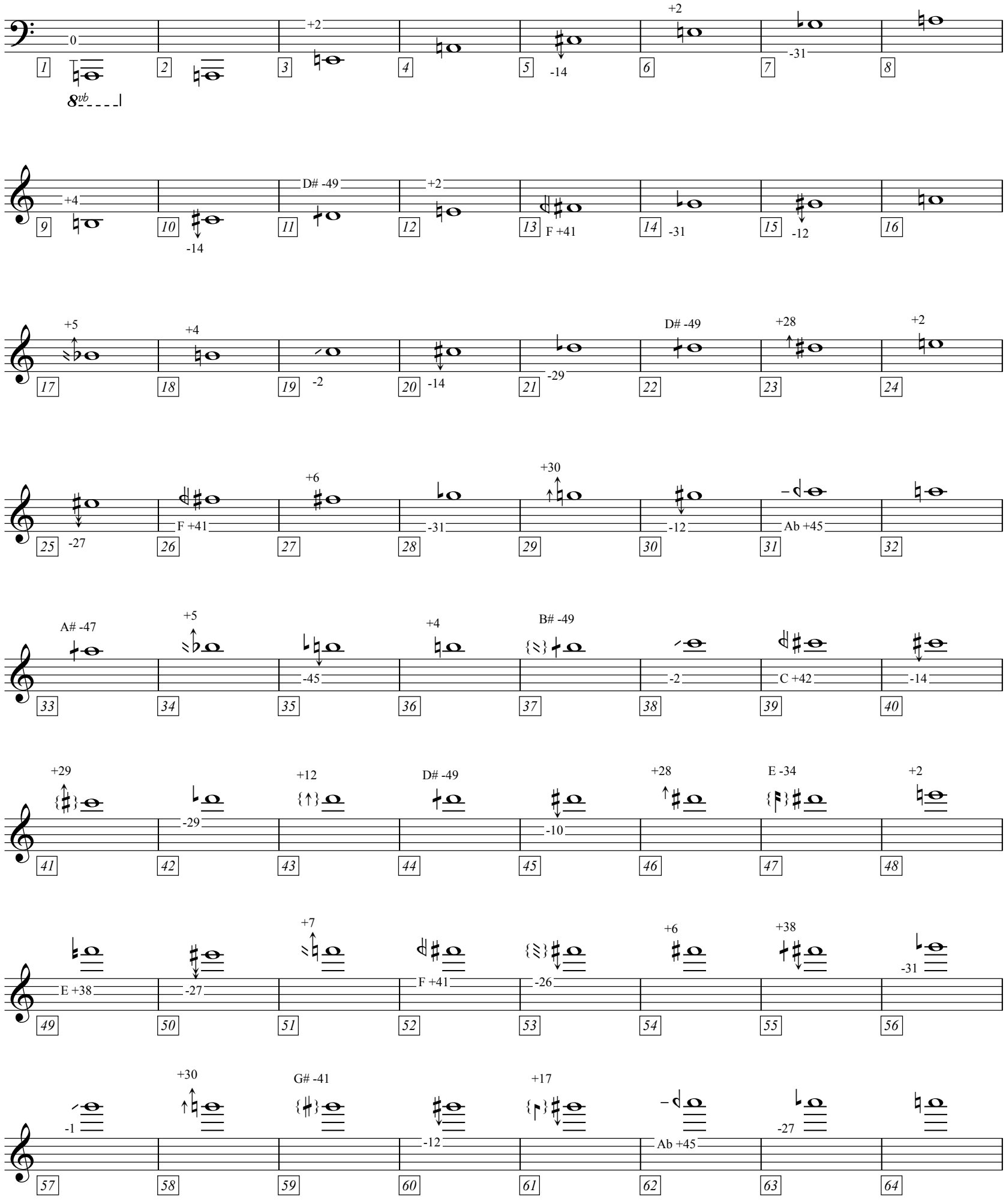
Several materials are provided to explain the extended Just Intonation notation and intervals based on whole-number ratios of frequencies: a legend defining the accidentals, a table of the harmonic series and a list of *tuneable intervals*, many of which occur in the music and which may be precisely determined by ear. Throughout the score, annotations cue the melodic and harmonic intervals (expressed as ratios and cents) and indicate instruments each player may be able to adjust to while playing. In addition, woodwind players are provided cents deviations from equal temperament to assist in finding alternate fingerings, and brass players have a table describing the microtonal valve-slide retunings, which allow all of the valve combinations to be used.

September 2012

remembering John Cage (1912-1992)

THE HARMONIC SERIES 1 - 64 above “A0” *(overtone row)*

notated using the Extended Helmholtz-Ellis JI Pitch Notation
microtonal accidentals designed by Marc Sabat and Wolfgang von Schweinitz, 2004



An informal introduction to the Helmholtz-Ellis Accidentals
by Marc Sabat

Berlin, April 2009

In learning to read HE accidentals, without having to rely on an electronic tuning device, it is important to be familiar with three things:

First, to keep in mind the natural tuning of intervals in a harmonic series, which deviate from the tempered system.

Second, to get to know how the accidentals refer to these overtone relationships.

Third, to observe that each written pitch may be related to many other pitches by natural intervals, and to tune it accordingly.

In most cases, this approach will allow the player to quickly and intuitively play just intonation (JI) pitches quite accurately. Any remaining adjustments can be made by ear, based on the specific sound of JI intervals.

Just intervals are readily learned because they are built up from simple, tuneable harmonic relationships. These are generally based on eliminating beating between common partials, finding common fundamentals and audible combination tones, and establishing a resonant, stable sonority which maximizes clarity: both of consonance and of dissonance.

A well-focussed JI sound is completely distinct from the irregular, fuzzy beating of tempered sounds. Just consonances, when marginally out of tune, beat slowly and sweetly and may be corrected with the most subtle adjustments of bowing or breath. Just dissonances produce a sharply pulsing regular rhythm and have very clear, distinct colors.

To become familiar with the notation and sounds of JI, the fundamental building blocks are prime number overtones 3, 5, 7, 11 and 13, each of which is associated with a specific pair of accidentals and a basic musical interval.

3 is associated with the signs flat, natural, sharp and refers to the series of untempered perfect fifths (Pythagorean intonation). Generally, A is taken as the tuning reference, and the central pitches C-G-D-A-E can be imagined as the normal tuning of the orchestral string instruments. The just C is rather lower than tempered tuning because of the pure fifths. The further this series is extended, the greater the deviation from tempered tuning: the flats are lower, the sharps higher.

5 is associated with arrows attached to the flat, natural, sharp signs and refers to the pure major third. These arrows correct the Pythagorean intervals by a Syntonic Comma, which is approximately 1/9 of a wholetone or 22 cents. So, for example, the note E-flat arrow-up is a just major third below G, and the note F-sharp arrow-down is a major third above D. In most music, flats are often raised by a comma and sharps are lowered. Because of the open string tuning, it is common to sometimes raise F and C (to match A and E) and to sometimes lower A and E (to match F and C). Corrections by one Syntonic Comma have been used throughout Western music history and are relatively familiar to the ear. However, traditionally these corrections have been hidden by players, for example in Meantone Temperament where fifths are mistuned narrow by ! comma so that the third C-E ends up sounding pure. More recently, the currently prevailing Equal Temperament has made us accustomed to beating thirds, so at first the pure intervals may seem unfamiliar. To play the arrows accurately, one must carefully learn the sound of the consonant major and minor thirds and sixths, and learn to articulate comma differences clearly.

7 is associated with a Tartini sign resembling the numeral. It corrects the Pythagorean intervals by a Septimal Comma, which is approximately 1/7 of a wholetone or 27 cents. When the Pythagorean minor third is lowered by this amount, it becomes a noticeably low third often heard in Blues music.

11 is associated with the quartertone signs (cross and backwards flat). The accidental is used to raise the perfect fourth by 53 cents, producing the exact tuning of the 11th partial in a harmonic series. The sound is most easily learned by playing one octave plus one fourth and raising it by a quartertone.

13 is associated with the thirdtone signs (cross and backwards flat, each with 2 verticals). The accidental is used to lower the Pythagorean major sixth by 65 cents, producing the exact tuning of the 13th partial in a harmonic series. The sound is most easily learned as a neutral-sounding sixth, one-third of the way between the just minor and just major sixths (closer to minor than to major).

The following table presents the accidentals together with their associated ratios and cents deviations. To calculate the cents deviation from Equal Temperament of a specific written pitch (if desired) the following shortcut may be used:

1.) Find the cents deviation of the Pythagorean pitch, by calculating how many fifths it is away from A, multiplying by 2, and using a plus sign if it is on the sharp side and a minus if it is on the flat side.

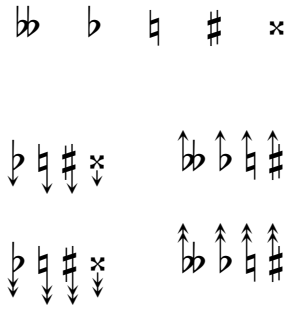
2.) For each microtonal accidental, add or subtract its approximate cents value (as given above), keeping in mind whether the accidental is raising or lowering the pitch.

The resulting value should be a cents deviation within 1 or 2 cents accuracy, which is an acceptable starting point for fine-tuning by ear.

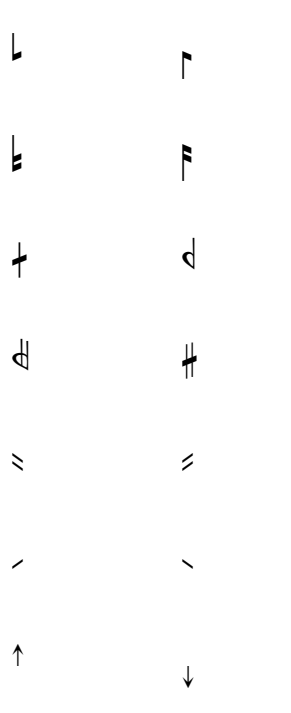
ACCIDENTALS **EXTENDED HELMHOLTZ-ELLIS JI PITCH NOTATION**

for Just Intonation
designed by Marc Sabat and Wolfgang von Schweinitz

The exact intonation of each pitch may be written out by means of the following harmonically-defined signs:



Pythagorean series of fifths – the open strings
(… c g d a e …)



lowers / raises by a syntonic comma
81 : 80 = ***circa 21.5 cents***

lowers / raises by two syntonic commas
circa 43 cents

lowers / raises by a septimal comma
64 : 63 = ***circa 27.3 cents***

lowers / raises by two septimal commas
circa 54.5 cents

raises / lowers by an 11-limit undecimal quarter-tone
33 : 32 = ***circa 53.3 cents***

lowers / raises by a 13-limit tridecimal third-tone
27 : 26 = ***circa 65.3 cents***

lowers / raises by a 17-limit schisma
256 : 255 = ***circa 6.8 cents***

raises / lowerss by a 19-limit schisma
513 : 512 = ***circa 3.4 cents***

raises / lowers by a 23-limit comma
736 : 729 = ***circa 16.5 cents***

In addition to the harmonic definition of a pitch by means of its accidentals, it is also possible to indicate its absolute pitch-height as a cents-deviation from the respectively indicated chromatic pitch in the 12-tone system of Equal Temperament.

The attached arrows for alteration by a syntonic comma are transcriptions of the notation that Hermann von Helmholtz used in his book "Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik" (1863).
The annotated English translation "On the Sensations of Tone as a Physiological Basis for the Theory of Music" (1875/1885) is by Alexander J. Ellis, who refined the definition of pitch within the 12-tone system of Equal Temperament by introducing a division of the octave into 1200 cents.
The sign for a septimal comma was devised by Giuseppe Tartini (1692-1770) – the composer, violinist and researcher who first studied the production of difference tones by means of double stops.

VORZEICHEN

EXTENDED HELMHOLTZ-ELLIS JI PITCH NOTATION

für die natürliche Stimmung
konzipiert von Marc Sabat und Wolfgang von Schweinitz

Die Stimmung jedes Tons ist mit folgenden harmonisch definierten Vorzeichen ausnotiert:

♭♭ ♭ ♮ ♯ ×

Pythagoreische Quintenreihe der leeren Streicher-Saiten
(. . . c g d a e . . .)

Erniedrigung / Erhöhung um ein Syntonisches Terzkomma
81 : 80 = ***circa 21.5 cents***

Erniedrigung / Erhöhung um zwei Syntonische Terzkommas
circa 43 cents

Erniedrigung / Erhöhung um ein Septimenkomma
64 : 63 = ***circa 27.3 cents***

Erniedrigung / Erhöhung um zwei Septimenkommas
circa 54.5 cents

Erhöhung / Erniedrigung um den undezimalen Viertelton der 11er-Relation 33 : 32 = ***circa 53.3 cents***

Erniedrigung / Erhöhung um den tridezimalen Drittelton der 13er-Relation 27 : 26 = ***circa 65.3 cents***

Erniedrigung / Erhöhung um ein Siebzehner-Schisma
256 : 255 = ***circa 6.8 cents***

Erhöhung / Erniedrigung um ein Neunzehner-Schisma
513 : 512 = ***circa 3.4 cents***

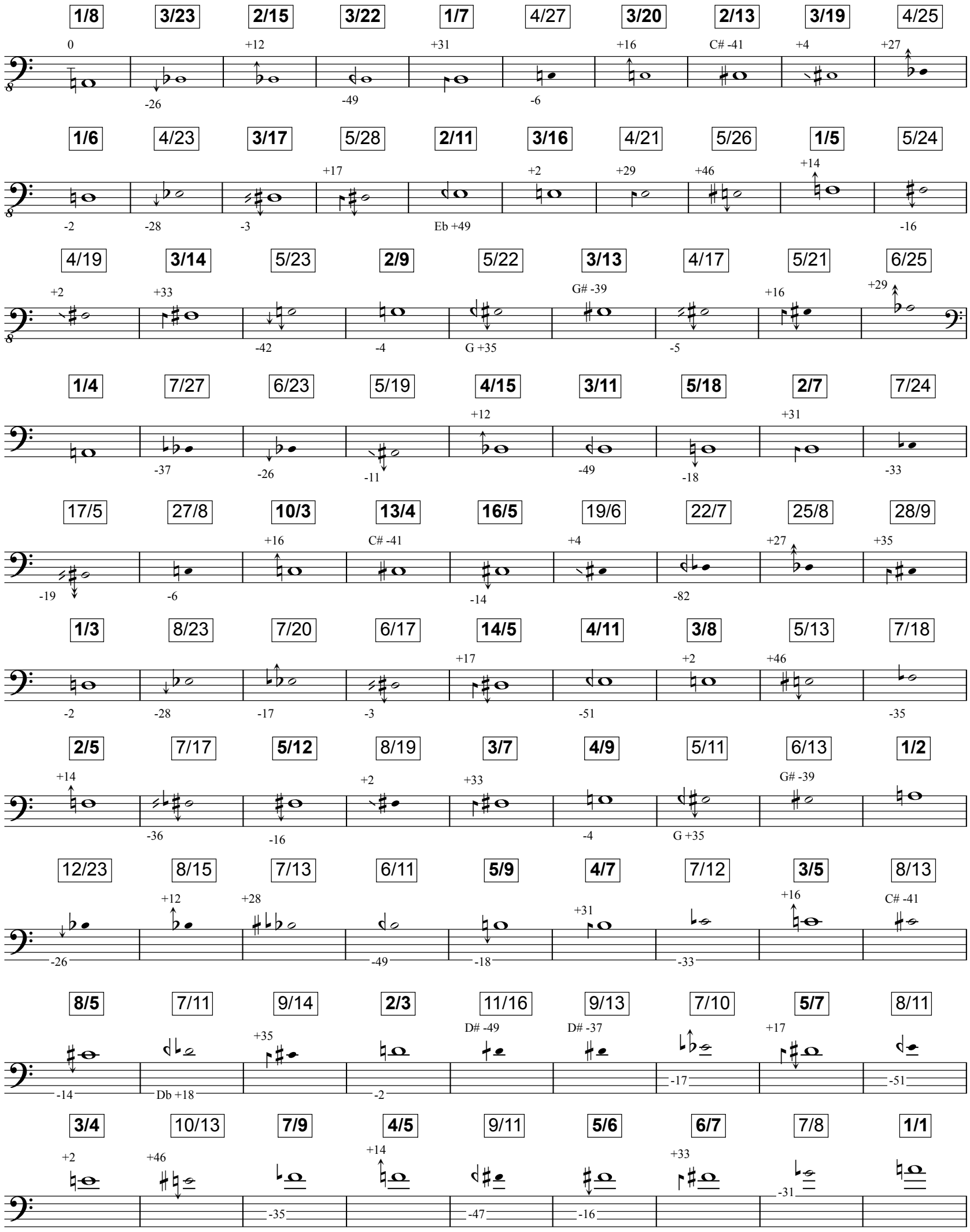
Erhöhung / Erniedrigung um ein Dreiundzwanziger-Komma
736 : 729 = ***circa 16.5 cents***

Zusätzlich zu der harmonischen Definition der Tonhöhe durch das Vorzeichen für jeden Ton ist auch der Cents-Wert der Abweichung der gewünschten Stimmung von der Tonhöhe des jeweils bezeichneten chromatischen Tons der gleichstufig temperierten Zwölfton-Skala angegeben.

Die attachierten Pfeile für die Alteration um ein Syntonisches Terzkomma sind eine bloße Transkription der Notation, die Hermann von Helmholtz in seinem Buch "Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik" (1863) verwendet hat. Die kommentierte englische Übersetzung "On the Sensations of Tone as a Physiological Basis for the Theory of Music" (1875/1885) stammt von Alexander J. Ellis, der auch eine enorme Verfeinerung der Tonhöhendefinition innerhalb des Zwölftonsystems der gleichstufig temperierten Stimmung durch die Unterteilung der Oktave in 1200 Cents eingeführt hat. – Das Vorzeichen für die Alteration um ein Septimenkomma wurde von Giuseppe Tartini (1692-1770) erfunden, der als Komponist, Geiger und Wissenschaftler die durch Doppelgriffe erzeugten Differenztöne untersucht hat.

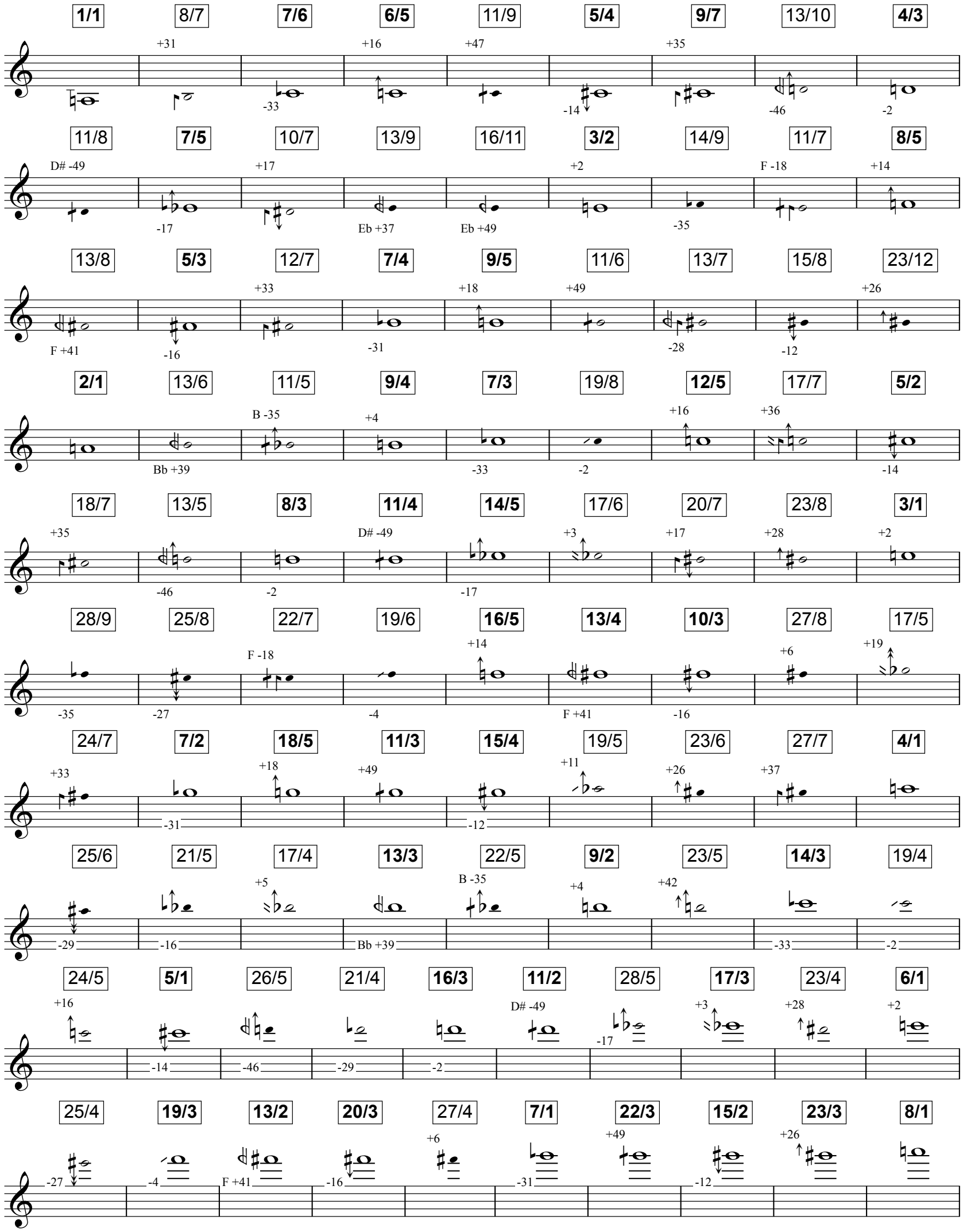
23-LIMIT TUNEABLE INTERVALS below “A4”

tested and notated in three gradations of difficulty (large open notehead = easiest ; small black notehead = most difficult)
by Marc Sabat (violin) with assistance from Wolfgang von Schweinitz (cello), Beltane Ruiz (bass), Anaïs Chen (violin)—Berlin, 2005



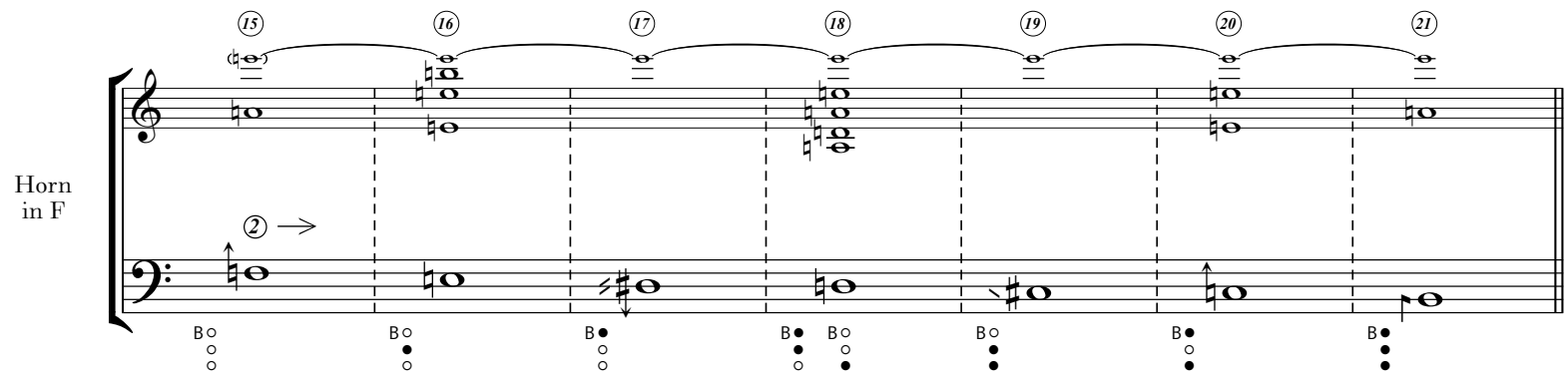
23-LIMIT TUNEABLE INTERVALS above “A3”

notated using the Extended Helmholtz-Ellis JI Pitch Notation with cents deviations from 12-tone equal temperament based on A = 0 cents
microtonal accidentals designed by Marc Sabat and Wolfgang von Schweinitz, 2004



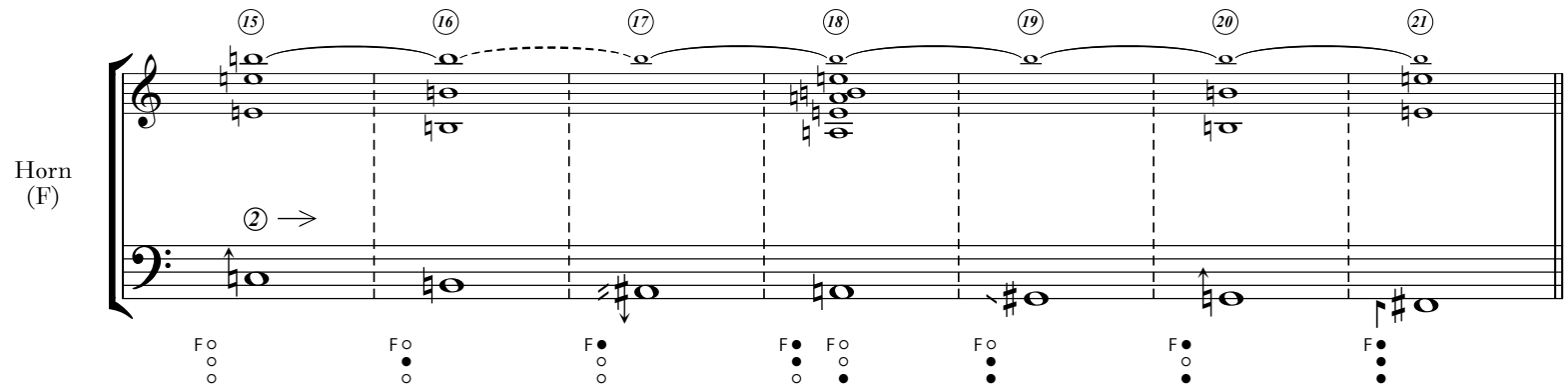
Double-Horn in Bb and F : Just Intonation Valve Tuning

valves 1 and 2 will be pulled out more than usual
and the main slides will be pushed in to tune
the slightly higher Bb and F fundamentals



Bb-side tuning procedure:

1.) Tune main slide so that 5th partial matches sounding D
2.) Tune valve slide 2 so that partials 4, 8, 12 match sounding A and E
3.) Tune valve slide 3 to sounding G, D, and A (compare written E unison with valve slide 2)
4.) Tune valve slide 1 so that 1+2 = 3 (check on various partials)
5.) Verify that the combination 1+2+3 produces a sounding D as its 7th partial (compare to open horn and valve 3)
6.) Compare written E unison for the combination 1+3 against both 3 alone and 2 alone

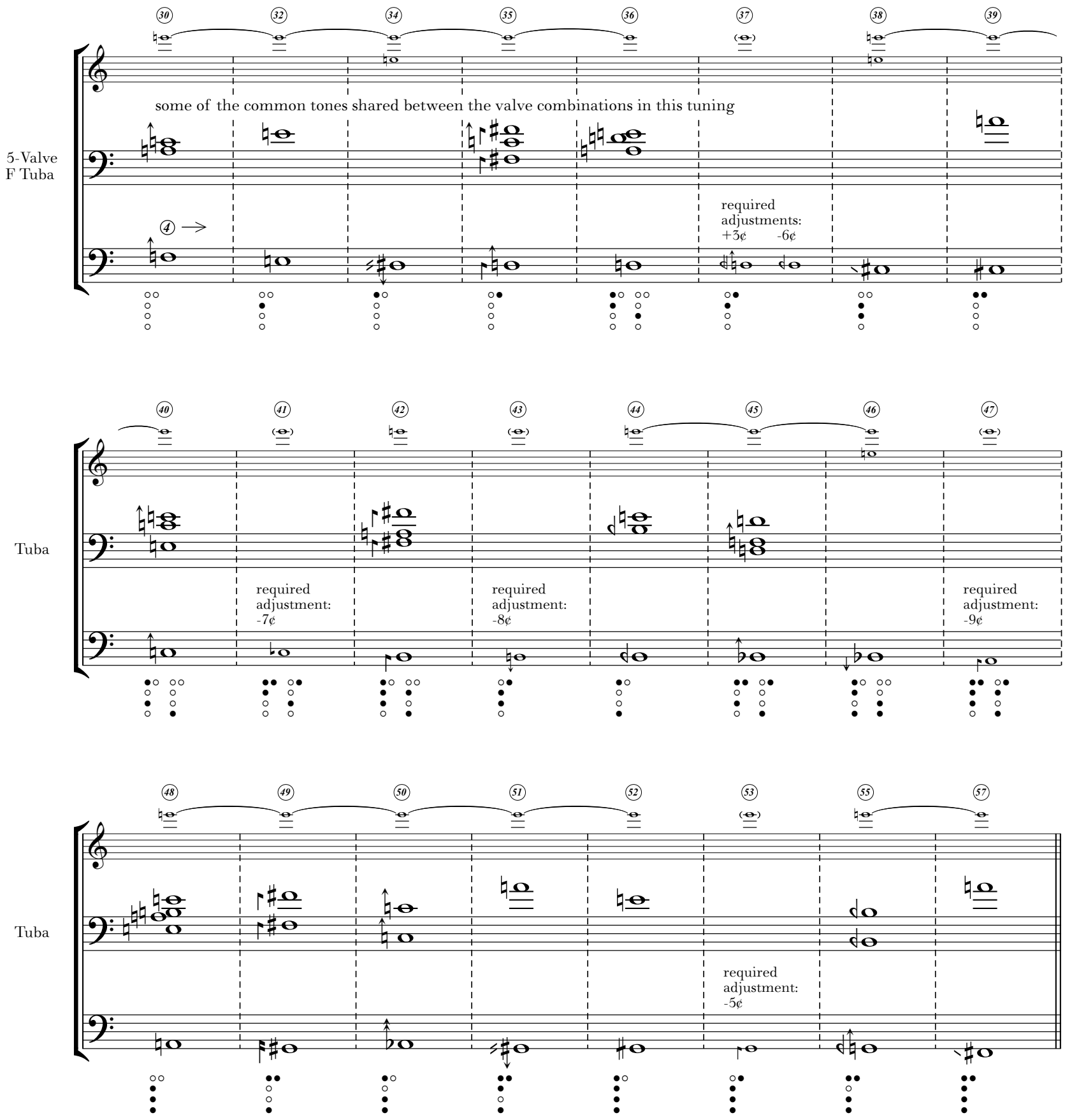


F-side tuning procedure:

1.) Tune main slide so that 5th and 10th partials match sounding A
2.) Tune valve slide 2 so that partials 4, 8, 16 match sounding E (compare high written B to open horn)
3.) Tune valve slide 3 to sounding D, A and E (compare written B unisons with valve 2 and open horn)
4.) Tune valve slide 1 so that 1+2 = 3 (check on various partials)
5.) Verify that the combination 1+2+3 produces a sounding A as its 7th partial (compare to open horn and valve 3)
6.) Compare written B unisons for the combination 1+3 against both 3 alone and 2 alone

F-Tuba with 5 Valves : Just Intonation Valve Tuning

valves 1 and 2 will be pulled out more than usual
and the main slide will be pushed in to tune
the slightly higher F fundamental



Suggested tuning procedure:

1.) Tune main slide so that 5th partial matches Cello A
2.) Tune valve slide 2 so that 4th partial matches E (check as fourth/fifth to A)
3.) Tune valve slide 3 to D, A and E (compare E unison with valve slide 2 and A unison with open tuba)
4.) Tune valve slide 1 so that 1+2 = 3 (check on various partials)
5.) Tune valve slide 4 so that 5th and 10th partials match E (compare with each of valves 2 and 3)
6.) Verify that 1+3 = 4 (check on various partials, adjust 1 as needed, check 1+ 2 = 3)
7.) Tune valve slide 5 so that partials 5 and 10 of 4+5 match D (check against Cello or Violin D)
8.) Verify that the various combinations are well tuned by checking partial unisons (see table above for some possibilities)
9.) Smaller notes indicate enharmonic simplifications of high-prime partial relationships and in theory require slight adjustment when playing, although the errors are so small that one may make them without conscious effort

Transposing Score

Lying in the grass, river and clouds

commissioned by Alexander Moosbrugger and the Bludenzer Tage zeitmäßer Musik
with assistance from the Ernst von Siemens Musikstiftung and the Canada Council
for Daan Vandewalle and Ensemble Contrechamps

remembering John Cage (1912-1992)

Sempre molto rubato : any of the suggested tempo changes may be altered as the musical flow and density suggests :
rhythmic alignments are approximate : allow precise intonations and phrasings to freely emerge and dissolve :
non-tempered instruments to tune as justly to each other as possible, ignoring the piano temperament
dynamics generally very soft, inside the piano resonance, but occasionally emerging as needed

Marc Sabat

4 𝅗𝅥 ca. 60 | 2 | 4 | 3

TIME

Alto Flute in G
Oboe d'Amore in A
Clarinet in A
Bassoon

Pitches are notated with accidentals in untempered Just Intonation, based on interlocking, modulating overtone series. The players are invited to seek out any appropriate playing techniques—e.g. alternate fingerings, embouchure variations, instrument modifications, specific timbral qualities—which facilitate realization of these natural intervals; namely: to optimize the unique sound-combinations as precisely as their instruments and hearing experience may permit. Absolute cents deviations are indicated above and below the accidentals to assist in finding possible fingerings with the aid of a tuning device, but may have to be compromised in the performance situation: it is the precise sonority of intervals between instruments that matters most, not absolute pitch-height.
(A. Fl. written D=0¢, Picc. A=0¢)

Double-Horn in F

Fingerings are indicated based on a Just Intonation valve tuning with the open Horn tuned to comma-raised Bb and F (respective 5th partials match open D and A of the strings). The 1st and 2nd valve slides on both sides of the Horn are pulled out so that 2 produces a 16/15 diatonic semitone (A and E) and 1+2 = 3 produces a 6/5 just minor third (G and D). (See Table)

Tenorbass Trombone

Trombone positions are indicated approximately in 1/10s of the usual positions, based on A = 0 cents = pos. B 2 relative to equal temperament. It is assumed that the instrument is tuned to allow a comma raised Bb (+12¢) and a comma raised F (+14¢) to be played with the slide fully in, written as pos. B 0.9 and F 0.9 (respective 5th partials in these positions to match open D and A of the strings).
The F-extension valve should be tuned to a 4/3 perfect fourth, perhaps somewhat narrower than usual, so that without adjusting the slide, 3/B 0.9 = 4/F 0.9 and similarly, 4/B 5.9 = 5/F 4.7 (the same comma-raised F, 5/4 below cello A string, to be played in each case).

5-Valve F Tuba

Fingerings are indicated (1-4 from top left, 5 on the right) based on a Just Intonation valve tuning with the open Tuba tuned to comma-raised F (5th partials matches open A in the strings).The 1st and 2nd valve slides are pulled out so that 2 produces a 16/15 diatonic semitone (E) and 1+2 = 3 produces a 6/5 just minor third (D), 4 produces a just fourth 4/3 (comma-raised C), and valve 5 is tuned so that 4+5 produces a just fifth 3/2 (comma-raised Bb, matching the Horn). Thus 5 alone produces the septimal minor third 7/6. (See Table)

ppp

Crotales

(all Percussion may be played by a single musician)

sempre l.v.

ppp

Vibraphone

sempre l.v.

ppp

come prima, sim.

Chimes

sempre l.v.

ppp

Tuned Low Gongs

required pitches : observe relative pitch-heights of gongs if available

sempre l.v.

ppp

come prima, sim.

throughout: as a kind of "cantus firmus" echoing, coloring and linking the piano pitches to the microtonal harmonies of other instruments: dynamics and exact rhythmic placement ad libitum, but generally soft, within the resonance of the piano

4 𝅗𝅥 ca. 60 | 2 | 4 | 3

TIME

Piano Solo

overlap successive slurred notes in each hand, ad lib.

commas indicate end of sustain, otherwise a piacere

overlap, as in right hand

continue phrasing similarly

In the keyboard part written pitches function as a playing notation only:
actual sounding pitches will be overtones, undertones, sum and difference tones of the equal tempered fundamentals, determined in part by the relative loudness of struck keys and modulated by the use of sustain pedal

Digital Keyboard

written rhythm to be played freely

use sustain pedal only when indicated, otherwise sustain with fingers, vary dynamics ad libitum, following the piano line

Tune open strings in just, untempered fifths, strive for pure, even bowing to maximize clarity of the harmonic series intervals between voices

Violin I

con sord. (rubber)

II

ppp

IV

ppp

Violin II

con sord. (rubber)

II

ppp

III

ppp

I

ppp

Viola

con sord. (rubber)

I

ppp

I

ppp

Violoncello

con sord. (rubber)

I

ppp

ppp

Contrabass (5 Strings) G-D-A-E-C

(all contrabass pitches, including harmonics, are written one octave higher than they sound)

III

ppp

II

ppp

A

14 4 3 allargando 3 ca. 30 2 ritenuto

Time

Alto Fl (G)

next melodic step — * 5 : 6 = 316¢ (just minor third)

ppp

Ob d'A (A)

ppp

Cl (A)

tune as fundamental of Flute (written) C
+14 (5/2)* and an octave above the Bassoon

ppp

Bsn

+14 tune as fundamental under Oboe "A" (* 5/1)

ppp

Hrn (F)

ppp

tune to Tbn.

ppp

When adjusting pitch find centered natural tunings for the overtones (unless alteration by lip or hand-stopping is indicated). Alternate fingerings may be applied whenever the phrase benefits, as long as they represent the desired pitch accurately. For example, 1+2 = 3 in this valve tuning, and may be interchanged as needed. Optimize blend and tuneability between the 3 brass instruments.

sempre con sord. (Bucket/Velvetone) *

tune 7/1 above Bass

Tbn

pos. B 2

ppp

match Piano (lip up pitch)*

match Tuba

B 0.9

ppp

* Trombone muting: most important is that the overtone series within each slide position remains as true as possible: if muting causes difficulty, play senza sordino with a soft, gentle tone. If another mute type is more consistently "in tune" it may be substituted. Optimize blend and tuneability between the 3 brass instruments.

Tba

+32

ppp

* For pitches based on fundamentals *altered* from the tuned valve-combinations, a + or - sign is added after the partial number; in such cases the valve fingering includes an indication, in cents, showing the amount of this alteration: these markings may help estimate the embouchure adjustment required to realize the written microtonal pitches; of course, as always each harmonic partial will require careful centering by ear to sound "in tune", depending on the harmonic situation. Optimize blend and tuneability between the 3 brass instruments.

tune 5/2 below Vlc.

8

ppp

15 come prima, sim.

Crot

Vibr

Chimes

come prima, sim.

Gongs

A

4 3 allargando 3 ca. 30 2 ritenuto

Time

Pf Solo

(l.h.)

sustain white noteheads as long as feasible else until a comma, black noteheads freely as desired, flagged notes played short : dyads may always be slightly broken, within each pair a smaller notehead is to be played relatively softer than a larger one

(r.h.)

Kbd

in simultaneous structures smaller notehead to be played relatively softer than larger one, dyads may be played broken (in either order)

(break upward)

Vln I

ppp

pp

ppp

Vln II

ppp

5/4 *

4/3

sonore

ppp

* ratios written with a slash are used to indicate simulataneously sounding just intervals (see table of "tuneable intervals")

Vla

ppp

ppp

5/4 *

Vc

ppp

ppp

Cb

ppp

ppp

tune to Viola

ppp

26

Time

Alto Fl (G)

tune to Clarinet +16

8 : 9 = 204¢ (major wholetone)

poco espr.

Ob d'A (A)

match Clarinet +2

match Vlc.

10 : 9 = -182¢ (minor wholetone)

Cl (A)

tune to Flute

* 16 : 15 = 112¢ (diatonic semitone)

tune to Bsn.

Bsn

match Tbn. +12

* 6 : 5 = -316¢ (just minor third)

* ratios in italics, separated by a colon, indicate just melodic intervals, and are often also approximated in cents to help estimate the size of the microtonal step

tune to Cello +16

poco espr. 8 : 9 = 204¢

Hrn (F)

Tbn

Tba

match Vl1 high "C"

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

(always overlap the slurred notes; white notes are to be held as long as possible or until a comma is written)

Kbd

press pedal after l.h. to "catch" the combination tones

lift pedal before playing or else the notes won't speak

Vln I

Vln II

tune to V1 open E

Vla

Vc

7/4 * = harmonic 7th

Cb

5/2 *

B

36 4 ca. 34 — 3 accelerando — 2 ca. 60 — ritenuto

Time

Alto Fl (G): tune to Cl. +4; +16; +14

Ob d'A (A): * 25 : 24 = -71¢ (chromatic semitone); match Cl. +27; +12; poco espr.

Cl (A): +18; poco espr.; ppp; tune to Bsn. +14; +27; poco espr.; overtone melody above A♭ 3 :; +16; ppp

Bsn: +27 match Trb.; poco espr.; +29; simile; +14

Hrn (F): tune to Vl2 ④; ppp

Tbn: tune to Horn; 9 : 10 = 182¢; ①; pos. F 4.7; poco espr.; F 2.9; ②; F 4.7; ③; ⑤; ⑥

Tba: match Bass ②; ppp

Crot

Vibr

Chimes

Gongs

B

4 ca. 34 — 3 accelerando — 2 ca. 60 — ritenuto

Time

Pf Solo

Kbd: Ped. *

Vln I: ppp; sonore; keep l.h. position for next entry; ppp

Vln II: 6/5; III; ppp

Vla: gently press down 4th finger; poco espr.

Vc: ppp; ppp; 8/5; sonore; ppp

Cb: tune to Cello; 10 : 9 * = 182¢; II; poco espr.; ppp; ppp

45 4 ca. 40 **accel.** (ca. 60) 2 ca. 20 **ritornando** 4 ca. 45

Time

Alto Fl (G)

overtone melody over B♭

+18 9 : 14 : -17

poco espr.

: 5 : 13 : -46

: 4 +14

change fundamental: over F♮

+16 8 : -16

tune to Cl. : 7

tune to Cl. and Hrn.

ppp

Ob d'A (A)

overtone melody over (written pitch)

A♭ +16 3 : +14 : 4 : -17 : 7

Cl (A)

: 7 match Ob. -17

ppp

ppp

tune to Horn and Flute

Bsn

Hrn (F)

libero, poco espr., ma sempre p

Tbn

Tba

match Vla.

ppp

Crot

Vibr

Chimes

Gongs

4 ca. 40 **accel.** (ca. 60) 2 ca. 20 **ritornando** 4 ca. 45

Time

Pf Solo

Kbd

Vln I

IV

7/4 = harmonic 7th

sonore

ppp

tune "Bb" as a 3/2 perfect fifth above previous "Eb"

7/1

Vln II

II

overtone melody over F♮

8 : 7 * = -231¢

poco espr.

(just minor sixth) 8 : 5

E♭ 10 : 11 = 165¢

portamento

ppp

Vla

7/6 = narrow septimal minor third

sonore

ppp

keep 1st finger position for next pitch

ppp

Vc

overtone melody over F♮

* 5 : 6 :

poco espr.

: 7 :

: 8 :

Cb

ppp

C

55 3 accelerando 2 (𝅗𝅥 ca. 68) 2 molto rit. 2 𝅗𝅥 ca. 22

Time

Alto Fl (G)

tune to Horn
9 : 8
16 : 15 = -112¢ (diatonic semitone)
-19 -31
poco espr.

Ob d'A (A)

Cl (A)

overtone melody above C♮ +14
6 : 3 : : 7
tune to Clarinet
above D♭♭ = 6 : : 10 : 15
-19 -35 -33
(a quartertone lower than previous "F")
libero, poco espr.

Bsn

Hrn (F)

14 : 15 = 119¢
match solo Piano
ppp

Tbn

B 0.9
ppp

Tba

Crot

Vibr

Chimes

Gongs

C

3 accelerando 2 (𝅗𝅥 ca. 68) 2 molto rit. 2 𝅗𝅥 ca. 22

Time

Pf Solo

Kbd

Vln I

7/III
ppp
7/4
sonore

Vln II

ppp

Vla

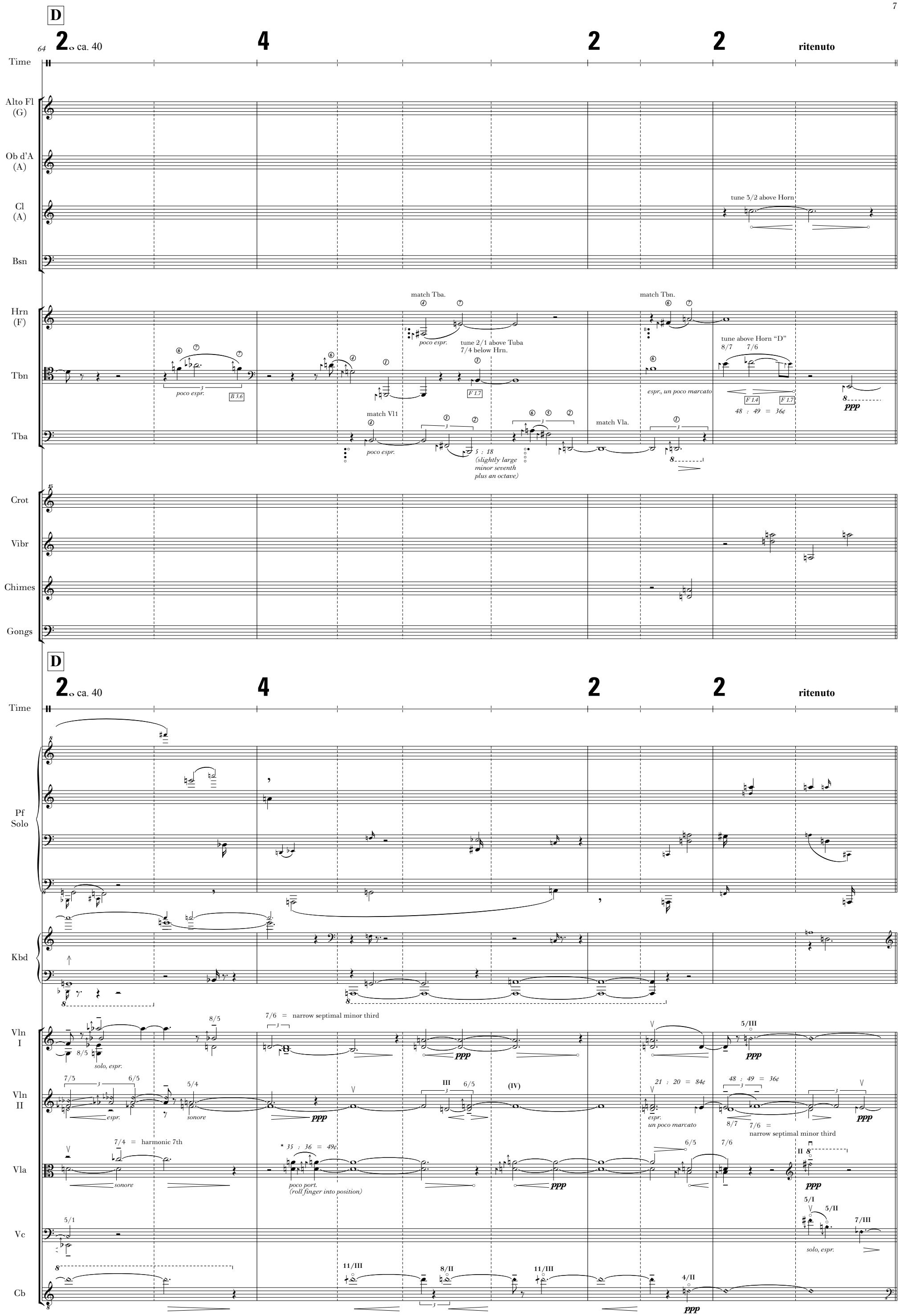
tune to Cello
ppp

Vc

7/I
ppp
tune major third under 7th partial of D
III

Cb

II
poco espr.
sul II →
port.
poco f, libero
III port.
4/3
tempo ad libitum
II


D
64
ca. 40
ritenuto
Time
Alto Fl (G)
Ob d'A (A)
Cl (A)
Bsn
tune 3/2 above Horn
Hrn (F)
Tbn
Tba
match Tba.
match Tbn.
poco espr.
tune 2/1 above Tuba
7/4 below Hrn.
F 1.7
B 3.6
tune above Horn "D"
8/7 7/6
F 1.4
48 : 49 = 36¢
espr., un poco marcato
ppp
match Vl1
match Vla.
5 : 18
(slightly large
minor seventh
plus an octave)
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
solo, espr.
7/6 = narrow septimal minor third
7/4 = harmonic 7th
* 35 : 36 = 49¢
poco port.
(roll finger into position)
21 : 20 = 84¢
espr.
un poco marcato
sonore
5/III
5/I
5/II
7/III
11/III
8/II
4/II

E

74 2 ca. 20 poco accel. 3 ca. 30 2 3 poco rit.

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

E

2 ca. 20 poco accel. 3 ca. 30 2 3 poco rit.

Time

Pf Solo

Kbd

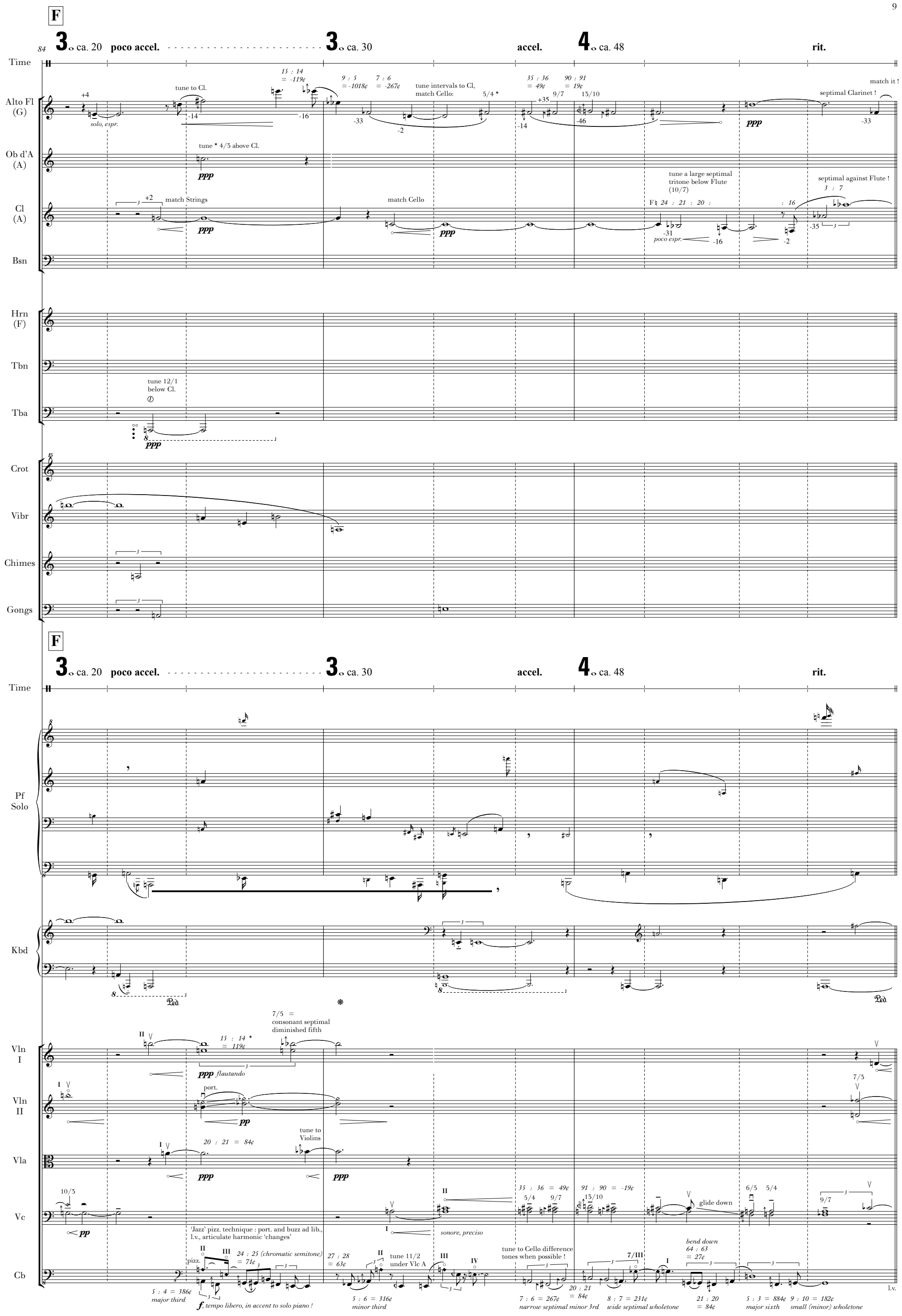
Vln I

Vln II

Vla

Vc

Cb


F
84
3 ca. 20 poco accel.
3 ca. 30
accel.
4 ca. 48
rit.
Time
Alto Fl (G)
solo, espr.
tune to Cl.
15 : 14 = -119¢
9 : 5 = -1018¢
7 : 6 = -267¢
tune intervals to Cl, match Cello:
5/4 *
35 : 36 = 49¢
90 : 91 = 19¢
9/7
13/10
septimal Clarinet !
match it !
Ob d'A (A)
tune * 4/3 above Cl.
Cl (A)
match Strings
match Cello
tune a large septimal tritone below Flute (10/7)
F♮ 24 : 21 : 20 :
poco espr.
septimal against Flute !
3 : 7
Bsn
Hrn (F)
Tbn
Tba
tune 12/1 below Cl.
Crot
Vibr
Chimes
Gongs
F
3 ca. 20 poco accel.
3 ca. 30
accel.
4 ca. 48
rit.
Time
Pf Solo
Kbd
Ped.
Vln I
7/5 = consonant septimal diminished fifth
15 : 14 * = 119¢
flautando
Vln II
port.
7/3
Vla
20 : 21 = 84¢
tune to Violins
Vc
10/3
35 : 36 = 49¢
91 : 90 = -19¢
glide down
6/5
5/4
9/7
'Jazz' pizz. technique : port. and buzz ad lib., l.v., articulate harmonic 'changes'
sonore, preciso
Cb
pizz.
24 : 25 (chromatic semitone) = 71¢
27 : 28 = 63¢
tune 11/2 under Vlc A
tune to Cello difference tones when possible !
bend down 64 : 63 = 27¢
l.v.
5 : 4 = 386¢ major third
f, tempo libero, in accent to solo piano !
5 : 6 = 316¢ minor third
7 : 6 = 267¢ narrow septimal minor 3rd
20 : 21 = 84¢
8 : 7 = 231¢ wide septimal wholetone
21 : 20 = 84¢
5 : 3 = 884¢ major sixth
9 : 10 = 182¢ small (minor) wholetone

G

94 3 ca. 30 | 2 | 2 | 2

Time

Alto Fl (G)

7 : 4 (harmonic seventh)

ppp

Ob d'A (A)

tune to Fl. 4/3 1/1

15 : 14 = 119¢

tune large septimal tritone 10/7 below Cl./ Vla.

poco espr.

tune to Bsn. 20 : 21 = 84¢

Cl (A)

tune to Bsn (as 11th partial)

20 : 21 = 84¢ 63 : 64 = 27¢ 9 : 10 = 182¢ 14 : 15 = 119¢ 5 : 13 65 : 66 = 26¢

tune to Bsn.

Bsn

tune 2/1 below Cl

5 : 3 (just major sixth)

tune 5/2 below Fl.

4 : 5 (just major third)

35 : 36 = 49¢

poco espr.

6 : 7 = 267¢

tune to Oboe "D"

63 : 64 = +27¢ 80 : 81 = 22¢ 54 : 55 = +32¢

16 : 15 = -112¢

11/E♭

11/D

10 : 9 = -182¢

33 : 32 = -53¢

tune to Oboe "D"

18 : 25 = 569¢ (narrow tritone)

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

G

3 ca. 30 | 2 | 2 | 2

Time

microtonal accidentals in the piano part indicate pitches which are within a 9¢ tolerance of Equal Temperament — in such cases, play the tempered pitch implied by the conventional sharp, natural or flat, unless otherwise directed

Pf Solo

Kbd

Vln I

7/4

20 : 21 = 84¢

63 : 64 (septimal comma) = 27¢

match Vl2

Vln II

tune to Cello

Vla

tune 5/2 pure tenth below Vl1

Vc

7/4 5/3 5/3 8/5 8/7 6/5

un poco espr.

poco marcato

Cb

arco

match Viola

7 : 8 = 231¢

103

H

3 4 ca. 32 3

Time

Alto Fl (G)

-4 ppp

tune 7/4 (harmonic seventh) above Fl.

Ob d'A (A)

9 : 10 = 182¢

-35 ppp

91 : 90 = -19¢

+46

bend slightly down from large third to small fourth, tune to Brass

28 : 27 = -63¢

+2

-2

support 11th partial played by Cl.

Cl (A)

next melodic step 6 : 5 = 316¢ (just minor third between two 11th partials)

+49

tune to Ob (11th partial of F)

next melodic step 5 : 6 = 316¢ (just minor third between two 11th partials)

Bsn

tune to Fl., Trb.

-18

10 : 9 = -182¢

match Fl

Hrn (F)

Tbn

match A. Fl.

F 6.1

ppp

26 : 27 = +65¢

tune to Tuba

F 5.4

un poco espr.

14 : 13 = -128¢

F 4

tune to Tuba, stay "low" !

7 : 8 = 231¢

F 1.7

take note of position for next entry

F 5.6

Tba

13 : 2

ppp

tune 7/1 below Tbn.

10 : 13 = 454¢

poco espr.

tune 7/3 below Tbn.

Crot

Vibr

Chimes

Gongs

H

3 4 ca. 32 3

Time

Pf Solo

break dyads in direction of arrows when indicated

Kbd

Ped.

Vln I

ppp

8/5

Vln II

stay in position for upcoming solo

III

libero, poco f

harm. gl.

IV

11/III

harm. gl.

Vla

III

7/2

sonore

11/3

15/4

18/5

Vc

III

15/2

II

libero, poco f

III II

I

II

Cb

113

I

2 | 2 (𝅗𝅥 ca. 60) | 4 | molto rit. (𝅗𝅥 ca. 30)

Time

Alto Fl (G)

tune to Vlc. (Cl., Hrn. play 11th partials) +16

ppp

tune to Cl. -2

5 : 6 (just minor third) +14

Ob d'A (A)

Cl (A)

D -34

poco espr.

ppp

tune to Fl 11 : 10 = -165¢

Bsn

Hrn (F)

tune to Vl2

ppp

un poco espr.

Tbn

Tba

match Vlc.

ppp

Crot

Vibr

Chimes

Gongs

I

2 | 2 (𝅗𝅥 ca. 60) | 4 | molto rit. (𝅗𝅥 ca. 30)

Time

Pf Solo

Kbd

Vln I

5/IV

ppp

32/15

32 : 33 = 53¢

11/5

tune to Horn

sonore

ppp

Vln II

11/8

11/5

match Horn

ppp

11/5

sonore

Vla

11/4

sonore

Vc

pp

harm. gl.

poco f, libero

4/3

sonore

4/3

ppp

Cb

III

ppp

II

tune 3 successive just major thirds

pizz.

4 : 11

tune to Cello: 4 : 7

bend down to 4/3 above Vlc

121

Time

Alto Fl (G)

24 : 25 = 71¢ (chromatic semitone from minor to major third)

4 : 5 (just major third) tune to Cl.

25 : 26 = 68¢

tune 5/2 below Cl, 3/2 below Hrn.

Ob d'A (A)

Cl (A)

8 : 9 : 10

+14 +18

un poco espr.

ppp

3 : 13

match Violin 2

Db +39

Bsn

Hrn (F)

tune to Fl., Cl.

poco marcato

Tbn

Tba

lip slightly down, tune 11/4 below Vlc.

32 : 33 = 53¢

ord.

ppp

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Vln I

poco f, flautando

12/5 9/4

sonore

bend down by 27 : 26 = 63¢

match Vl2 pitch

port.

Vln II

11/5 9/4

32/5 8/3 13/5

un poco espr.

sonore ppp

stay in position

13/4

sonore ppp

5 : 4

Vla

13/5

ppp

9/4 bend down 13/6

Vc

sonore

ppp

maintain l.h. position for next entry

Cb

130 — 3 ca. 52 **molto rit.** (ca. 21) — 3 ca. 42 — J — 2 — 2 ca. 24

Time

Alto Fl (G): 2 : 3; -46; *un poco espr.*

Ob d'A (A): tune above Bsn. 5/3; -2; *ppp*; 9 : 14 (narrow septimal minor sixth); 7/3; -37; 5 : 6 = 316¢ (minor third); -21

Cl (A): tune both notes to Hrn, Fl. 6 : 5; -48; *un poco espr.*; 13 : 4; match Vl2 5 : 3; +12; +27; +29; tune to Cl., then Ob.

Bsn: +14; 12 : 11 = -151¢; Eb +49; -2; -4; 11 : 10 = -165¢; 7 : 8 = 231¢; -35; *poco espr.*; 25 : 24 = -71¢ (chromatic semitone)

Hrn (F)

Tbn

Tba: tune below Bsn. ②; lip up ② ②; ④ ④ ④; 35 : 36 = 49¢ (septimal quartertone); *solo, poco* ***f***; +18

Crot

Vibr

Chimes

Gongs

J — 3 ca. 52 **molto rit.** (ca. 21) — 3 ca. 42 — 2 — 2 ca. 24

Time

Pf Solo

Kbd

Vln I: ***ppp***; 14/3; III; ***ppp***; 7/III; *poco marc.*; 7/4; 5/III

Vln II: 13/5; 7/4 (harmonic seventh); *sonore*; 10 : 9 (minor wholetone) = -182¢; *un poco espr.*; II; ***ppp***; 3/1; 13/4; 8/5; *sonore*

Vla: tune to Vlc; 7/6; *sonore*; tune to Vl2; ***ppp***

Vc: ***ppp***; II; 28/9; *sonore*; 13/4

Cb: 8/3; 7/3; arco; II; 13/5; 5/2; *solo, sonore, poco* ***f***

140 3 | 2 ca. 42 | 3 ca. 84 | 3 molto rit. (ca. 21)

Time

Alto Fl (G)

5 : 8 (normal just minor sixth)

+12 -2 un poco espr.

+14 tune to Ob. ppp

+47 7/4 under Ob. 7 : 6 = -267¢

+16 tune to Fl

+31 tune to Brass (Trb., Tba.) — everyone is raised by a septimal comma !

un poco espr.

+17

36 : 35 = -49¢ match Tuba, Vl1 -2

Ob d'A (A)

Cl (A)

Bsn

+25 tune 5/1 below Ob

Hrn (F)

Tbn

tune to Tba

F 5.6 ppp

note position

Tba

7/2 under Ob. match Fl. ppp

match Tbn

4 : 5

4 : 5

15 : 16 = 112¢ (diatonic semitone)

un poco espr.

8 : 7 (septimal wholetone) = 231¢

Crot

Vibr

Chimes

Gongs

3 | 2 ca. 42 | 3 ca. 84 | 3 molto rit. (ca. 21)

Time

Pf Solo

(end G)

Kbd

Ped.

Vln I

7/6 sonore — ppp

4/3 sonore — ppp

7/4

Vln II

7/6 sonore — ppp

Vla

32/5 sonore — ppp

Vc

8/5 sonore

Cb

151 3 ca. 42 | 2 | 2 molto rit. (ca. 21) | K 4 ca. 36

Time

Alto Fl (G) — take Piccolo

Ob d'A (A)

Cl (A)

Bsn — tune to Trb, play simple melodic intervals shifted down by a quartertone; 9 : 4 = 5 : 3; 11 : 6; -2; -49; Ab +47; -38; solo, espr.

Hrn (F) — un poco espr., libero; 48 : 49 = 36¢; 15 : 16 : 18 : 20; 6 : 7 = 267¢; 14 : 15 = 119¢; 36 : 35 = -49¢; 55 : 54 = -32¢; tune to Bsn.

* for pitches based on fundamentals *altered* from the tuned valve-combinations, a + or - sign is added after the partial number; the valve fingering includes an indication, in cents, showing the amount of this alteration:, to help estimate the adjustment required to realize the written microtonal pitches

Tbn — F 5.6; ppp; F 2.9 =; = B 3.6; B 4; B 4.4; note position

If the trigger valve is tuned to a perfect fourth 4/3 between the comma-up Bb and F fundamentals, it should be possible (with minor adjustment) to obtain the correct interval by engaging the valve, whilst keeping the same physical position of the slide.

Tba

Crot

Vibr

Chimes

Gongs

K 3 ca. 42 | 2 | 2 molto rit. (ca. 21) | 4 ca. 36

Time

Pf Solo — (end C)

Kbd

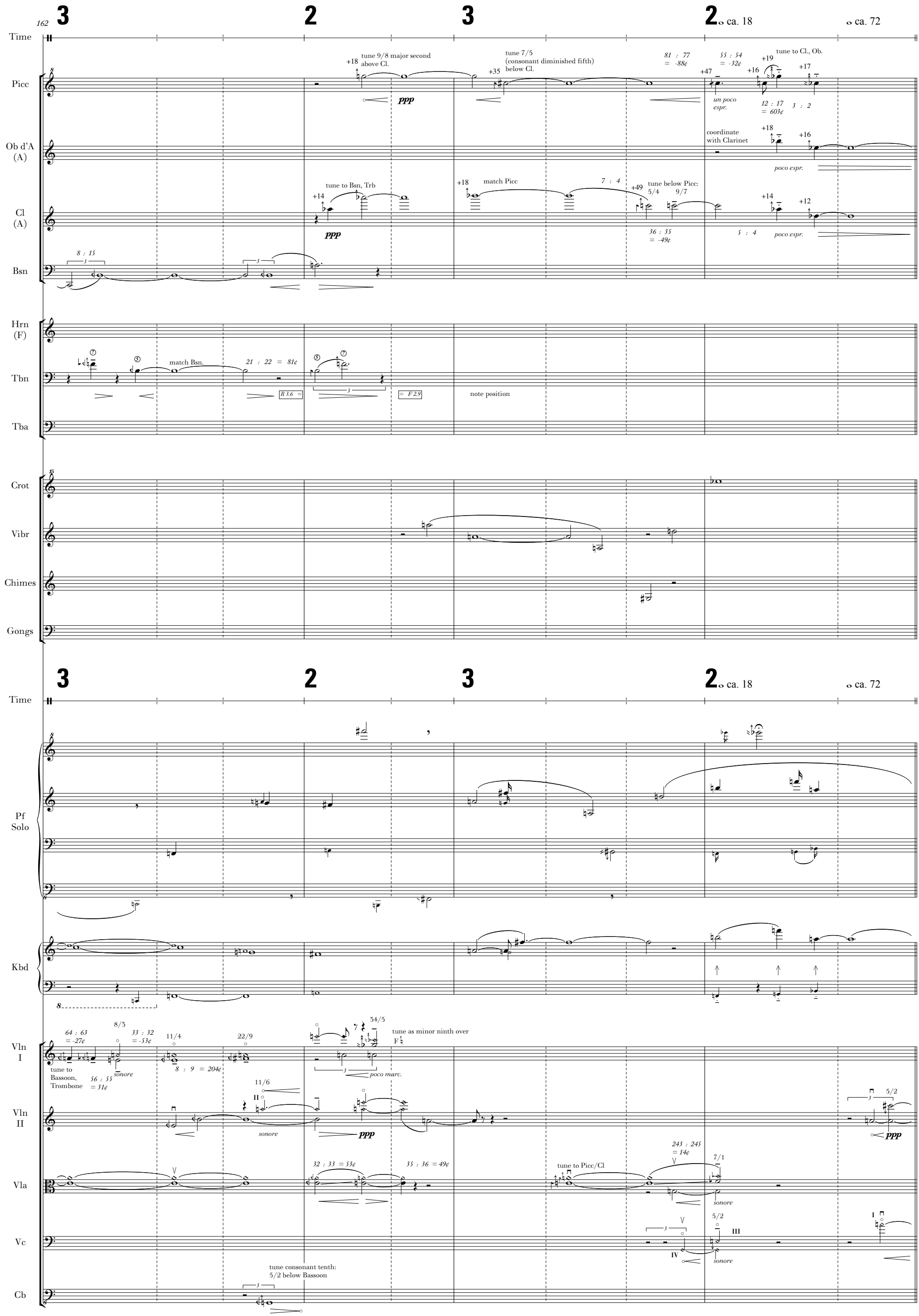
Vln I — 5/3; sonore; port.; un poco espr.; 11/6; 6/5; 33 : 32 = -53¢

Vln II — 5/3; 20/3; 12/7; tune small semitone steps as overtones of the Bass; 22 : 23 : 24; un poco espr.; 7/5; 11/4

Vla — ppp; 7/5 = consonant septimal diminished fifth; 10/3; 8/5; 11/8

Vc — 28/5; tune an octave below Vla; poco marc.; ppp; pizz.; poco f

Cb — tune to Vla (D-G); 27 : 26 = -65¢; solo, poco marcato; 13 : 12 = -139¢; 16 : 15 = -112¢ (diatonic semitone); ppp; bend down; match Piano


162
Time
Picc
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
ca. 18
ca. 72
tune 9/8 major second above Cl.
tune 7/5 (consonant diminished fifth) below Cl.
tune to Cl., Ob.
un poco espr.
coordinate with Clarinet
poco espr.
tune to Bsn, Trb
match Picc
tune below Picc: 5/4 9/7
match Bsn.
note position
tune to Bassoon, Trombone
sonore
tune as minor ninth over F
poco marc.
tune to Picc/Cl
tune consonant tenth: 5/2 below Bassoon

L

172 3 2 molto rit. 2 (♩ ca. 36) 4 ♩ ca. 72 molto rit.

Time

Picc

17 : 10 : 16 : 15

+12 D# -49

-2 -14

8 : 10 : 11

3 : 5

-14 -29

25 : 24 = -71¢ (chromatic semitone)

poco marc.

Ob d'A (A)

24 : 25 = 71¢

-14

ppp

Cl (A)

16 : 15 = -112¢

ppp

5 : 8

-2

ppp

Bsn

match Vla., Tba.

-16

ppp

Hrn (F)

Tbn

Tba

tune to Bsn.

Crot

Vibr

Chimes

Gongs

L

3 2 molto rit. 2 (♩ ca. 36) 4 ♩ ca. 72 molto rit.

Time

Pf Solo

Kbd

Vln I

81 : 80 : = -22¢

: 80 : 77 = -66¢

5/4 35 : 36 = 49¢ 9/7 20/7 11/4 11 : 10 = -165¢

next melodic step is a slightly small wholetone 25 : 28 = 196¢

ppp preciso sonore ppp, preciso

Vln II

preciso ppp 5/III

Vla

5/2

ppp preciso

Vc

harmonic glide down

7/5

solo, libero sonore ppp, preciso

gradually press l.h. to sound stopped pitches

Cb

16/3 11/2

tune to Bsn D

sonore

181

3 ca. 40 | 2 ca. 72 | 3 | molto ritenuto

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

: 12

+16

poco marcato

27 : 22 = -355¢
(Arabic neutral third: 'finger of Zalzal')

9 : 10 = 182¢ (minor wholetone)

C -39

D -35

tune to Bsn. as 11. partials

+12

8 :

+10

: 9 :

+14

+10

: 11

A -39

poco marcato

8 : 15

E -37

sim.

+12

+47

-4

un poco espr.

8 : 11

+16

F# -33

poco marcato

8 : 11

F 2.9

ppp

note position

15 : 17 = 217¢

17/5

un poco espr.

match Bsn

ppp

preciso

14/5

7/5

56 : 55 = -31¢

11/8

55 : 54 = -32¢

sonore

III 6/5

II

ppp

9/5

sonore

sonore

preciso

II

5/4

sonore

III

II

6/5

II poco f, sonore

191 3 ca. 36 | M 4 ca. 48 | 4

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

B♭ 5 : 7 : 8 : 9 : 11 : 12 : 17 : 10

+12 +16 E -37 +14 +17 -2 -19

un poco espr.

tune to Vlc. as 11. partial

+47

poco marc.

D♮ 12 : 17 : 16

+3

12 : 13 = 139¢

match C's

un poco espr.

match Tuba

poco marc.

tune to Bass

ppp

Time

Pf Solo

Kbd

Ped.

Vln I

Vln II

Vla

Vc

Cb

19/5

9/5

10/3

20/3

7/4

9/7

28/3

5/1

5/2

sonore

harm. glide

tune to Vlc, Brass

tune ninth below Vlc

port.

202

3 (𝅝 ca. 48) 4 𝅝 ca. 60 ritardando 2 𝅝 ca. 30 2

Time

Picc — match Vlns — Eb +37 — *ppp* — 13 : 14 = 128𝅗𝅥 — 2 : 5 — 7 : 2 — 4 : 7 : — : 8 — -35 — -49 — -18 — -2

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba — match Picc. — 13 : 4 — *ppp*

Crot

Vibr

Chimes

Gongs

3 (𝅝 ca. 48) 4 𝅝 ca. 60 ritardando 2 𝅝 ca. 30 2

Time

Pf Solo

Kbd

Vln I — 13/10 — 13/6 — 7/3 — *sonore*

Vln II — 13/2 — *sonore* — *ppp* — III — 19/4 ("equal-tempered minor third" in consonant wide position)

Vla — 5/3 — III — 13/5 — IV

Vc — 5/II — III IV — *ppp*

Cb

N

213 3 ca. 36 | 3 | 2

Time

Picc

Ob d'A (A)

Cl (A)

tune to Vl2

tune to Vla.

tune to Vl2

15 : 14 : 13 :

: 10 : 15

-2

-21

-50

-4

solo, espr.

+2

ppp

Bsn

Hrn (F)

Tbn

Tba

tune 5/2 tenth below Viola "A"

ppp

poco marcato

Crot

Vibr

Chimes

Gongs

N

3 ca. 36 | 3 | 2

Time

Pf Solo

Kbd

Ped.

Vln I

tune to fundamental in Cello

B♭

13/1

7/1

Vln II

7/4

un poco espr.

13/8 (neutral sixth)

14/9 (narrow septimal minor sixth)

Vla

poco f, sonore

octave below Vl1

9/4

7/3

sonore

Vc

harm. glide

6/II

23/6

15/4

ppp

sonore

Cb

pizz.

f

bend to Tuba 13/4

bend to Vl1 13/1

221

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

4 2 2 2 ca. 60

match Picc.

4 : 5

15 : 16 = 112¢

ppp

un poco espr.

sonore

solo, poco f

s.p.

ord.

arco

pizz.

poco f

231 **3**o ca. 30 — **poco rit.** — **2**o ca. 20 — **accel.** — **4**o ca. 40

Time

Picc — *ppp* — 16 : 15 = 112¢ (diatonic semitone) — tune to Strings

Ob d'A (A) — tune to Tbn. — G♭ 2 : 4 : 7 : 5 — +10 — -21 — *un poco espr.* — tune to Picc. — 7 : 5 : C♮ — -4 — +14 — +27 — : 8 : — *ppp* — : 6 — +29 — tune 5/4 under Cl. — *poco marc.*

Cl (A) — match Picc., Ob. — 7 : 5 — -4 — +14 — *ppp* — 2 : 3 — +16 — 8 : 7 = -231¢ (large septimal wholetone) — *poco marc.*

Bsn

Hrn (F) — 25 : 26 = 68¢ — 13 : 12 = -139¢ — 10 — 13+ — 12+ — 8 — 9/4 — tune both notes to Tbn. — 5/3 — 8 — 27 : 20 (perfect fourth + one comma)

Tbn — 6 — *ppp* — F 2.9 — next melodic step: 24 : 25 = 71¢ (chromatic semitone between minor and major third)

Tba — 8

Crot

Vibr

Chimes

Gongs

O

3o ca. 30 — **poco rit.** — **2**o ca. 20 — **accel.** — **4**o ca. 40

Time

Pf Solo

Kbd — Ped. — cut off on a Piano attack

Vln I — IV — *ppp*

Vln II — III — IV — *ppp* — *ppp*

Vla — V — 15 : 17 : 16 (large diminished third) — *un poco espr.* — *ppp*

Vc

Cb — (pizz.) — *poco f*

240

4 poco rit. 3 ca. 30 accel. 3 ca. 50 poco rit.

Time

Picc — ppp; -2; -18; 3; +19; 9/4 above Cl.; 28 : 27 = -63¢; tune to Hrn.; -31; take Alto Flute

Ob d'A (A)

Cl (A) — match Picc.; 4 : 7 : 4; -16; -47; 7 : 8 = 231¢ (as before); +16; 48 : 49 = 36¢; tune to Hrn. 7 : 4; -49; -18; -20; poco espr.; 8 : 9 = 204¢ (major wholetone)

Bsn — tune to Tbn. +14; 7/4; -18; ppp; 22 : 21 = -81¢; (the following melodies are made up of simple intervals shifted down a quarter-tone); tune to Tbn. C; C +33

Hrn (F) — match Bass harmonics; 10; F O; B O; F O; ppp

Tbn — match Picc., Cb.; 7; F 4.9; ppp; match Bsn.; 4; 64 : 63 = -27¢; 33 : 32 = -53¢; F 5.1

Tba

Crot

Vibr

Chimes

Gongs

4 poco rit. 3 ca. 30 accel. 3 ca. 50 poco rit.

Time

Pf Solo

Kbd — r.h.; l.h.; Ped.

Vln I

Vln II

Vla

Vc

Cb — arco; 5/II; ppp; III; ppp; ppp; 5/I; ppp

250

2 ca. 40 | 3 | accel. | 2 ca. 60 | 2 | poco rit. | 3 ca. 50

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

tune 7/3 below Vl2

+19

-16

poco marc.

7 : 9

tune 5/2 above Tbn.
like a high "E"

: 5

E +19

4 : 7 : 4 :

Bb +2

match Hrn.

+2

5 : 6 (just minor third)
= 316¢

-2

33 : 32
= -53¢

tune 3/1 above Tbn.

-12

Bb +35

-14

tune
to Tbn

15 : 14
= -119¢

G +35

Gb +16

solo,
un poco espr.

simple overtone melody,
a quartertone lower !

match Vlc.

keep position

F 5.7

poco marc.

B 2.3

55 : 54
= -32¢

tune 11/4 under Hrn.

tune 5/2
under Tbn.

l.h.

5/II

un poco espr.

ppp

pp

262

P

2 | 3 | molto ritenuto | 3 ♩ ca. 20 | poco a poco più mosso | 3 (♩ ca. 26)

Time

Alto Fl (G)

poco marc.

22 : 21 = 81¢

tune 3/2 above Bsn.

Gb +18 poco marc.

Ob d'A (A)

Cl (A)

5 : 4

(tune to Tbn.)

Gb +49

Bsn

7 : 8 : 10 : : 7

Ab +47 C +33

poco marc.

Hrn (F)

Tbn

poco marc.

Tba

tune 3/1 under Tbn.

32 : 33 = 53¢

match Vl1

ppp

Crot

Vibr

Chimes

Gongs

P

2 | 3 | molto ritenuto | 3 ♩ ca. 20 | poco a poco più mosso | 3 (♩ ca. 26)

Time

Pf Solo

Kbd

Vln I

III ppp

IV III

I

poco marc.

sim.

Vln II

sf

III sonore

12/7 7/4

ppp

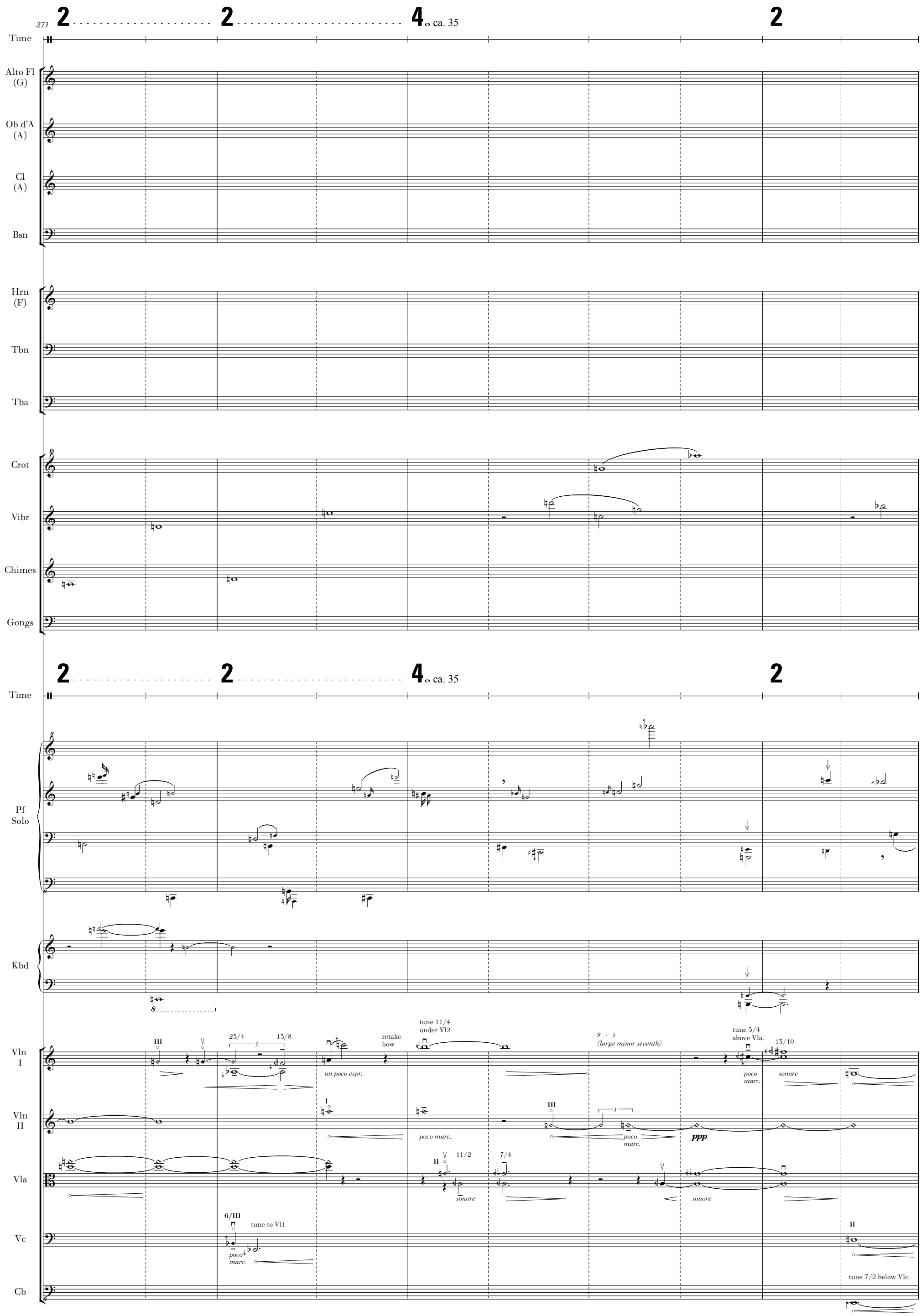
Vla

III sonore

III ppp

Vc

Cb


273
2
2
4 ca. 35
2
Time
Alto Fl (G)
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
III
23/4
13/8
un poco espr.
retake bow
tune 11/4 under Vl2
9 : 5 (large minor seventh)
tune 5/4 above Vla.
13/10
poco marc.
sonore
ppp
I
poco marc.
II
11/2
7/4
sonore
6/III
tune to Vl1
poco marc.
tune 7/2 below Vlc.

283

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Ped.

Vln I

Vln II

Vla

Vc

Cb

32 : 33 = 53¢ tune to Cb

like a low "A#"

keep l.h. position

7 : 8 = 231¢

poco marc.

port. 32 : 33 = 53¢

ppp flaut.

22 : 21 = 81¢

sonore

9/7

poco marc.

3 : 5

25 : 24 = -71¢

ppp flaut.

6 : 23

poco marc.

7 : 4

6 : 11 (neutral seventh)

8/7

13/8

ppp

port.

match Cb. 8/7

13/5

tune 11/4 below Vla.

sonore

44 : 45 = 39¢

libero, un poco espr.

port.

harm. glide

8/II

sonore

libero, poco f

292 3 rit. 3 ca. 30 Q 4 ca. 43

Time

Alto Fl (G)

-2 ppp +2

Ob d'A (A)

16 : 17 = 105¢ +1

solo, cantando
tune 9/2
above Piano

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

10 : 13

un poco espr.

Crot

Vibr

Chimes

Gongs

3 rit. 3 ca. 30 Q 4 ca. 43

Time

Pf Solo

Kbd

Vln I

I II s.p. II

sf poco f flaut.

Vln II

7/5 8/5

un poco espr.

glide with one finger

solo, espr.

Vla

7/4

poco f

lower notes here are a perfect fifth apart,
use same finger one string over !

13/8 5/3 tune to Vlns II

poco f flaut. ppp

Vc

tune to Vl2
port.

II I

ppp

Cb

III

come prima

26 : 27 = 65¢

poco s.p. ord. match Tuba

bend up

302

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

ppp

+6

+4

+14

+19

tune slightly 'high' to Strings, then match Vl1

16 : 17
= 105¢

match Vl1

-16

B 2

poco marc.

11 : 3

7 : 4

8 : 7 : 11

poco f

solo, espr.

sonore

dissonant with Vl1 !

poco marcato

come prima

tune to Vl2

8 : 7
= 231¢

keep l.h. pos.

22 : 21
= -81¢

311

R

4

accel.

3

(𝅝 ca. 60)

Time

Alto Fl (G)

ppp

ppp

Ob d'A (A)

+1 +2

come prima
match Piano solo, Cello
(A slightly higher than before)

56 : 57
= 31¢

+33

tune to Cello

+16

9 : 10 = 182¢
(minor wholetone)

Cl (A)

Bsn

ppp

Hrn (F)

poco marc.

32 : 33
= 53¢

lower pitch
by hand

un poco espr.

195 : 196
= 9¢

Tbn

un poco espr.

= F 1.7

tune
to Vlc.

6 : 5
= -316¢

F 4.9

95 : 96
= 18¢

56 : 57
= 31¢

F 4.7

F 4.4

poco marc.

39 : 35
= -187¢

pp

poco
marc.

= B 3.4

Tba

pp

13 : 4

ppp

Crot

Vibr

Chimes

Gongs

R

4

accel.

3

(𝅝 ca. 60)

Time

Pf Solo

Kbd

Vln I

III

tune to Cello/Tbn.
and Piano

56 : 57
= 31¢

20/7

un poco
espr.

Vln II

ppp

one
finger

5 : 6
= 316¢

19 : 16 (equal-tempered minor third)
= -298¢

solo, poco f

III

13 : 12 = -139¢

ppp

Vla

support Vlc.

poco marc.

ppp

Vc

tune 19/16 ("tempered"
minor third) below Vla.

56 : 57
= 31¢

sonore

ppp

Cb

pizz.

32 : 33
= 53¢

f

(pizz.)

IV

21 : 20
= -84¢

tune 11/2
under Vlc.

7/1 under Vlc.,
fundamental of Tbn. line
arco

320

3 | 2 ca. 32 | 3 ca. 60 | 3 ritenuto | ca. 42

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

ppp

poco espr.

tune to Bsn., Cl.

match Vla.

tune 3/2 above Tbn.

poco sf — p

un poco espr.

tune to Cl., Tba.

match Tbn.; 7/4 above Tuba

tune to Tba.

tune to Tbn.

poco espr.

poco marc.

tune to Piano, Perc.

keep position

a piacere

co-ordinate with Conductor

match Vl2

one finger glide

tune 4/3 below Vl2

solo, poco espr.

tune to Winds

11/2

match Piano

331 3 ritenuto 2 3 accel. (ca. 60) S 3 ca. 36

Time

Alto Fl (G)

ppp

Ob d'A (A)

Cl (A)

+2

tune to Vlc.

-16 ppp

match Vlns

-14 ppp

Bsn

-18

C# -41 +26 +10 6 : 7 6 : 5 -39 -6

cantando

6 : 7 = 267¢ 105 : 104 = -17¢

come prima

tune to Tbn., Cl.

-16 -14

Hrn (F)

Tbn

96 : 95 = -18¢

B 5.2

tune to Bsn.

B 6.3 B 7

Tba

tune to Bsn.

ppp

Crot

Vibr

Chimes

Gongs

3 ritenuto 2 3 accel. (ca. 60) S 3 ca. 36

Time

Pf Solo

Kbd

cut off with a Piano attack

Vln I

7/4

sonore

4/II 5/II

poco marc.

ppp

Vln II

7/4

sonore

95 : 96 = 18¢

match Piano, Tbn.

poco espr.

match Piano

20 : 19 = -89¢

match Cl., Vl.1

Vla

I II

ppp

35 : 32 = 155¢ 11 : 10 = 165¢ 12 : 11 = 151¢

poco marc.

tune above Cl./below Vl1

Vc

ppp

Cb

pizz.

arco

poco marc.

342

Time

Alto Fl (G)

tune large septimal tenth 18/7 below Vl2, perfect fourth 4/3 above Cb., Vl1

10 : 9 = -182¢

tune consonant tenth 5/2 below Vl2

13 : 10 = -454¢

Ab +37

poco espr.

-46

Ob d'A (A)

Cl (A)

5 : 3

-16

un poco espr.

8 : 5

-2

15 : 13 = -248¢

Gb +37

tune to Vl1, Cb.

13 : 12 = -139¢

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Vln I

12/7

sonore

5/3 13/8 (neutral sixth)

2 : 1 match Cb.

ppp

Vln II

105 : 104 = -17¢

bend slightly downward

2 : 3

keep hand position for next note (l.h. octave)

"high" septimal major third above Cl.

8 : 7 tune 3/1 above Vl1, Cb.

un poco espr.

Vla

8 : 11

Vc

13/8 (neutral sixth)

poco espr.

match Cl.

III 5 : 3 IV 7 : 5

tune 7/2 under Cb., Vl1

pizz.

5/4

tune Bb as pure third (ignore Vl1 !)

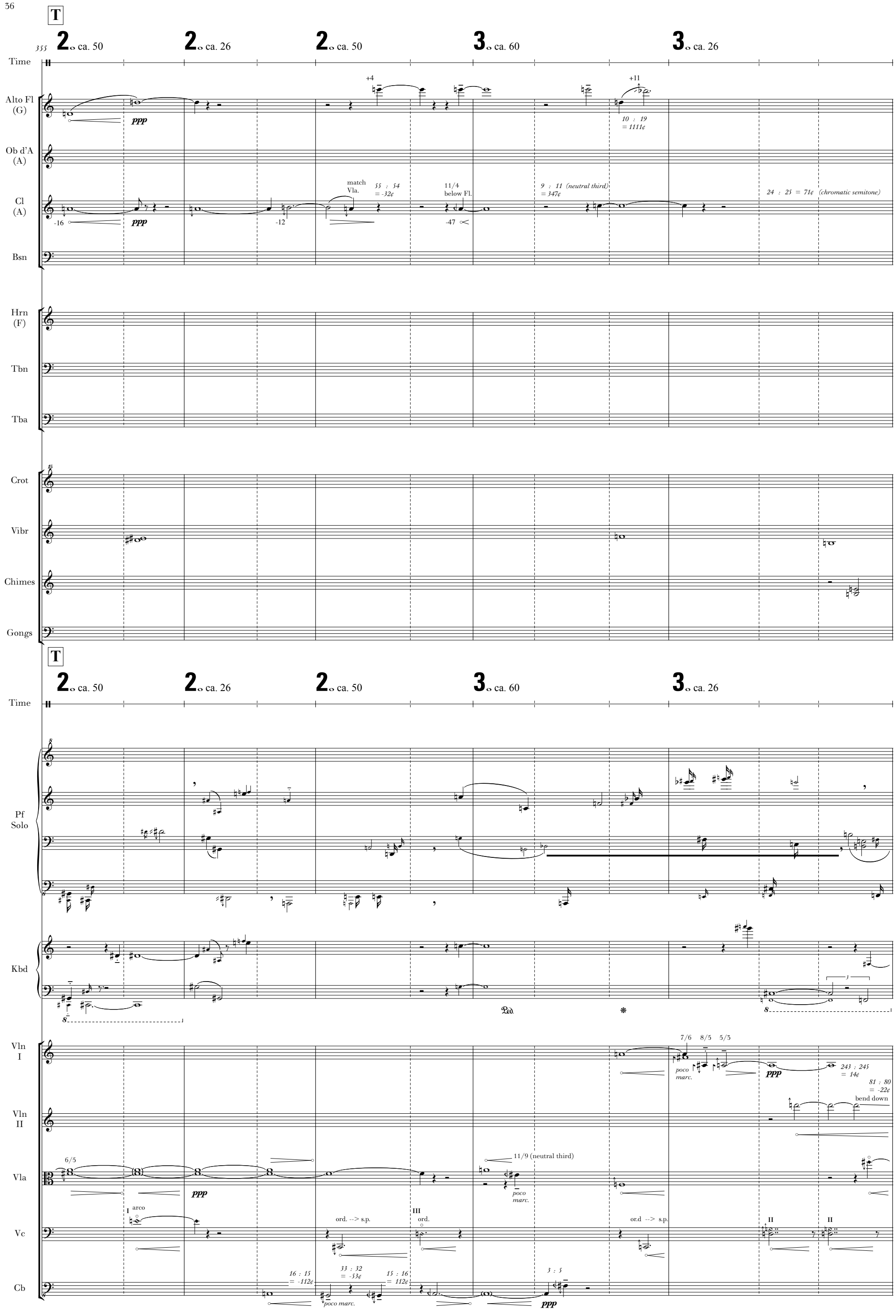
poco f

Cb

5/2 13/5

solo, sonore

13/4


T
355
2 ca. 50
2 ca. 26
2 ca. 50
3 ca. 60
3 ca. 26
Time
Alto Fl (G)
ppp
+4
+11
10 : 19 = 1111¢
Ob d'A (A)
Cl (A)
-16
ppp
-12
match Vla.
55 : 54 = -32¢
11/4 below Fl.
-47
9 : 11 (neutral third) = 347¢
24 : 25 = 71¢ (chromatic semitone)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
T
Pf Solo
Kbd
Ped.
Vln I
7/6 8/5 5/3
poco marc.
ppp
243 : 245 = 14¢
81 : 80 = -22¢
bend down
Vln II
Vla
6/5
ppp
11/9 (neutral third)
poco marc.
Vc
I arco
ord. --> s.p.
III ord.
or.d --> s.p.
II
II
Cb
16 : 15 = -112¢
33 : 32 = -53¢
poco marc.
15 : 16 = 112¢
3 : 5
ppp

367

3 ca. 36 | 3 ca. 60 | 2 ca. 36 | 2 ca. 26

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

3 ca. 36 | 3 ca. 60 | 2 ca. 36 | 2 ca. 26

Time

Pf Solo

Kbd

9/7 | 6/5 | 12 : 13 = 139¢ | 26 : 25 = -68¢

Vln I

poco marc. ppp | sonore ppp | un poco espr. | II

Vln II

24 : 23 = -74¢ | 5 : 6 | 5/2 | dissonant to Bass ! | 23/6

ppp | un poco espr. | sonore

Vla

45 : 46 = 38¢ | 23/3 | s.p. | ord. | II I

ppp | un poco espr. | sonore

Vc

45 : 46 = 38¢ | 23/3 | ord. | III | 23/6 | I

s.p. | ppp | poco f | s.p. | II

Cb

I

ppp | tune to Vlc. | poco f

377

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

4 : 7 +16 -16

21 : 20 = -84¢

12 : 5 match Cb., Hrn. -16

19 : 16 = 298¢ ("equal-tempered" minor third) -13

match Hrn. ppp

tune to Vl2 6/5 -29 un poco espr.

un poco espr.

match Cb., Fl.

95 : 96 = 18¢ match Pf.

14 : 15 = 119¢

18 : 19 = 94¢

tune 10/3 below Vl1 ppp

8 : 13 (neutral sixth)

tune below Horn 5/3 19/6 un poco espr. 19 : 10 = -1111¢

4/3 20 : 21 = 84¢

21 : 19 = -173¢

accel. (ca. 60) ca. 26 accel. (ca. 50)

Time

Pf Solo

Kbd

39 : 40 = 44¢ tune 13/10 below Vla. un poco espr.

tune 4/3 below Vla.

tune to Vlc. 6 : 7 flaut.

s.t. flaut. ppp

poco marc.

Vln I

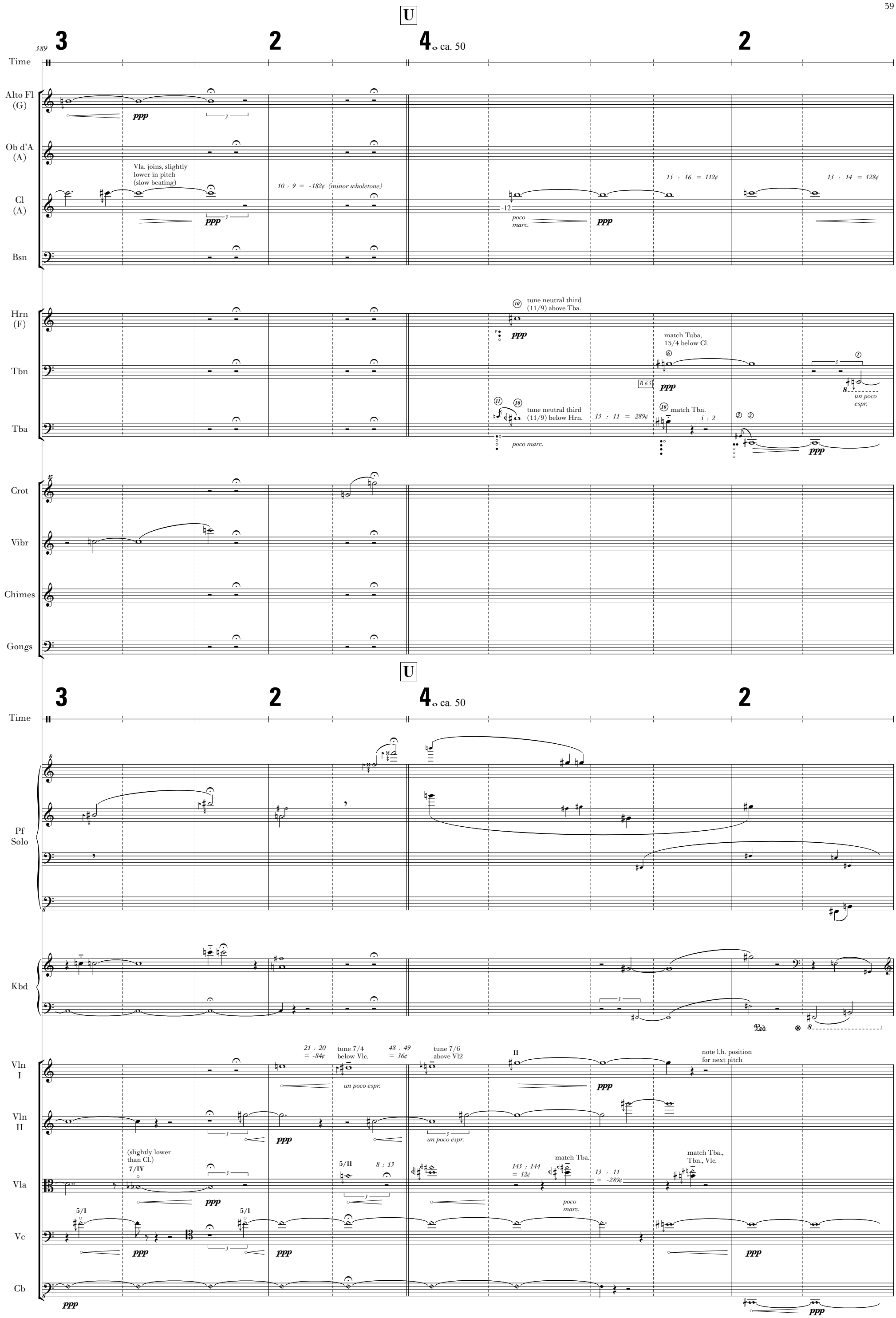
Vln II

Vla

Vc

Cb

ppp


U
389
3
2
4
ca. 50
2
Time
Alto Fl (G)
ppp
Ob d'A (A)
Vla. joins, slightly lower in pitch (slow beating)
10 : 9 = -182¢ (minor wholetone)
15 : 16 = 112¢
13 : 14 = 128¢
Cl (A)
-12
poco marc.
ppp
Bsn
Hrn (F)
tune neutral third (11/9) above Tba.
match Tuba, 13/4 below Cl.
Tbn
B 6.3
un poco espr.
Tba
tune neutral third (11/9) below Hrn.
13 : 11 = 289¢
match Tbn.
5 : 2
poco marc.
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Ped.
Vln I
21 : 20 = -84¢
tune 7/4 below Vlc.
48 : 49 = 36¢
tune 7/6 above Vl2
II
note l.h. position for next pitch
un poco espr.
Vln II
(slightly lower than Cl.)
7/IV
5/II
8 : 13
143 : 144 = 12¢
match Tba.
13 : 11 = -289¢
match Tba., Tbn., Vlc.
Vla
5/I
Vc
Cb

400

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

rit.

ca. 32

tune to Tbn.

match Cl.

match Vl1

match Fl.

un poco espr.

tune to Tbn.

15 : 16 = 112¢

tune 3/2 below Tuba

27 : 26 = -65¢

136 : 135 = -13¢

tune to: Bass

A. Fl.

2 : 17

match Fl.

shorten B slide position by 35 : 36 = 49¢ (septimal quartertone)

40 : 39 = -44¢

un poco espr.

(end C#)

poco marc.

23/4

sonore

5/1

tune 7/2 below Vl1

poco marc.

flaut.

take note of l.h. position for next entry

80 : 81 = 22¢ (syntonic comma)

412

V

2 ca. 50 | 3 rit. | 2 ca. 37 | 2

Time

Alto Fl (G)

ppp

+2 tune to Bsn.

ppp

Ob d'A (A)

Cl (A)

Bsn

match Tba.

+16 +31

solo, poco f

+18

+4 tune to Fl.

+2

+33

26 : 25 = -68¢

F# -35

match Vlc., 5/4 above Tbn.

7 : 8 = 231¢

Hrn (F)

Tbn

tune below Bsn.

7/6 4/3

39 : 40 = 44¢

5/4

B 4.7

B 4.2

Tba

match Bsn.

un poco espr.

11 : 10 = -165¢

11/8 below Bsn.

poco sf

(narrow augmented fifth) 7 : 11

match Tbn.

Crot

Vibr

Chimes

Gongs

V

2 ca. 50 | 3 rit. | 2 ca. 37 | 2

Time

Pf Solo

(end A)

Kbd

r.h.

l.h.

Vln I

(sempre ppp)

39 : 10

tune 7/1 above Cb.

Vln II

13/7 (small major seventh)

7/4 (small minor seventh)

sonore

ppp

11 : 12 = 151¢

poco marc.

ppp

Vla

glide to harm.

come prima

91 : 90 = -19¢

Vc

7/5

Cb

ppp

14 : 15 = 119¢

39 : 40 = 44¢

(tune as fundamental of ensemble harmony)

421

Time: 3 2 2 4 rit.

Alto Fl (G): match Tbn. -2 ppp

Ob d'A (A)

Cl (A): septimal against Brass! 2/1 below previous "F#"

Bsn: 25 : 13 +33 +29 poco marc. match Vlc. 36 : 35 = -49¢ -20 ppp tune to Bass "C" 10 : 11 = 165¢ +45 11 : 9 = 347¢ -2

Hrn (F): tune 2/1 above Tba. and co-ordinate ⑤ lengthen B slide position by 36 : 35 = -49¢ (septimal quartertone) tune 7/4 above Vla. ④ ⑩ ppp

Tbn: B 0.9 poco marc. B 1.4 ppp note position

Tba: tune 2/1 below Tbn. and co-ordinate ④ poco marc.

Crot

Vibr

Chimes

Gongs

Time: 3 2 2 4 rit.

Pf Solo: tie from r.h. to l.h.

Kbd

Vln I: ppp 27 : 26 = -65¢ 35 : 36 = 49¢ 13/8 (neutral sixth) sonore senza diminuendo ppp 36 : 35 = -49¢ artificial harmonic 5th partial poco marc. ppp

Vln II: 5 : 2 tune 3/2 above Vl1 ppp

Vla: ppp poco marc. 13/8 (neutral sixth) senza dim. sonore poco f sonore, solo 5/2 25/8 7/2 28/9 11/3 15/4

Vc: ppp co-ordinate with Cb. pizz. poco f. co-ordinate with Vlc. pizz. tune 3/1 below Vl1 G# if possible ! senza dim. 13/8 (neutral sixth) 7/4 II III sonore (II) 5/III ppp 19 : 18 = -94¢ poco espr.

Cb: ppp poco f. arco ppp

432

W

3 ca. 60 rit. 3 ca. 30 2 3

Time

Alto Fl (G)

tune to Bsn.

-18 ppp

Ob d'A (A)

tune 5/1 , 10/1 above Bsn.
(two major thirds above "C")

-33 un poco espr.

match Vlc. (harm.)

-16

tune with Tbn.

-20 Db +49 -35

Cl (A)

Bsn

-20 ppp

Hrn (F)

19 : 18
= -94¢

un poco espr.

Tbn

B 1.4 ppp

Tba

ppp

Crot

Vibr

Chimes

Gongs

W

3 ca. 60 rit. 3 ca. 30 2 3

Time

Pf Solo

Kbd

match Vla.

Vln I

ppp flaut.

48 : 49
= 36¢

un poco espr.

21 : 20 = -84¢

un poco marc.

Vln II

19 : 18 = -94¢

poco marc.

Vla

7/II

ppp

Vc

5/II

ppp

7/III

poco marc.

5/II

sempre ppp

Cb

match Bsn.

poco f

sempre ppp

443

Time

2 4 3 accel.

Alto Fl (G)

8 : 7 = -231¢

ppp

-33

Ob d'A (A)

poco marc.

-31

Cl (A)

match Vla.

48 : 49 = 36¢

-4

ppp

C +36

slight upward bend by 98 : 99 = 18¢

Bsn

-20 poco marc.

-39

D# -21

Hrn (F)

poco marc.

Tbn

Tba

tune 7/6 below Tbn.

poco marc.

Crot

Vibr

Chimes

Gongs

Time

2 4 3 accel.

Pf Solo

Kbd

Vln I

8/7 7/6

sonore

Vln II

ppp

23/12

sonore

Vla

7/II

I

poco marc.

sf

ppp

Vc

7/II

ppp

II

sf

7/4

sf

I II

solo. libero

Cb

match Tba.

55 : 56 = 31¢

7 : 8 = 231¢

pizz.

sf come prima

7 : 10 = 617¢

8 : 7 = -231¢

63 : 64 = 27¢

32 : 33 = 53¢

X

452

2 ca. 50 | 2 poco ritenuto | a tempo 3 | 3 ca. 50

Time

Alto Fl (G)

ppp

take Piccolo

Ob d'A (A)

remember pitch!

Cl (A)

Bsn

Hrn (F)

poco f ma non troppo

17 : 6 ("equal-tempered" diminished fifth plus an octave)

tune wholesteps to Tuba

9/8 8/7

63 : 64 = 27¢

Tbn

match Tuba

1/1

tune below Hrn.

poco marcato

B 0.9

B 2

Tba

ppp

match Tbn.

17 : 18 = 99¢ ("equal-tempered" semitone)

9 : 4

un poco espr.

tune to Hrn.

Crot

Vibr

Chimes

Gongs

X

2 ca. 50 | 2 poco ritenuto | a tempo 3 | 3 ca. 50

Time

Pf Solo

(bracketed notes indicate the closest tempered pitches to be played here)

Kbd

Vln I

5 : 4 (just major third)

tune to Vlc.

33 : 32 = -53¢

(like a high "Gb")

Vln II

7/4

sonore

5/4

45/32 (just tritone)

ppp, preciso

tune each note to Vlc.

64/33 (octave less a quarter-tone)

ppp

Vla

7/4 match Vl2

ppp

sonore

15 : 8

Vc

7/6

II

match Vl2

sonore

poco marc.

tune below Vl2 / Vla.

21/8 8/3 11/4

64 : 63 = -27¢

33 : 32 = -53¢

(close to a high "Db")

2 : 1

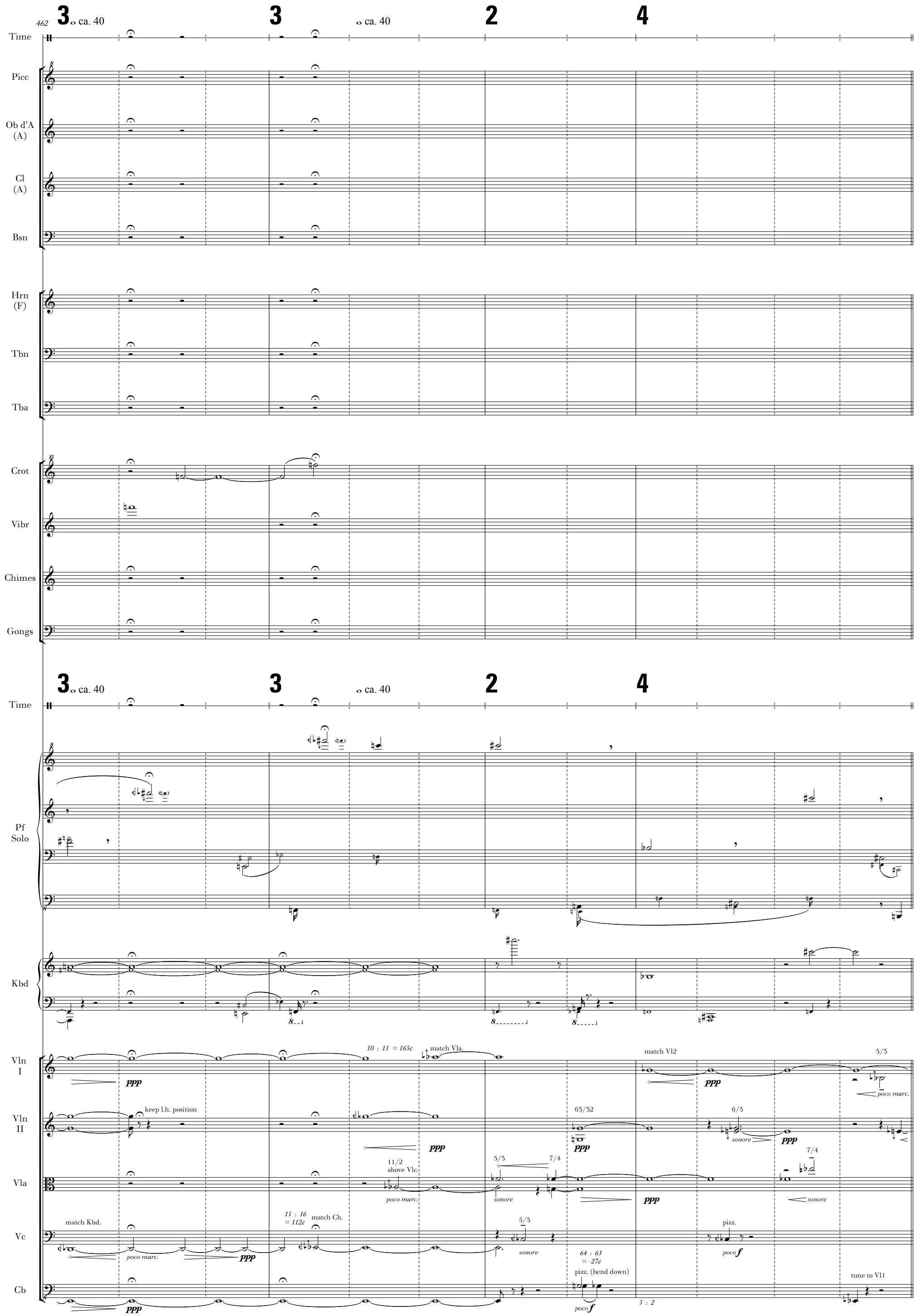
arco

55 : 56 = 31¢

tune to Vl1

Cb

poco sf


462
Time
Picc
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
ca. 40
keep l.h. position
match Vla.
match Vl2
match Kbd.
match Cb.
11/2 above Vlc.
63/32
6/5
5/3
7/4
pizz.
pizz. (bend down)
tune to Vl1
poco marc.
sonore
ppp
poco f

Y

474 2 ca. 25 | 3 | 4 | accel. 2 (ca. 50)

Time

Picc

match Vl1 harmonic
13 : 8 (neutral sixth)
-29
ppp
tune 2/11 above Ob.
+30
+33
49 : 52 = 103¢
22 : 21 = -81¢
-47
-49
match Ob., Vlns

Ob d'A (A)

11 : 12 = 151¢
11/9 below Vl1 (neutral third)
-31
Cb +19
solo, poco marcato
4 : 11
tune below Picc.
1/1
+30
13/4
2/1
49 : 52 = 103¢
+33
13 : 8 (neutral sixth)
-29
22 : 21 = -81¢
-47
9 : 8 = -204¢

Cl (A)

remember pitch!
ppp
ignore Ob, Picc., Bsn.
match Vlc.
ppp

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Y

2 ca. 25 | 3 | 4 | accel. 2 (ca. 50)

Time

Pf Solo

Kbd

Vln I

11 : 9 (neutral third) = -347¢
port.
ppp

Vln II

8/5 7/4
poco marc.
poco s.p.
--> ord.
(ord.)
ppp
I
one-finger glide
solo, poco f
port.
match Vl1

Vla

poco s.p.
19 : 18 = -94¢
ord.
poco marc.
ppp
match Vl2
poco marc.

Vc

7/II
poco s.p.
19/2
ord.
sf

Cb

(pizz.)
come prima
57 : 56 = -31¢
7 : 6 = -267¢
11 : 8 = -551¢
keep l.h. position
3 : 4

485

4 rall. 3 (𝅝 ca. 25) 2

Time

Picc — 9 : 7 = -435¢ — Gb +16 — Db +18 — ppp — 5/4 above Vl1 — 21 : 22 = 81¢ — 11 : 10 = -165¢ — -2 — C +33

Ob d'A (A) — tune to Picc., Bsn. ignore Cl. — Gb +49 — ppp

Cl (A) — come prima — 33 : 32 = -53¢ — unison with Bsn. — poco marc. — Cb +47 — ppp

Bsn — tune 3/1 below Ob. beating against Cl. — Ab +47 — poco marc. — tune below Ob. — poco marc. — ppp

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

4 rall. 3 (𝅝 ca. 25) 2

Time

Pf Solo

Kbd

Vln I — II III — 11/2 — ppp — 20 : 21 = 84¢ — 5/4 below Picc. — match Vl2 — 7 : 20 (just tritone plus oct.) — poco marc. — 1 : 5 — 15 : 1 — pizz. match Vlc. — poco f

Vln II — 7/4 — 3 : 4 — pizz. — tune to Vla. — 9 : 8 : 7 : 8 : 9 — poco f — 34 : 33 = -52¢ — 3 : 1 — match Vlc. — poco f

Vla — II — 17/4 — keep l.h. position !

Vc — match Vl1, Bsn. — keep l.h. position — sf — 6 : 5 — solo, poco marcato — I — one-finger glide — 5/3 — 2 : 3 — pizz. — 36 : 35 = 49¢ — bend down — poco f

Cb — (pizz.) — tune below Vlc. — 4 : 5 — 15 : 14 = -119¢ — poco f

494

Time

Picc

Ob d'A (A)

12 : 11 = -151¢

tune 4/3 above Cl.

ppp

tune to Cl.

1/1

3/2

9 : 7

9 : 14

Cl (A)

tune 3/2 above Bsn.

Gb +49

un poco espr.

4 : 11

tune 11/4 above Bsn.

17 : 18 ("equal-tempered" semitone) = 99¢

match Hrn.

6 : 7

Bsn

match Cl.

Eb +49

poco marc.

6 : 11

8 : 7 = -231¢

Hrn (F)

all 3 Brass unison entry (same pitch!)

ppp

libero

18 : 17 = -99¢

match Hrn., Ob.

Tbn

F 5.1

solo, un poco espr.

libero

B4

B 5.4

B 2.8

Tba

ppp

poco marc.

18 : 17 = -99¢

13 : 15 = 248¢

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Vln I

8 : 13 (neutral sixth)

8 : 13

ringing but gentle

Vln II

8 : 13 (neutral sixth)

8 : 13

ringing but gentle

Vla

I

sf

II

17/4

sonore

Vc

over E♮

14 : 13 : 12

arco

7/II

ppp

Cb

500 4 ca. 50 | 2 ca. 32 | 3 | 3 ca. 22

Time

Picc: +26 match Tbn. breathe as needed (smoothly rearticulate) — ppp — 13 : 12 = -139¢ — poco marc. — sim. — 40 : 39 = -44¢ — tune under Vlc. harm., Cl. 3/2 10/7 — poco espr. -35 F +49 20 : 21 = 85¢ — 12 : 13 = 139¢ — 7 : 6 = -267¢ -17 — tune to Hrn.

Ob d'A (A): 13 : 12 = -139¢ — +26 match Tbn. (high "Gb") +13 — ppp — breathe as needed (smoothly rearticulate) — poco marc. — (sustain with Bsn., Picc.) — 10 : 13 = 454¢

Cl (A): 13 : 10 = -454¢ — +13 tune 2/1 above Ob. — ppp — +15 tune to Ob. — 2 : 3 — 15 : 13 = -248¢ — match Vlc. harm. -33 — tune to Hrn.

Bsn: 13 : 14 = 128¢ — match Tbn. -5 — ppp — 7 : 6 = -267¢ — +28 +42 — (sustain with Ob., Picc.) — 64 : 65 = 27¢ — poco espr. — 5 : 8

Hrn (F): slightly lip pedal tone upward, tune 2/1 under Tbn. — ppp — 2 : 13 — tune to Picc., Cl. — 15 : 16 = 112¢

Tbn: B 2.8 poco marc. — 16 10 extend slide slightly — F 2.7 — 7 tune 7/6 to Tuba — ppp — note position

Tba: 7+ poco marc. — 20 : 21 = 84¢ — 7 — 4 : 1 — match Hrn., Tbn. 2+ — ppp

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd — Ped.

Vln I

Vln II

Vla

Vc: 7/II — ppp

Cb

Z

512

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Z

Time

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

2 3 2 ca. 30 2 3

tune to Ob., Vlc.

19 : 20 = 89¢

18 : 19 = 94¢

ppp

poco marc.

tune to Horn, Bsn.

5/4

-33 ppp

tune to Bsn. 19/8 ("equal-tempered" minor tenth)

bend

+30

-35

26 : 27 = 65¢

10 : 11 = 165¢

tune above Hrn., Bsn.

+32 11/4

5/2

match Hrn., Bsn.

poco espr.

16 : 19 ("equal-tempered" minor third) = 297¢

match Hrn.

19 : 10 = 1111¢

tune to Picc.

5 : 3

tune 23/3 below Vlc.

l.h.

Ped.

arco

7/I

7/II

7/III

7/IV

3/II

524

A1

Time 2 2 4 2 3 ca. 60

Picc — 5 : 8 — -17 poco marc. — 11 : 10 = 165¢ — Db +18 — 2 : 1 — ppp — 39 : 40 = 44¢ — +26 tune 8/3 above Tbn. — ppp

Ob d'A (A) — -19 — ppp

Cl (A) — tune to Ob., Bsn. — -21 — ppp — match Vla. — ppp — 24 : 25 = 71¢ (chromatic semitone between major and minor third) — 6/5 below Tbn. slightly high "G" +13

Bsn — tune to Ob., Cl.. — -17 poco marc. — -23 — ppp — 26 : 27 = 65¢ — tune 13/4 below Picc. +42 — consonant with Tbn. — ppp

Hrn (F) — tune above Bsn.: 5/3 — 5/4 — F 2.7

Tbn

Tba — 22 : 23 = 77¢

Crot

Vibr

Chimes

Gongs

A1

Time 2 2 4 2 3 ca. 60

Pf Solo

Kbd — Ped. — Ped.

Vln I — arco 7/III — ppp — 7/4 — sonore — ppp — 24 : 25 = 71¢ (chromatic semitone)

Vln II — arco 7/III — ppp — ppp

Vla — 7/II — ppp — I II — 7/4 — sonore — ppp

Vc — I II — ppp — pizz. — poco f — 35 : 36 = 49¢

Cb — pizz. — poco f

537

4 ca. 50 | 2 ca. 40 | 3

Time

Picc — 16 : 15 = -112¢ (diatonic semitone) — 4 : 13 — +15 — -45 — un poco espr. — take Alto Flute

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn — note position

Tba

Crot

Vibr

Chimes

Gongs

4 ca. 50 | 2 ca. 40 | 3

Time

Pf Solo

Kbd

Vln I — tune 5/2 above Vl2 — poco marc. — tune 3/2 above Vla. — 80 : 81 = 22¢ — 5 : 6 (minor third) = 316¢ — dissonant to Vla. (33/8) — ppp

Vln II — sf — pizz. — ringing but gentle — arco — tune 9/2 above Vl1 — lower "B by 64 : 63 = -27¢ — match Vl1 — 5 : 6 — 15 : 16 = 112¢ (diatonic semitone)

Vla — 5/3 — 7/4 — tune to Vl1 — 80 : 81 (Syntonic comma) = 22¢ — 7/4 — sonore — 55 : 56 = 31¢ — (like a high "Fb") tune 8/5 above Vlc. — ppp — 2/1

Vc — arco — 5/III 5/IV — poco marc. — 22/21 = -81¢ — poco marc. — (like a high "Ab") — ppp — 45 : 32 = 590 ¢ (just tritone) — (like a high "Ebb")

Cb

546

3 ca. 30 | 3 | accel. | 4 ca. 50

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

match Vl2

11 : 9 = -347¢

4 : 7

-2

-49

un poco espr.

Cb +19

Bsn

Hrn (F)

Tbn

Tba

match Vl2

ppp

Crot

Vibr

Chimes

Gongs

3 ca. 30 | 3 | accel. | 4 ca. 50

Time

Pf Solo

Kbd

(hook l.h. finger over end of fingerboard and play with left side of the finger!)

6/I

tune above Vl2

9/4

13/6

bend down

27 : 26 = -65¢

Vln I

I

s.p.

Vln II

11/9

poco marc.

Vla

24 : 25 = 71¢ (chromatic semitone)

match tempered "F" in Vibraphone, Piano

7/4

solo, sonore

5/3

ppp

35 : 36 = 49¢

tune 7/6 below Vl2

tune to Vlns

384 : 385 = 5¢

Vc

13/9

Cb

556

3 4 2 rit.

Time

Alto Fl (G)

Ob d'A (A)

+2 match Vl1

ppp

tune to Ob.

Cl (A)

4 : 11 -29 21 : 10 -14 10 : 7 -31 3 : 7 C +36 49 : 48 = 36¢ poco marc. 7 : 3 +33 C -36 7 : 4

Bsn

+4 un poco espr. 5 : 8 +18 21 : 20 = -84¢ +33

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

3 4 2 rit.

Time

Pf Solo

Kbd

Ped.

Vln I

ppp 48 : 49 = 36¢ ord. poco marc. I s.p. ppp I ppp

Vln II

11/4 s.p. poco marc. pizz. poco f, ringing but gentle II I I I

Vla

(almost imperceptibly higher, quasi "enharmonic") pizz. 17 : 16 = 105¢ poco f, ringing but gentle 55 : 51 = -131¢ 4 : 7 I

Vc

pizz. 11 : 12 = 151¢ poco f, ringing but gentle 4 : 11 I II 11 : 7 (augmented fifth) = 782¢ like a high "Eb" 11 : 9 (neutral third) = 347¢ I

Cb

4 : 7 poco f, ringing but gentle 11 : 9 (neutral third) = 347¢ 5 : 4

565 3 (𝅗𝅥 ca. 35) accel. 3 𝅗𝅥 ca. 54 2 ritenuto

Time

Alto Fl (G)

Ob d'A (A)

tune to Bsn., Cl.
2/1 3/2
-10

Cl (A)

tune to Ob.
32 : 35 = 155¢
-12

25 : 24 = -71¢ (chromatic semitone)

+18 match Strings
ppp

Bsn

8 : 7 = -231¢
+2
17 : 16 = -105¢
-3

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

3 (𝅗𝅥 ca. 35) accel. 3 𝅗𝅥 ca. 54 2 ritenuto

Time

Pf Solo

Kbd

Ped.

Vln I

I
ppp
ppp

Vln II

22 : 21 = -81¢
54 : 55 = 32¢
poco f, solo

Vla

35 : 36 = 49¢
35 : 36 = 49¢
22 : 21 = -81¢
II I II

Vc

Cb

5 : 12
7 : 4

B1

573 4 ca. 24 | 3 | 4 accel. (ca. 60)

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

+4 ppp

tune to Strings -14 ppp

match Cb.

-12 ppp

+2 ppp

25 : 24 = -71¢ (chromatic semitone)

+16 tune to Hrn.

15 : 16 = 112¢ (diatonic semitone)

tune to Bsn. ⑦ ⑧ ppp, un poco espr. ⑩ ⑨ ⑥

tune below Hrn. ① ppp

B1

4 ca. 24 | 3 | 4 accel. (ca. 60)

Time

Pf Solo

Kbd

Ped.

Vln I

Vln II

Vla

Vc

Cb

s.t. flaut. ppp

ord.

23 : 12 = 1126¢

7/4 12/7 poco marc., cantando

23 : 12 = 1126¢ come prima

45 : 46 = 38¢

arco I ppp

5 : 3 s.t. flaut ppp

II 6/II sf

arco I ppp

7/II

pizz. poco f

23 : 3 (large major seventh) = 1126¢ and 2 oct

5/II * sf

arco 5/IV ppp

4/IV 7/IV

pizz. 15 : 16 = 112¢ (diatonic semitone) poco f

6 : 11 : 10 :

* for harmonic pizz. on higher partials occurring in the following music, always choose the most resonant playing node, pluck poco s.p. and sf as needed, all sounds ringing but gentle as before

584

2 ca. 30 | 4 | 3

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

+2 match Vlc.

ppppp

-12

-14

ppp

+14

+40

poco marc.

12 : 23 = 1126¢

8 : 9

poco marc.

s.p.

36 : 35 = -49¢

28 : 27 = -63¢

176 : 175 = -10¢

33 : 32 = -53¢

N *

* (l.h. press down with nail — twangy)

8 : 9 = 204¢

8 : 11

solo, poco f

libero

81 : 80 = -22¢

64 : 63 = -27¢

91 : 90 = -19¢

105 : 104 = -17¢

8 : 7 = -231¢

7 : 8 = 231¢

36 : 35 = -49¢

10 : 11 = 165¢

33 : 32 = -53¢

36 : 35 = -49¢

91 : 90 = -19¢

96 : 95 = -18¢

19 : 16 = -298¢

10 : 11 = 165¢

33 : 32 = -53¢

poco s.p.

arco

9/8

5/3

pizz.

ppppp, molto preciso

poco f, ringing but gentle

(higher than previous "Bb")

5/III

12 : 11 = -151¢

6 : 7 = 267¢

14 : 5 = -583¢ -1 oct.

7 : 10 = 617¢

sf

593 **2** **accel.** **3** ♩ ca. 60 **3**

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

-33 *ppppp*

Bsn

match Vlc.

ppppp

Hrn (F)

ppppp

Tbn

Tba

ppppp

Crot

Vibr

Chimes

Gongs

2 **accel.** **3** ♩ ca. 60 **3**

Time

Pf Solo

Kbd

Vln I

64 : 63 = -27¢ | 21 : 20 = -84¢ | 20 : 19 = -89¢ | 19 : 18 = -94¢ | 63 : 64 = 27¢ | 48 : 49 = 36¢

Vln II

arco

ppp

Vla

II III

64 : 63 = -27¢ | 81 : 80 = -22¢ | 28 : 27 = -63¢ | 24 : 23 = -74¢ | 23 : 22 = -77¢ | 22 : 21 = -81¢ | 35 : 34 = -50¢ | 17 : 18 = 99¢

pizz.

poco ***f****, ringing but gentle*

Vc

arco

5/3 | 4/3 | 11/7

ppppp | *ppp* | *ppppp*

Cb

(transposed partials of "A")

33 : 32 = -53¢

601

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

ca. 40

ppp

keep fingering

pizz.

poco f, ringing but gentle

arco

ppp

poco f

come prima

(just minor chord septimally lowered)

tune 7/4 above Tuba

poco f, ringing but gentle

* (N = use l.h. nail instead of finger — twangy sound)

26 : 25 = 68¢

351 : 352 = 5¢

104 : 105 = 17¢

sf

C1

611

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

tune below Tba.

3/2

7/4

F 2.7

ppp

49 : 48 = -36¢

F 3.1

144 : 143 = -12¢

F 3.2

ppp un poco espr.

come prima

Tbn

tune above Tbn.

3/2

12/7

ppp

tune below Hrn.

5/1

4/1

5/1

Tba

ca. 40

ca. 30

Crot

Vibr

Chimes

Gongs

C1

Time

Pf Solo

Kbd

Vln I

I arco

ppp

III arco

ppp

Vln II

match Horn

un poco espr.

Vla

II arco

ppp

I

poco marc.

Vc

11/III arco

solo, poco f

5/I

Cb

I

II

621 2 accel. 3 4 ca. 50 3 ritenuto

Time

Alto Fl (G)

un poco espr.

Ob d'A (A)

Cl (A)

Bsn

tune 6/1 below Fl.

Hrn (F)

20 : 21 = 84¢

19 : 20 = 89¢

Tbn

Tba

3/1

13/2 below Picc.

Crot

Vibr

Chimes

Gongs

2 accel. 3 4 ca. 50 3 ritenuto

Time

Pf Solo

Kbd

Ped.

Vln I

63 : 64 = 27¢

Vln II

Vla

Vc

Cb

633

D1

4 ca. 20 | 3 | accel. 2 ca. 34 | 3

Time

Alto Fl (G)

match Vl1, Ob.

-12

ppp

Ob d'A (A)

match Horn

25 : 26 = 68¢

+4

15/8

-12 un poco espr.

-44

13 : 15 = 248¢

Cl (A)

Bsn

Hrn (F)

96 : 95 = -18¢

match Ob.

25 : 26 = 68¢

13 : 15 = 248¢

match Bsn.

come prima

ppp

Tbn

F4 ppp

Tba

tune below Tbn.

3/1

ppp

Crot

Vibr

Chimes

Gongs

D1

4 ca. 20 | 3 | accel. 2 ca. 34 | 3

Time

Pf Solo

Kbd

Ped. * Ped. *

hook l.h. over end of fingerboard

Vln I

pizz.

arco

poco f

tune 2/1 above Ob.

un poco espr.

24 : 25 (chromatic semitone) = 71¢

Vln II

pizz.

poco f

arco

ppp

Vla

ppp

tune 11/2 below Vl1

Vc

5/II

6/I

ppp

tune to Vl2

Cb

19 : 10 = -1111¢

poco f

match Tuba 5 : 3

645

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

4 | 3 ca. 60 | 3 | 4

ppp

7/4

7 : 6 = -267¢

-31

match Hrn.

8 : 7 = -231¢

match Ob.

beat against Vlc.

un poco espr.

-31

-33

ppp

7 : 10 = 617¢

-16

10 : 9 = -182¢

+2 match Tuba

ppp

co-ordinate with Vlc.
tune 3/1 above Tuba

F4

ppp

5/2

match Bsn.

ppp

Ped.

pizz.

poco f, ringing but gentle

7/4

sonore

11/6/4

pizz.

poco f, ringing but gentle

pizz.

poco f, ringing but gentle

beating against Bsn.

7/4 8/5

sonore

5/3

match Bsn., tune to Tba.

ppp

pizz.

24 : 25 (chromatic semitone) = 71¢

poco f, ringing but gentle

24 : 17 ("equal-tempered" tritone) = 597¢

4 : 13

11 : 4

6 : 8 : 13

4 : 13 IV

poco f, ringing but gentle

659 **3** ca. 40 **4** **rit.** (ca. 20) **4** **accel.** (ca. 40)

Time

Alto Fl (G)

+2 tune to Tbn. 21 : 20 = -84¢ poco marc. -16

Ob d'A (A)

+2 match Bsn. 7 : 8 = 231¢ poco marc. +33 tune to Cb. 8 : 9 = 204¢

Cl (A)

Bsn

-2

Hrn (F)

Tbn

F 4 sotto voce, poco marc. B 4

Tba

15 : 8 match Bass

Crot

Vibr

Chimes

Gongs

3 ca. 40 **4** **rit.** (ca. 20) **4** **accel.** (ca. 40)

Time

Pf Solo

Kbd

Ped. *

Vln I

N I

Vln II

I N 10 : 4 : 11

Vla

Vc

8 : 13 : 14

Cb

4 : 5 7 : 8 = 231¢ 9 : 14 = 765¢

E1

670 Time 2 2 3 ca. 40 3 accel.

Alto Fl (G)
+21 tune to Ob., Bsn. 15 : 14 = -119¢
sotto voce, poco marc.
20 : 21 = 84¢
+2 -14

Ob d'A (A)
+37
sotto voce, poco marc.
45 : 64 = 610¢ (just dimished fifth)
tune above Cl., Tbn. 8/7 5/4
+47 +2

Cl (A)
+2 +16 tune to Hrn., Ob.
un poco espr.

Bsn
7 : 8 = 231¢
+29
un poco espr.
+45
5 : 3
+49 tune to Hrn.
8 : 9
+33
3 : 5
4 : 7
+2 +4
ppp

Hrn (F)
match Vla.
sotto voce, poco marc.
ppp
match Bsn.
come prima

Tbn
35 : 36 = 49¢
tune to Bsn.
B 3.6
8 : 9 = 204¢
B 1.5
come prima

Tba
51 : 50 = -34¢
sotto voce, poco marc.

Crot

Vibr

Chimes

Gongs

E1

Time 2 2 3 ca. 40 3 accel.

Pf Solo

Kbd

Vln I
N
16 : 17 = 105¢

Vln II

Vla

Vc
14 : 15 = 119¢

Cb
7 : 8 = 231¢
14 : 15 = 119¢

680

Time: 3 (♩ ca. 60) | 4 (♩ ca. 60) | 2 (♩ ca. 45) | 3

Alto Fl (G): -29; poco marc.

Ob d'A (A): 9/8, 8/7, 4/3 +33, -29, -2; un poco espr.; 9/5, -14; ppp

Cl (A): 9/7, -33; 8/7, 7/6 +31; 4/3; 8/7; 12/7 +4; ppp

Bsn

Hrn (F): 36 : 35 = -49¢; tune to Hrn.; 17 : 16 = -105¢; 5 : 6; ppp

Tbn: B2; ppp; 153 : 160 = 77¢; tune to Hrn., Tba.; B1.2; 8 : 17

Tba: tune 4/3 below Tbn., 3/1 below Hrn.; ppp

Crot

Vibr

Chimes

Gongs

Time: 3 (♩ ca. 60) | 4 (♩ ca. 60) | 2 (♩ ca. 45) | 3

Pf Solo

Kbd

Vln I: 8/5; keep l.h. position; note l.h. position

Vln II

Vla

Vc

Cb: tune to Vlc.; 7 : 9

692

4 molto ritenuto

F1

3 ca. 20

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

84 : 85 = 20¢

10

come prima

Tbn

match Vlc.

3

come prima

F 2.2

35 : 36 = 49¢

Tba

Crot

Vibr

Chimes

Gongs

F1

4 molto ritenuto

3 ca. 20

Time

Pf Solo

Kbd

Vln I

17/8 ("equal-tempered" minor ninth)

17 : 24 ("equal-tempered" tritone) = 597¢

N

16 : 17 = 105¢

Vln II

arco

5/III

ppp

Vla

N

(just minor triad)

(just major triad)

Vc

8 : 11 : 14

arco

5/III

ppp

Cb

7 : 4

7/III

I

sf

699 3 accel. 3 ca. 50 4 ca. 30

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

+4

sotto voce, poco marc.

Bsn

Hrn (F)

un poco espr.

ppp

match Hrn.

tune below Hrn.

(same slide pos.)

13 : 14 = 128¢

ppp

Tbn

F 1.7

B 6.7

=F 5.4

note position

Tba

Crot

Vibr

Chimes

Gongs

3 accel. 3 ca. 50 4 ca. 30

Time

Pf Solo

Kbd

Vln I

arco

IV

7/4

sonore

ppp

13/10

sonore

5/3

pizz.

poco f, ringing but gentle

22/14/8/5

Vln II

IV

7/4

sonore

sf

ppp

II III

sonore

Vla

7/6

7/4

arco

7/6

sonore

7/4

I

Vc

pizz.

15 : 17 : 16

N

poco f, ringing but gentle

13 : 6

match Tbn.

arco

ppp

168 : 169 = 10¢

pizz.

N

come prima

Cb

5/4

7/6

64 : 63 = -27¢

7 : 4

5 : 3

7 : 9

709

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

2 ca. 30 3 3 accel. G1 2

sotto voce, ma poco espr.

ppp

solo, poco f

solo, poco f espr.

arco

like a low "D#"

sonore

7 : 15

45 : 44 = -39¢

44 : 45 = 39¢

14 : 3

Ped.

719

Time

4 ca. 50 — rit. — 2 ca. 30 — 4 ca. 40

Alto Fl (G)

+2 match Vl1 -45 11 : 9 = -347¢

match Bsn. +2 un poco espr.

Ob d'A (A)

Cl (A)

Bsn

tune 3/2 below Tbn. +29 ppp

+31

8 : 15

+19 un poco espr.

5 : 4 +33

6 : 7

+31 7 : 4

20 : 21 = 84¢ +16

Hrn (F)

tune 11/4 below Bsn. (rough!)
hand-stop / lip down by ca. 1/4-tone
B C -46 poco marc.

135 : 143 = 100¢ (tempered semitone)

Tbn

match Bsn.

Tba

Crot

Vibr

Chimes

Gongs

Time

4 ca. 50 — rit. — 2 ca. 30 — 4 ca. 40

Pf Solo

Kbd

Vln I

44/7 like a low "A#"

pizz. 13 : 15 = 248¢ come prima

(pizz.) 10 : 19 = 1111¢ sf

arco poco f

Vln II

5/II

pizz. 23/12/8 come prima

N 56 : 57 = 31¢

Vla

ppp

pizz. 36 : 35 = -49¢ N come prima

N 56 : 57 = 31¢

Vc

8/5 sonore

15/3 13/8 40 : 39 = -44¢ 13 : 12 = -139¢

36 : 35 = -49¢

ppp

tune to Cb. fundamental 12/11

Cb

tune to Vlc. ppp

tune to Vlc.

7 : 6 = -267¢

729

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

ca. 40

14 : 13 = -128¢

1 : 2 : 5

tune to Tbn.

-30

-44

13 : 4

tune 3/1 below Tbn. (ca. 1/6-tone)

-35

168 : 169 = 10¢

solo, espr., libero

B 6.7

=F 5.4

F 5.3

tune to Bass as 13. partial

13 : 14 = 128¢

tune to Hrn.

F 4

F 4.7

25 : 24 (chromatic semitone) = -71¢

ppp

tune 6/1 below Tbn. (ca. 1/5-tone)

-39

tune 5/2 above Vlc.

=B 5.9

poco marc.

F 2.5

arco

6/5

11/9

solo, espr.

5/3 (consonant major sixth !)

pizz.

25 : 6

come prima

20 : 21 = 84¢

54 : 55 = 32¢

poco f

arco

poco f

(prepare for 7/4 double-stop)

< poco f

8/5

7/6

121 : 120 = -14¢

tune 5/2 above Tbn.

H1

738

Time

Alto Fl (G)

+16 tune 6/5 to Tbn. 5 : 6 +31 +14 tune 7/4 above Vl2

come prima, sempre un poco espr. 10 : 7

tune to Bsn. +31 +33 4 : 3 E# -16 8 : 11 33 : 32 = -53¢

Ob d'A (A)

Cl (A)

Bsn

+31 +45 match Vl2 2 : 5 match Fl. +33 tune 2/1 below Fl. 3 : 5

come prima, sempre un poco espr. 5 : 8 poco marc.

Hrn (F)

tune 7/4 above Bsn. poco marc.

Tbn

B 5.2 shorten B slide pos. by 77 : 80 = 66¢

B 3.6 shorten B slide pos. by 10 : 11 = 165¢

note position

Tba

Crot

Vibr

Chimes

Gongs

H1

Time

Pf Solo

Kbd

Vln I

poco f

Vln II

tune 5/2 below Vla.

13/8 3/2 note finger position for next entry!

poco marcato

24 : 25 = 71¢ poco f

Vla

7/4 sf ppp

20/7 tune 7/2 below Bsn. poco marcato

tune 8/3 below Bsn. ppp

Vc

65 : 66 = 26¢ 7/4 sf sf ppp

8/III poco f

Cb

747

3 accel. 2 ca. 40 3 2

Time

Alto Fl (G)

+19 B -41 +33

12 : 23 (large major seventh)

Ob d'A (A)

Cl (A)

Bsn

+17 +16 5 : 2 +31 tune 4/3 above Vla. 11 : 12 = 151¢ -18 poco marc. tune 8/5 above Vla. 3 : 4 +29 beating against chord 6 : 5 +14 ppp

Hrn (F)

ppp 6 12 9 match Bsn. 8 ppp

Tbn

tune 9/2 below Hrn. 2 2 B 3.6 B 6.7 6 : 5 5 =F 5.4 105 : 104 = -17¢ 5 F 5.6 6 poco marc.

Tba

Crot

Vibr

Chimes

Gongs

3 accel. 2 ca. 40 3 2

Time

Pf Solo

Kbd

Vln I

Vln II

3 : 4 II 105/104 (-17¢) (beating @ ca. 4Hz) III 8 : 15 (just major seventh) tune to Vla., Bsn as 13th partial ppp

Vla

5/3 ppp 11 : 10 = -165¢ tune 8/5 under Bsn. poco f 78 : 77 = -22¢ 5/3 above Tbn. beating @ ca. 8Hz C-string note is 27/26 = 65¢ higher 4/3 above Tbn. 105 : 104 = -17¢

Vc

III IV

Cb

757

4 𝅝 ca. 20 — 2 molto accel. — 4 𝅝 ca. 50

Time

Alto Fl (G)

+16 +2 — 19 : 20 = 89¢ — 6 : 7 : 8 — -9 -42 -11 — +14 — +12 — 16 : 15 = -112¢ (diatonic semitone)

come prima, sempre un poco espr. — *ppp*

Ob d'A (A)

Cl (A)

+14 — *ppp*

Bsn

-2 -4 — *ppp* — 14 : 15 = 119¢ — +16

Hrn (F)

poco marc. — *un poco espr.* — *ppp*

Tbn

tune as before — F 5.4 — *extend F slide pos. by 27 : 26 = -65¢* — *un poco espr.* — B 6.1 — B 4 — F 1.9 — B 2 — 21 : 16 — B 6.7 — tune 7/5 below Hrn.

Tba

Crot

Vibr

Chimes

Gongs

4 𝅝 ca. 20 — 2 molto accel. — 4 𝅝 ca. 50

Time

Pf Solo

Kbd

Ped.

Vln I

Vln II

19/4 — *ppp* — s.p. — I II — fingered E is 46/45 = 38¢ higher than open E — ord. — 40 : 39 = -44¢ — tune to Vlc. — 91 : 90 = -19¢

Vla

7/4 — *solo, espr.* — 23 : 25 = 144¢ — *poco marc.* — 5/4 — *solo, molto sonore* — IV II 11/7 III I

Vc

8/5 tune to Tbn. — III — 8/5 13/8 — *ppp* — 9/4 16/7 7/3 5/2 — *solo, sonore*

Cb

767 2 ca. 20 | 4 poco accel. | (ca. 36) 2 | ca. 27 | I1 2

Time

Alto Fl (G)

27 : 26 = -65¢

tune 13/4 above Tbn., 2/1 above Vla.

Db +35

ppp

Ob d'A (A)

Cl (A)

-2 poco marc.

Bsn

Hrn (F)

64 : 63 = -27¢

poco marc.

ppppp

Tbn

24 : 25 = 71¢

tune to Bsn.

225 : 224 = -8¢

tune to Vla.

tune to Vlc.

B 6.7 | B 6 | B 6.1 | extend B slide pos. by 28 : 27 = -63¢ | B 6.7

ppp

ppppp

Tba

Crot

Vibr

Chimes

Gongs

2 ca. 20 | 4 poco accel. | (ca. 36) 2 | ca. 27 | I1 2

Time

Pf Solo

Kbd

Vln I

Vln II

24 : 23 = -74¢

s.p.

un poco espr.

207 : 208 = 8¢

tune 7/6 below Vla., 7/5 below Fl.

ppp

pizz.

poco f

N glide down and back twice

24 : 23 = -74¢

Vla

II

13/4

ppp

I

pizz.

poco f

N glide down and back twice

24 : 23 = -74¢

Vc

ppp

IV

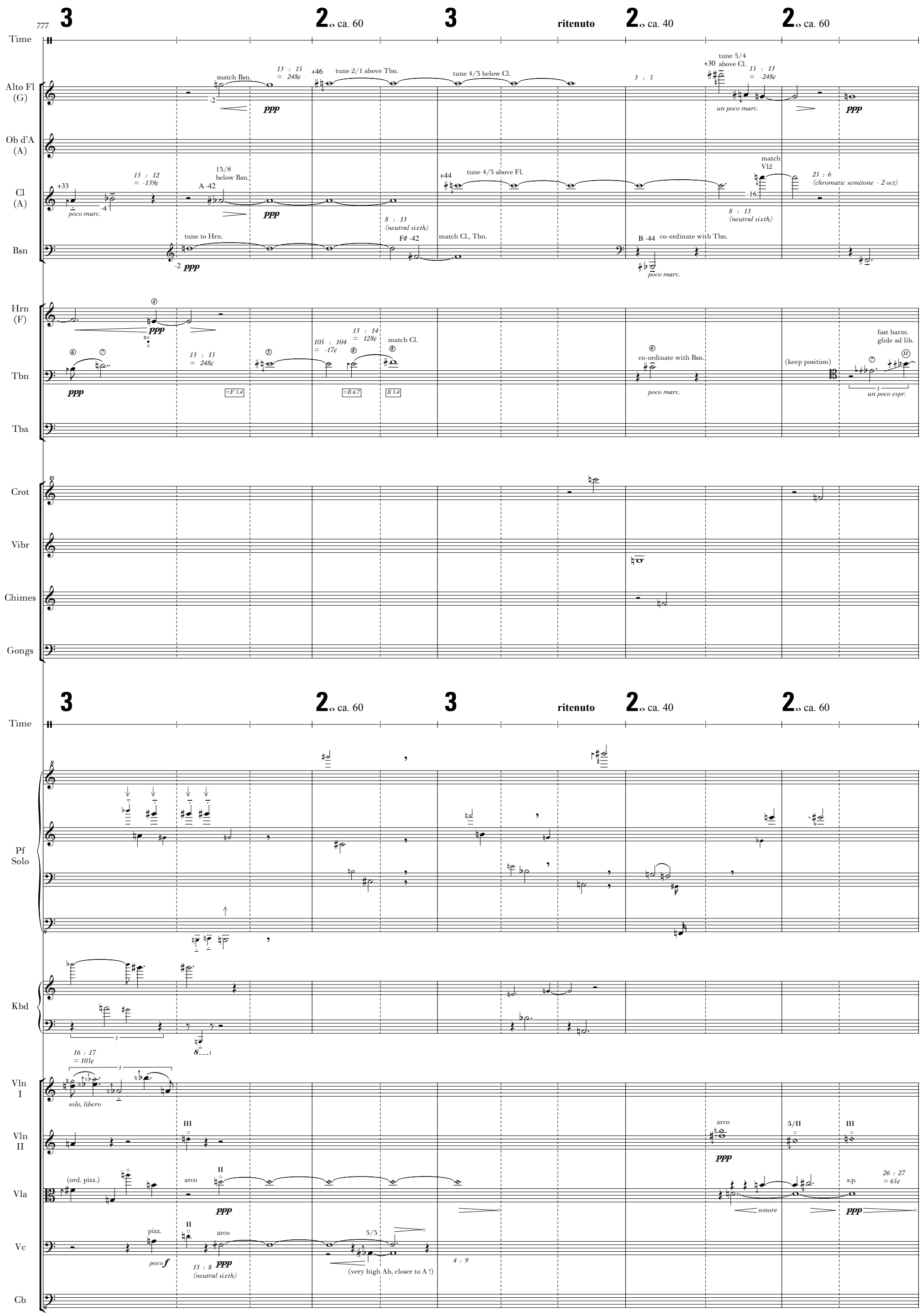
7/3

ppp

Cb

IV III II I

poco f


777
Time
Alto Fl (G)
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
ca. 60
ritenuto
ca. 40
match Bsn.
tune 2/1 above Tbn.
tune 4/3 below Cl.
tune 5/4 above Cl.
un poco marc.
tune 4/3 above Fl.
match Vl2
(chromatic semitone - 2 oct)
(neutral sixth)
13/8 below Bsn.
tune to Hrn.
match Cl., Tbn.
co-ordinate with Tbn.
poco marc.
co-ordinate with Bsn.
(keep position)
fast harm. glide ad lib.
un poco espr.
match Cl.
solo, libero
(ord. pizz.)
arco
pizz.
sonore
s.p.
(very high Ab, closer to A !)

789

Time

Alto Fl (G)

5 : 8 (just minor sixth)

+12 D -39

6 : 11 (neutral seventh)

tune 5/4 above Cl.

co-ordinate with Bsn. 95 : 96 = 18¢ +18 12 : 13 = 139¢

poco marc. espr. -43

14 : 15 = 119¢ +19

Ob d'A (A)

Cl (A)

+14 G -37

6 : 11 (neutral seventh)

tune 5/4 below Fl.

5 : 6 (just minor third) +14 -2 un poco espr.

4 : 5 (just major third) -14

Bsn

G# -39 B -23 +18

tune to Vla., Vlc.

match Vlc.

8 : 13 (neutral sixth)

9 : 10 = 182¢ (minor wholetone)

co-ordinate with Fl. 95 : 96 = 18¢ +18

poco marc.

tune 5/3 under Hrn.

9 : 10

Hrn (F)

co-ordinate with Tuba

19 : 12

match Hrn.

Tbn

12 : 13 = 139¢

match Cl.

poco marc.

Tba

tune, co-ordinate with Horn

F4

8 : 15

poco marc.

un poco espr.

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

I 13/4 above Vlc.

poco marc.

7/5 11/6 5/3

sonore

7/6

sonore

5/III 2 : 5

poco marc.

8/5

95 : 96 = 18¢

match Hrn.

5/III 15/8 3/2

II III II

I

(very high Bb, closer to B !)

8/5

sonore

3/2

7/5

19/8

25 : 6 (chromatic semitone plus 2 oct.)

J1

3 ca. 40 | 3 | 2

800

Time

Alto Fl (G): 27 : 28 = 63¢; match Cl.; -18 ppp; 5 : 6 (just minor third); tune to Hrn. 5 : 8 : : 9 : 10; +12 +16; -2 sostenuto

Ob d'A (A): tune to Hrn. 3/2 +12 8/5; sostenuto; match Fl. +16 -2; tune to Cl. +10 4/3

Cl (A): +30; 15 : 13 = -248¢; -18 ppp; 39 : 40 = 44¢; 13 : 8 (neutral sixth); +42; 8 :; 15 : 13 = -248¢; 25 : 24 = -71¢; +12 match Ob.; ppp

Bsn: 17 : 16 = -105¢; -18; -23; tune 4/1 below Cl.; 325 : 324 = -5¢; come prima

Hrn (F): match Cl.; 39 : 40 = 44¢; match Cl., Tba.; match Tuba; match Tuba; 5 : 4 = -386¢; ppp; B 5.4; note position

Tbn: F 3.6; un poco espr.

Tba: 51 : 49 = -69¢; 18 : 17 = -99¢; 13 : 8; tune 7/2 below Tbn.; match Tbn.; ppp

Crot

Vibr

Chimes

Gongs

J1

3 ca. 40 | 3 | 2

Time

Pf Solo

Kbd

Vln I: 15 : 17 (diminished third) = 217¢; poco marc.; 17 : 16 = 105¢

Vln II: 5/III; sonore; 5/IV; 14/5; sonore

Vla

Vc: 5/III; sempre ppppp; 4/II; ppp

Cb

K1

810 Time 3 ca. 30 3 2 ca. 40 2

Alto Fl (G): +29 tune 4/3 above Cl., note pitch for next entry; poco marc.; 8 : 9 (major wholetone); come prima; +33 tune 3/2 above Cl.

Ob d'A (A): 5 : 9 (large just minor seventh); +16 13th partial above Tbn.; +27; +31; 15 : 8 : 9

Cl (A): +31 tune to Hrn.; remember pitch for next entry; 14 : 15 poco marc. = 119¢; 4 : 9; come prima

Bsn: match Brass; B -23 ppp; 8 : 13 (neutral sixth)

Hrn (F): poco marc.; come prima

Tbn: match "B" in Piano; solo, un poco espr. B 5.4; tune to Tuba; F 2.2; from B 5.4, raise equivalent F slide position (4.4) by 130 : 147 = 213¢ (slightly large wholetone); 40 : 39 = -44¢; =B 2.7; keep position

Tba: tune to Tbn.; (same fingering); 25 : 26 = 68¢; 36 : 35 = -49¢

Crot

Vibr

Chimes

Gongs

K1

Time 3 ca. 30 3 2 ca. 40 2

Pf Solo

Kbd: Ped.

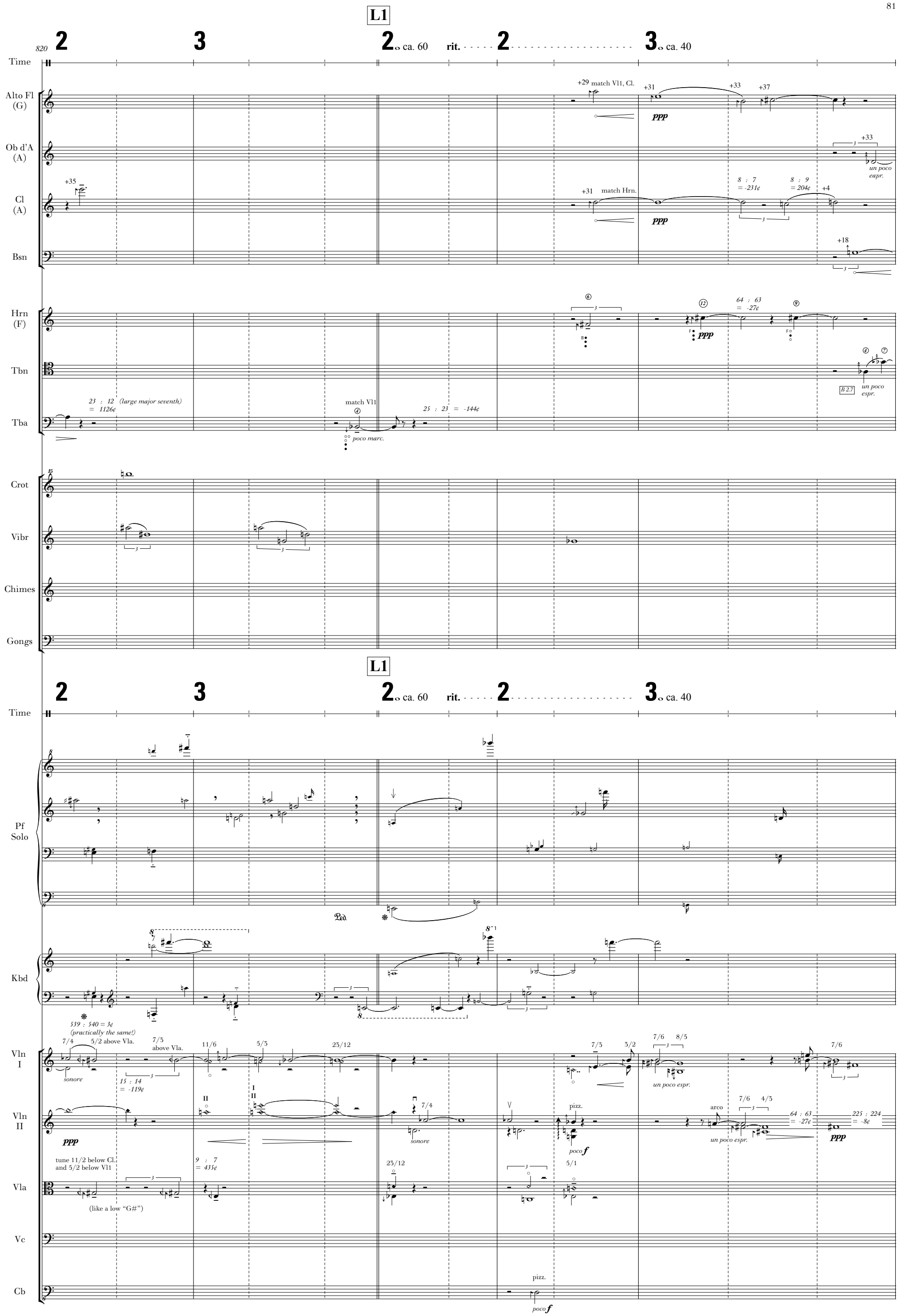
Vln I: 7/5; III IV sonore; 13 : 8 (neutral sixth); II III 13/4 tune to Brass; ppp; poco marc.

Vln II: II; tune 7/4 above Piano; ppp

Vla: 5/3; 35 : 16 = -155¢ -1 oct; tune 5/2 below Cl.; 44 : 45 = 39¢; poco marc.

Vc: 4/IV; II 6 : 7 : 8 : 9 : 10 : 11; libero, poco f

Cb


L1
820
Time
Alto Fl (G)
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
ca. 60
rit.
ca. 40
+29 match Vl1, Cl.
+31
+33
+37
ppp
un poco espr.
+35
+31 match Hrn.
8 : 7 = -231¢
8 : 9 = 204¢
+4
+18
64 : 63 = -27¢
B 2.7
un poco espr.
23 : 12 (large major seventh) = 1126¢
match Vl1
poco marc.
25 : 23 = -144¢
Pf Solo
Kbd
539 : 540 = 3¢ (practically the same!)
Vln I
Vln II
Vla
Vc
Cb
7/4
5/2 above Vla.
7/3 above Vla.
11/6
5/3
23/12
7/3
3/2
7/6
8/5
sonore
15 : 14 = -119¢
un poco espr.
7/4
pizz.
poco f
arco
7/6
4/3
64 : 63 = -27¢
225 : 224 = -8¢
tune 11/2 below Cl. and 5/2 below Vl1
9 : 7 = 435¢
(like a low "G#")
5/1

832

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

3 2 2 3 molto accel.

+2 take Picc.

poco marc.

ppp

tune above Bsn. 6/5 4/3 +16

tune below Hrn. 4/3 +35

+4 ppppp

9 : 7 (large septimal major third)

+14 tune to Tbn.

ppp

24 : 25 = 71¢

-12 un poco espr. ppppp

ppp

F 4.7

ppppp

from B 2.7, lower equivalent F slide position (2.2) by 15 : 13 = -248¢

=B 5.9 (F-comma-up fundamental)

for next entry raise slide by 11 : 12 = 151¢ on Bb-side

tune below Bsn. 15/8 5/2

3 : 5 (just major sixth)

match Vl1

poco marc.

(same fingering)

3 2 2 3 molto accel.

9/8

flaut.

II poco port. on II

I flaut., espr.

tune to Tbn., Tuba

pizz. N poco f

ord.

N bend down very slightly

come prima ord. N

pizz. poco f

pizz. s.p.

32 : 33 = 53¢ (plus 2 oct.)

arco ord.

bend up on II very slightly

I II I poco marc.

+ ppppp

s.p.

arco 2/III 6/IV

4/III poco marc.

11 : 4

tune 9/1 below Vlc.

ppppp

M1

842 4 ca. 75 | 4 | 3 rit.

Time

Picc

8 : 7 = -231¢

19 : 16 ("equal-tempered" minor third) = 297¢

ppp -14 -45

match Vl1, tune above Cl.

Ob d'A (A)

7/6 14 : 15 = 119¢ 6/5

-31 ppp -12

Cl (A)

+2 24 : 25 = 71¢ 5 : 8

ppp -27

tune 5/1 above Bsn.

Bsn

tune to Bass (A is fundamental)

-14 ppp

match Ob. 385 : 384 = -5¢

-12 poco marc.

Hrn (F)

Tbn

Tba

8 10

23 : 12 (large major seventh)

Crot

Vibr

Chimes

Gongs

M1

4 ca. 75 | 4 | 3 rit.

Time

Pf Solo

(end both)

(end both)

Kbd

8

Vln I

II poco port. on II

11/7 6/5

like a low "B#"

I flaut., espr.

39 : 40 = 44¢

4/3 13/10

sonore

10/7

15 : 14 = -119¢

4/3

tune with Vlc.

9/5

ppp

385 : 384 = -5¢

Vln II

III arco

IV poco marc.

104 : 105 = 17¢

ppp

Vla

tune 7/2 above Piano

ppp

flaut.

6/1

like a low "E#" tune 5/4 above Vibes

II 104 : 105 = 17¢ match Vl2

poco marc.

6/1

I

12 : 11 = -151¢

ppp

Vc

ord. 13/10

poco marc.

ppp

5/I

tune with Vl1

385 : 384 = -5¢

poco marc.

Cb

2/II

sonore

8/3 11/4

44 : 45 = 39¢

tune below Vl1

8/3

39 : 40 = 44¢

13/5

5 : 4

5/4

sonore

853

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

4 (ca. 30) 2 ca. 30 4

56 : 57 = 31¢

11 : 8 (fourth plus quartertone)

tune 5/2 above Tbn.

10 : 11 = 165¢

tune above Ob.

13 : 14 = 128¢

7/2

3/1

12 : 13 = 139¢

13/4

D# -37

D +37

un poco marc.

7 : 4

tune below Picc.

57 : 56 = -31¢

bend down

poco marc.

F# -37

B -39

un poco marc.

poco espr.

13 : 12 = -139¢

14 : 13 = -128¢

tune to Hrn.

4 : 5

tune 4/3 above Ob.

7 : 11 = 782¢

D# -16

tune 8/3 below Vlc.

3 : 10 (just major sixth plus an octave)

match Hrn.

poco espr.

10 : 11 = 165¢

14 : 19 = 529¢ (slightly large fourth)

tune to Tuba

tune 5/2 above Tba.

tune 7/4 above Tba.

35 : 11 ("equal-tempered" minor sixth and an octave)

tune as 7/4 above Vlc.

match Tba.

95 : 92 = -56¢

35 : 38 = 142¢

tune 5/2 below Hrn.

7 : 10

tune 7/4 below Hrn.

come prima

tune with Vlc.

note finger position

same finger position, on III

(slightly lower than previous A#)

16 : 15 (diatonic semitone) = -112¢

57 : 56 = -31¢

(slightly lower than previous C#)

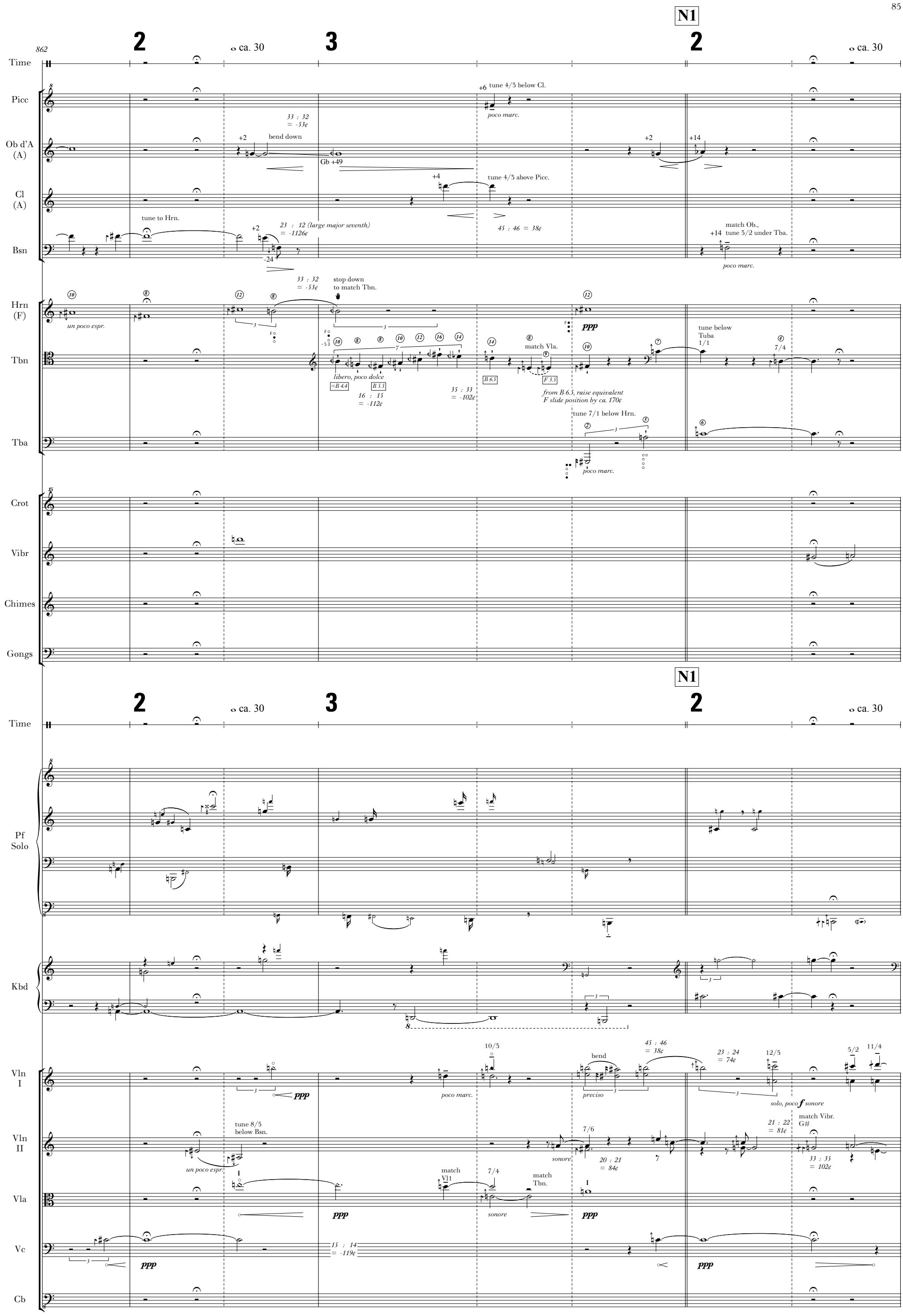
tune with Vl1

32 : 33 = 53¢

4/IV

14 : 3

225 : 224 = -8¢


N1
Time
Picc
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
ca. 30
tune 4/3 below Cl.
poco marc.
bend down
Gb +49
tune 4/3 above Picc.
tune to Hrn.
match Ob., tune 3/2 under Tba.
un poco espr.
stop down to match Tbn.
ppp
tune below Tuba 1/1
libero, poco dolce
match Vla.
from B 6.5, raise equivalent F slide position by ca. 170¢
tune 7/1 below Hrn.
tune 8/5 below Bsn.
match Vl1
match Tbn.
sonore
preciso
solo, poco f sonore
match Vibr. G#

870

Time

Picc

+4 +35 15 : 14 = -119¢ +16 tune 3/2 above Ob. 64 : 65 = 27¢

ppp

Ob d'A (A)

+14 match Cl.

ppp

Cl (A)

+14 match Ob. +31

ppp

Bsn

5 : 4 +27 tune 5/1 below Ob., Cl.

ppp

Hrn (F)

come prima

Tbn

keep position

ppp

Tba

tune 3/2 above Bsn. 24 : 25 = 71¢ (chromatic semitone)

ppp

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

(l.h. cross)

(r.h.)

Vln I

18/7

Vln II

7/6 6/5

Vla

tune to Vlc., Vl2

ppp

poco marc.

23/12

Vc

match Tbn.

poco marc.

ppp

Cb

ppp

solo, libero

8/IV

879

Time

3 ca. 50 | 2 ca. 30 | 3 | O1 2

Picc

39 : 40 = 44¢

match Vlc.

C +42 -14 -25 -16

Ob d'A (A)

8 : 15

tune below Picc.. 6/1

-27

Cl (A)

ppp

Bsn

Hrn (F)

20 : 27 = 520¢ (fourth plus comma)

un poco espr. sostenuto

Tbn

tune 5/4 below Tuba

tune 5/4 above Tuba

F 3.5 espr, sostenuto.

F 3.1 raise slide by 44 : 45 = 39¢

Tba

espr, sostenuto

Crot

Vibr

Chimes

Gongs

Time

3 ca. 50 | 2 ca. 30 | 3 | O1 2

Pf Solo

Kbd

Vln I

match Cb.

ppp

poco marc.

tune 5/1 above Bass (like a high "G")

Vln II

sonore

Vla

match Vlc.

25/12

slowly stop and bend down

poco marc.

Vc

5/I

poco marc.

sim.

Cb

tune 11/1 below Vl2

889

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

ca. 30

25 : 24 (chromatic semitone) = -71¢ +16

19 : 16 ("equal-tempered" minor third) = -297¢

20 : 19 = -89¢

52 : 55 = 97¢

C# -3

6 : 5

20 : 21 = 84¢

14 : 15 = 119¢

+14 match Vlc., Tuba

ppp

tune to Tuba, Tbn.

match Tbn.

tune to Tuba, Hrn.

match Horn

B 3.9

F-comma-up fundamental: note position for b. 928

tune to Hrn., Tbn.

keep hand position

match Piano "C"

(like a high "D")

7/4

sonore

2/1 below Tbn.

5/1

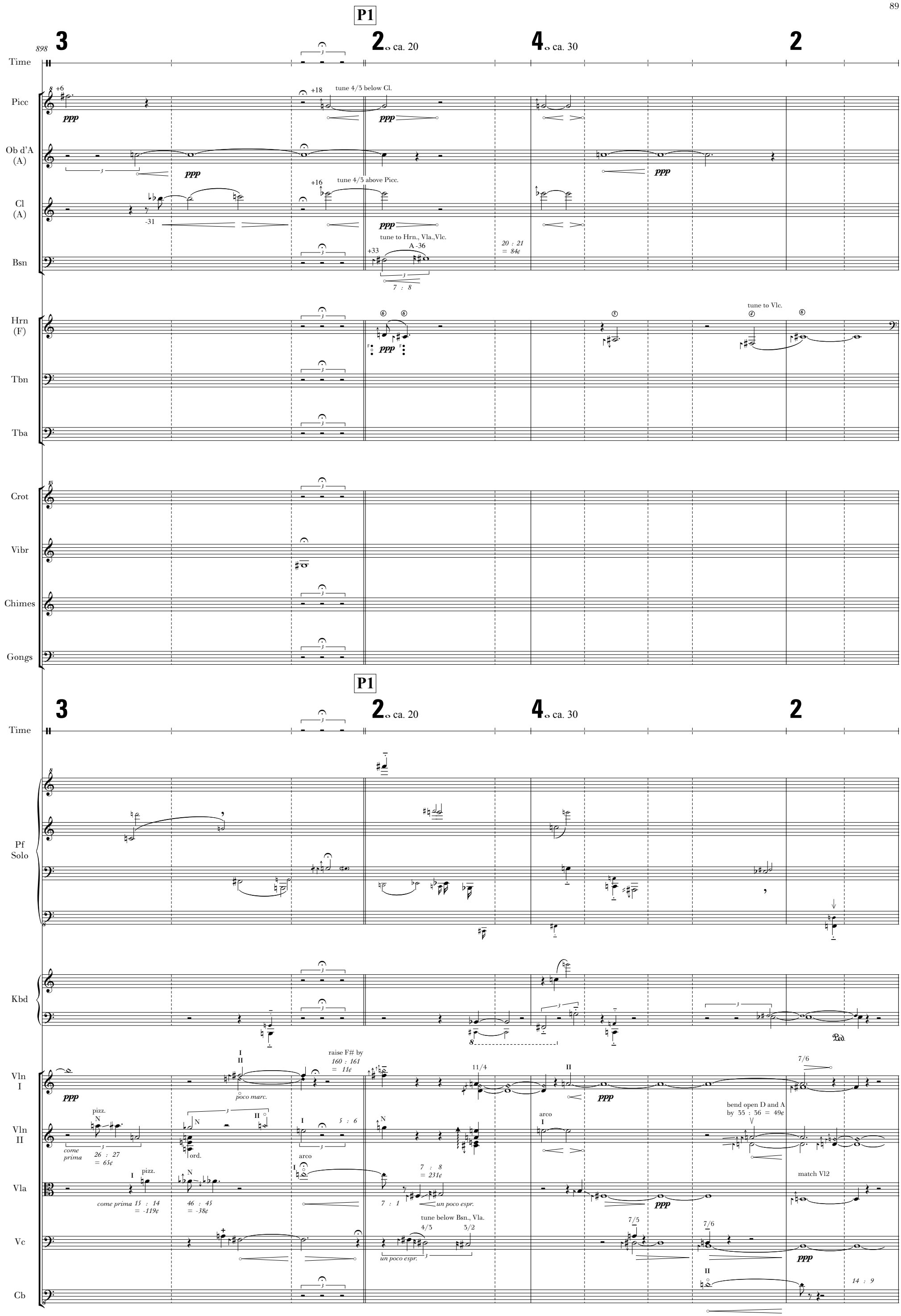
52 : 55 = 97¢

tune as "F#" 5/2 above Cb.

11 : 10 = -165¢

65 : 66 = 26¢

tune 13/4 below Vla.


P1
898
Time
Picc
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
tune 4/3 below Cl.
tune 4/3 above Picc.
tune to Hrn., Vla.,Vlc.
tune to Vlc.
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
poco marc.
raise F# by 160 : 161 = 11¢
bend open D and A by 35 : 36 = 49¢
match Vl2
tune below Bsn., Vla.
un poco espr.
come prima
pizz.
arco
ord.

909

Time

Picc

Ob d'A (A)

Cl (A)

Bsn

Hrn (F)

Tbn

Tba

Crot

Vibr

Chimes

Gongs

Pf Solo

Kbd

Vln I

Vln II

Vla

Vc

Cb

accel.

ca. 40

match Vl2

+18

tune 3/2 above Vlc.

+49

poco marc.

tune 5/1 below Vla.

ppp

(sustain G and Ab)

tune 5/2 above Vlc.

20 : 21 = 84¢

96 : 95 = -18¢

un poco espr.

24 : 23 = -74¢

poco marc.

35 : 36 = 49¢

sonore

tune 5/1 above Cb.

tune 5/2 below Vl1

8 : 15

26 : 27 = 65¢

26 : 25 = -68¢

tune 5/1 above Tba.

13/10 above Vla.

4 : 5

9/5

9 : 4

tune 3/1 below Vlc.

15 : 14 = -119¢

10 : 9 = -182¢

tune 5/1 below Vla.

920 2 | Q1 3 ca. 12 | 3 ca. 20 | 4 ca. 30

Time

Picc — poco marc. +22 +4 -12 6 : 13 A +27

Ob d'A (A) — +4 ppp

Cl (A) — +20 +16

Bsn — F -49 tune 7/3 below Cl. +14 +2 +33 tune to Hrn., Tbn. ppp ppp 27 : 28 = 63¢

Hrn (F) — poco marc. tune to F triad in low Strings 14 : 15 = 119¢ match Hrn., previous C#

Tbn — B 2 poco marc. B 5.9 B 4.7 F 2.3 from B 4.7, raise equivalent F slide position by ca. 144¢

Tba — poco marc. 45 : 46 = 38¢ 14 : 15 = 119¢

Crot

Vibr

Chimes

Gongs

Q1 2 | 3 ca. 12 | 3 ca. 20 | 4 ca. 30

Time

Pf Solo

Kbd

Vln I — 5/II 40 : 39 = -44¢ poco marc. 15 : 14 = -119¢ (like a high "Cb") 91 : 90 = -19¢ 10 : 11 = 165¢

Vln II — 24 : 25 (chromatic semitone) = 71¢ tune 5/4 above Ob. I poco marc.

Vla — 17/8 * 7/4 poco marc. * "equal-tempered" minor ninth tune to Vlc., Cb. ppp

Vc — 36 : 35 = -49¢ tune 9/4 below Vl2 poco marc. ppp 14 : 15 = 119¢ tune 5/1 above Cb. 35 : 36 = 49¢

Cb — 4/III 5 : 1 tune 5/1 below Vlc. ppp 14 : 15 = 119¢ tune 5/1 below Vlc.

930

Time

Picc

Bb +39

6 : 13

6 : 11

+49

ppp

+2

poco marc.

Ob d'A (A)

match Cl.

-16

un poco espr.

8 : 11

+36

-4

+14

Cl (A)

un poco espr.

-16

5 : 4

5 : 6

-2

+14

5 : 4

Bsn

match Vla.

24 : 25 = 71¢

+12

-29

un poco marc.

125 : 128 = 41¢ (minor diesis)

Hrn (F)

Tbn

99 : 98 = -18¢

tune to Tuba

14 : 9 (narrow minor sixth)

F 2.5

7/6 below Vlc.

F 2

slide position difference of 384 : 385 = 5¢

33 : 32 = -53¢

F 2

F 2.5

ppp

F 2

Tba

11 : 10 = -165¢

tune 13/4 below Tbn.

ppp

Crot

Vibr

Chimes

Gongs

Time

Pf Solo

Kbd

Ped.

Vln I

121 : 120 = -14¢

tune to Tba.,Tbn.

18 : 19 = 94¢

11/4

8/5

sonore

ppp

Vln II

I

13/2

sonore

8/5

Vla

tune 7/2 above Cb.

5/4

solo, espr.

8/5

sonore

6/5

27/22

(come prima)

5/4

6/5

26 : 25 = -68¢

Vc

99 : 98 = -18¢

match Tuba

I

(like a high "G")

32 : 33 = 53¢

poco marc.

Cb

5 : 8

tune 7/2 below Vla.

pizz.

8 : 11

match Vl1

poco f

R1

940 ca. 30

Time

Picc

tune 2/1 above Vlc.

ppp

un poco espr.

Ob d'A (A)

tune below Bsn.

Cl (A)

tune below Bsn.

Bsn

tune above Cl.

un poco espr.

tune 11/2 below Picc.

ppp

Hrn (F)

ppp

Tbn

tune below Vlc., Picc

Tba

Crot

Vibr

Chimes

Gongs

R1

ca. 30

Time

Pf Solo

Kbd

Vln I

tune 8/3 above Vla.

ppp

poco marc.

Vln II

sonore

ppp

tune 11/7 above Vlc.

Vla

tune 2/1 above Vlc.

ppp

tune 2/1 below Vla.

sonore

tune 3/1 above Vlc.

Vc

poco marc.

ppp

fingered step is 11 : 10 = 165¢

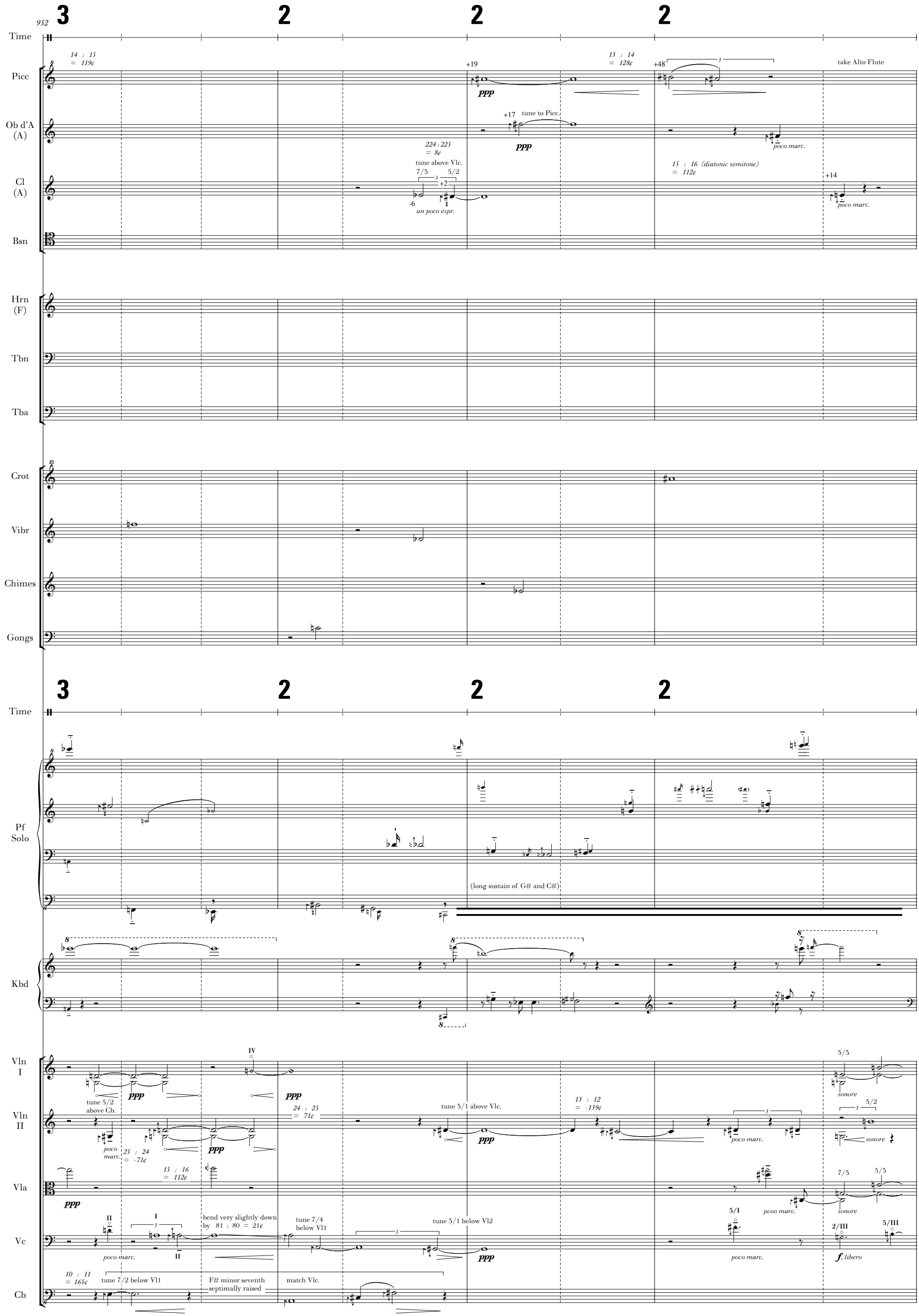
tune 3/2 below Vla.

Cb

match Vl2 (pizz.)

tune 7/2 belowVlc. arco

ppp


Time
Picc
Ob d'A (A)
Cl (A)
Bsn
Hrn (F)
Tbn
Tba
Crot
Vibr
Chimes
Gongs
Pf Solo
Kbd
Vln I
Vln II
Vla
Vc
Cb
14 : 15 = 119¢
+19
ppp
13 : 14 = 128¢
+48
take Alto Flute
+17
tune to Picc.
poco marc.
224 : 225 = 8¢
tune above Vlc.
7/3
5/2
+2
-6
un poco espr.
15 : 16 (diatonic semitone) = 112¢
+14
(long sustain of G# and C#)
tune 5/2 above Cb.
24 : 25 = 71¢
tune 3/1 above Vlc.
13 : 12 = -139¢
5/3
sonore
25 : 24 = -71¢
15 : 16 = 112¢
7/5
bend very slightly down by 81 : 80 = 21¢
tune 7/4 below Vl1
tune 3/1 below Vl2
5/I
2/III
5/III
f, libero
10 : 11 = 165¢
tune 7/2 below Vl1
F# minor seventh septimally raised
match Vlc.

961

4 poco a poco accel. 3 3 ca. 40 ritenuto

Time

Alto Fl (G)

Ob d'A (A)

20 : 21 = 84¢

+2 tune to Bsn.

ppp

Cl (A)

20 : 21 = 84¢

Bsn

ppp

Hrn (F)

un poco espr.

Tbn

Tba

Crot

Vibr

Chimes

Gongs

4 poco a poco accel. 3 3 ca. 40 ritenuto

Time

Pf Solo

Kbd

Vln I

7/4 13/8 pizz. poco f I arco ppp III ppp II

Vln II

7/4 5/4 10/3 26 : 27 = 65¢ pizz. N poco f arco 11/4 sonore

Vla

pizz. poco f sonore poco port. 6/5 6/5 26 : 27 = 65¢ poco port. 3/2 5/3 26 : 27 = 65¢ 9/8 5/4 4/3 64 : 65 = 27¢

Vc

harm. glide ad lib. 6/III 5/II 6/III 11/III 5/I

Cb

2/II 5/II 13/4 III

poco f sonore ppp

S1

971 2 ca. 15 | 4 ca. 30 | 2 ca. 18

Time

Alto Fl (G)

tune to Cl., Ob.

-4 -14 25 : 24 = -71¢

+16 +11 -49 solo, libero 12 : 19 ("equal-tempered" minor sixth)

tune 7/2 above Hrn. 384 : 385 = 5¢

Ob d'A (A)

+4 poco marc

Cl (A)

match Fl. -2 poco marc

11 : 12 = 151¢

tune 9/4 below Fl. Gb +49

32 : 33 = 53¢

Bsn

poco marc.

28 : 27 = -63¢

+37

9 : 10 = 182¢

Hrn (F)

352 : 351 = 5¢

tune as 11th partial of Tuba

poco marc.

Tbn

tune to Tuba

B 5.9 poco marc. 39 : 40 = 44¢

B 5.4 poco espr.

bend down slightly

poco marc. 64 : 63 = -27¢ B 5.7

Tba

tune to Tbn.

ppp

Crot

Vibr

Chimes

Gongs

S1

2 ca. 15 | 4 ca. 30 | 2 ca. 18

Time

Pf Solo

Kbd

Vln I

11/2

22 : 23 = 77¢

sonore

23 : 24 = 74¢

poco marc.

9 : 8 = -204¢

Vln II

ppp

Vla

II

ppp

Vc

bend up slightly

tune 9/5 below Hrn.

54 : 55 = 32¢

I

bend up slightly

45 : 46 = 38¢

II

ppp

Cb

5/IV 11 : 2

poco marc.

15 : 16 = 112¢

4/III

tune 7/2 below Vlc.

979 3 ca. 24 | 3 | 1

Time

Alto Fl (G)

Ob d'A (A)

Cl (A)

bend slightly down and back
tune to Bsn., Tuba
+2
un poco espr.
56 : 55
= -31¢
+20
84 : 85
= 20¢
15 : 8 (just major seventh)
+32

Bsn

+19
tune to Tuba, Vlc.
ppp

Hrn (F)

tune 7/1 above Tba.

Tbn

Tba

tune 7/1 below Hrn.
135 : 128 = -92¢
ppp

Crot

Vibr

Chimes

Gongs

3 ca. 24 | 3 | 1

Time

Pf Solo

pppp

Kbd

very delicately !
pppp
hold until all else fades, then cut

Vln I

84 : 85
= 20¢ bend down
poco marc.
like a
low "A#", match Vla.
ppp

Vln II

17/4 ("equal-tempered minor ninth)
sonore
ppp
2/3/5 (just major chord)
like a
low "D#"
11/7
sonore
tune 5/2 above Vla.

Vla

like a
low "D#"
11/7
7/6
6/1
poco f
tune 9/4
above Cb.
sonore
ppp

Vc

14 : 15 = 119¢
ppp
III
ppp

Cb

3 : 5
tune 9/4
below Vlc.
tune 7/2
below Vlc.
poco f
ppp

Berlin, 30 August 2012 / corrected 26 November 2012