

Wolfgang von Schweinitz

Plainsound Counterpoint

Seven 23-limit Harmony Intonation Studies

for double bass solo

op. 56

2010-2011

for Frank Reinecke

Ein Kompositionsauftrag
des Bayerischen Rundfunks / musica viva

commissioned by the musica viva concert series
of the Bavarian Radio Munich, Germany

PLAINSOUND MUSIC EDITON

VORZEICHEN EXTENDED HELMHOLTZ-ELLIS JI PITCH NOTATION

für die natürliche Stimmung

Die gewünschte Stimmung jedes Tons ist mit folgenden harmonisch definierten Vorzeichen ausnotiert:
The intended tuning of each tone is spelled out with the following harmonically defined accidentals:

	<i>Pythagoreische Quintenreihe der leeren Streicher-Saiten (... c g d a e ...) Pythagorean Series of 3:2 Fifths (based on the open strings : c g d a e)</i>
	<i>Erniedrigung / Erhöhung um ein Syntonisches Terzkomma 81:80 = circa 21.5 cents Lowers / raises the pitch to alter the Pythagorean Thirds 81:64 & 32:27 by a Syntonic Comma to represent the Ptolemaic Thirds 5:4 & 6:5</i>
	<i>Erniedrigung / Erhöhung um zwei Syntonische Terzkommas circa 43 cents Lowers / raises the pitch by two Syntonic Commas</i>
	<i>Erniedrigung / Erhöhung um ein Septimenkomma 64:63 = circa 27.3 cents Lowers / raises the pitch to diminish the 16:9 Pythagorean Minor Seventh by a Septimal Comma to represent the 7:4 Natural Seventh</i>
	<i>Erhöhung/Erniedrigung um den undezimalen Viertelton der 11er-Relation 33:32 = circa 53.3 cents Raises / lowers the pitch to augment the pure 4:3 Fourth by the 11-limit Quartertone 33:32 to represent the 11:8 Augmented Fourth</i>
	<i>Erniedrigung / Erhöhung um den tridezimalen Drittelton der 13er-Relation 27:26 = circa 65.3 cents Lowers / raises the pitch to diminish the Pythagorean Major Sixth 27:16 by the 13-limit 1/3-tone 27:26 to represent the 13:8 Median Sixth</i>
	<i>Erniedrigung / Erhöhung um ein Siebzehner-Schisma 256:255 = circa 6.8 cents Lowers / raises the pitch to diminish the 16:15 Diatonic Semitone by a 17 Schisma to represent the 17:16 Semitone</i>
	<i>Erhöhung / Erniedrigung um ein Neunzehner-Schisma 513:512 = circa 3.4 cents Raises / lowers the pitch to augment the 32:27 Pythagorean Minor Third by a 19 Schisma to represent the 19:16 Small Minor Third</i>
	<i>Erhöhung / Erniedrigung um ein Dreiundzwanziger-Komma 736:729 = circa 16.5 cents Raises / lowers the pitch to augment the Pythagorean Tritone 729:512 by the 23-limit Comma 736:729 to represent the augmented Tritone 23:16</i>

These 'Helmholtz-Ellis' accidentals for just intonation were devised in collaboration with Marc Sabat who also designed the computer fonts.

The attached arrows denoting the pitch alteration by a Syntonic Comma are a mere transcription of the notation introduced by Hermann von Helmholtz 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" (published 1875/1885) was made by Alexander J. Ellis, who also introduced a refinement of pitch definition within the Twelvetone-System of Equal Temperament, dividing the octave into 1200 cents. The accidental sign denoting the alteration of a Septimal Comma was invented by Guisepppe Tartini (1692-1770), the composer-violinist and scientist who investigated the difference tones created by double-stops.

Cent numbers: In addition to the harmonic pitch definition by means of these accidentals, the score also indicates the absolute pitch-height of each new bass note as a cents-deviation from the respectively indicated chromatic pitch in the 12-tone system of Equal Temperament.

Interval ratios: For all just intervals the score also denotes their mathematical frequency ratios as an additional tuning information. The numbers of these ratios are as it were the stenographic "code name" of the interval, specifying not only its size, but also the partial-unisonos and difference tones relevant for its timbre, as well as the fundamental pitch or root of the interval and the relative degree of consonance or complexity of the tone relationship.

PERFORMANCE DURATION for the complete cycle : ca. 50 minutes (ca. 7:30, 4:30, 6:30, 8:30, 5:30, 5:30, 7:30)

Diese 'Helmholtz-Ellis' Vorzeichen für die natürliche Stimmung wurden entworfen in Zusammenarbeit mit Marc Sabat, der auch den Computerzeichensatz hergestellt hat.

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 Guisepppe Tartini (1692-1770) erfunden, der als Komponist, Geiger und Wissenschaftler die durch Doppelgriffe erzeugten Differenzöne untersucht hat.

Centzahlen: Zusätzlich zur harmonischen Tonhöhendefinition durch diese Vorzeichen wird die absolute Tonhöhe für jeden neuen Basston auch als Cent-Abweichung vom jeweils entsprechenden chromatischen Ton des gleichstufig temperierten 12-Ton-Systems angegeben.

Intervallverhältniszahlen: Für alle reinen Intervalle wird als Zusatz-Information auch ihr jeweiliges mathematisches Schwingungsverhältnis genannt. Diese Bruchzahlen geben in stenographischer Kürze als "Intervall-Namen" Aufschluss nicht nur über die Größe des Intervalls, sondern auch über die für das Timbre des Zusammenklangs wichtigen Partialton-Unisoni und Differenzöne, sowie über den Grundton und den relativen Konsonanz- oder Komplexitätsgrad der Tonverwandtschaft.

AUFFÜHRUNGSDAUER für den ganzen Zyklus : ca. 50 Minuten (ca. 7:30, 4:30, 6:30, 8:30, 5:30, 5:30, 7:30)

2
29 **4** 17/3 17/4 9/2 17/4 17/3

33 17/4 17/3 6/1 17/3 **5** 68/9 15/2 (♯∞) 32/3 15/2

37 32/3 10/1 32/3 10/1 15/2 10/1 15/2

41 **6** a tempo 7/2 vicino al tasto più vicino al pont. 7/2 ord. 9/2 9/2

45 7/2 28/5 11/2 (♯∞) 9/2

49 11/2 9/2 11/2 11/2 (♯∞) 11/2

53 11/1 11/1 22/3 11/1

57 $22/3$ $12/1$ $11/1$ $11/2$ $22/3$

espr. *espr.*

$11:12$ (+151 c) $11:12$ (+151 c)

61 $9/2$ $9/2$ $11/2$ $22/3$ $9/2$ $11/2$ $11/1$

più f *espr.* *sonore* *f* *pp*

ritenuto *più vicino al pont.*

$11:12$ (+151 c) $11:12$ (+151 c)

65 $77/9$ $17/2$ $28/3$ $17/2$ $17/2$

pp *port.* *p* *sonore* *espr.* *f*

a tempo

$153:154$ only (+11 c) $51:56$ (+162 c)

69 $17/2$ $32/3$ $17/2$ $6/1$ $20/3$ $6/1$

riten. *f espr.* *p* *dolce* *espr.*

vicino al tasto

$51:56$ (+162 c) $84:85$ (+20 c) $9:10$ (+182 c)

73 $9/2$ $6/1$ $20/3$ $6/1$ $9/2$ *vicino al pont.*

dolce *espr.* *p*

$5:6$ $8:5$ $9:10$ (+182 c) $5:6$ $8:5$

77 $6/1$ $8/1$ $9/2$ $9/2$ $10/3$

dolce *espr.* *espr.* *pp* *p*

ritenuto *a tempo*

$10:9$ (-182 c) $8:9$ (+204 c) $8:9$ (+21.5 c)

81 $9/2$ $9/2$ $10/3$

espr. *pp* *dolce*

allargando

$8:9$ (+204 c)

4 **2** ca. 76 - 84 *con rubato, sempre non vibrato*

allargando

85 *loco* 3/2 vicino al pont. 10/3 (♯∞) vicino al tasto 13/4 (♯∞) 10/3 13/4 20/3 13/4 10/3

p *sonore* *sonore* *cresc.*

-2 0 1 °4- 1 2 (fairly close to 1) 1 2- 0 2 1

39 : 40 (+ 44 c) 40 : 39 : 40 39 : 20 40 : 39 : 40

a tempo

11

89 13/4 16/5 16/5 20/3 10/3 (♯∞) ord. 7/1

f *p* *espr.* *sonore* *p* *dolce*

2 -29 ↑2 (+ 27 c) 0 °4- ↑1 °3- or °4- ↓2 (close to 1) °4-

64 : 65 (+ 27 c) 25 : 12 63 : 64 (+ 27 c) 64 : 63 (- 27 c)

93 10/3 7/1 32/3 7/1 13/4 (♯∞) vicino al tasto 16/5

espr. *sonore* *cresc.* *f* *p* *espr.*

1 °3- or °4- 2 °2- 0 °3- or °4- 2 °4- 2 (+ 17 c) 2 -27 2 (+ 27 c)

63 : 64 (+ 27 c) 8 : 7 (- 231 c) 7 : 8 (+ 231 c) 104 : 105 (+ 17 c) 39 : 20 64 : 65 (+ 27 c) 25 : 12

97 20/3 vicino al pont. 4/1 vicino al tasto 10/3 13/4 13/4 (♯∞) *change position: elbow down!* vicino al pont.

pp *sonore* *cresc.* *f* *p*

0 ↑°3- 1 °4- 1 2 39 : 40 (+ 44 c) 90 : 91 (+ 19 c)

12 *calmo*

101 9/2 (♭∞) 9/2 9/2 9/2 9/2 (♭∞)

pp *espr.* *pp* *espr.*

°2- 3 0 °2- 3 ↓°4- (close to 3) °2- 3 ↓°4- (close to 3) °2- 3

7 : 6 ↓°4- (close to 3) (- 267 c) 7 : 8 (+ 231 c) 7 : 6 (- 267 c)

105 9/2 9/2 9/2 9/2 9/2 *ritenuto* vicino al pont.

sonore *p* *espr.* *pp*

0 °4- ↓3 0 °2- ↓3 ↓°4- (close to 3) °2- ↓3 ↓°4- (close to 3) °2- °2- ↑°1-

7 : 6 (- 267 c) 7 : 8 (+ 231 c) 7 : 8 (+ 231 c)

109 9/2 (♭∞) 9/2 9/2 9/2 *ritenuto* *change position: elbow back up!*

dolciss. *espr.* *p*

-37 2 0 °2- ↓3 0 ↑°4- (close to 3) °2- ↑°3 °1 °3-

7 : 6 (- 267 c) 7 : 8 (+ 231 c)

13 *a tempo* *ritenuto* *molto lento* *a tempo*

change position elbow up! al pont. change position elbow down again!

113 7/1 19/2 9/1

sonore *f* *p* *pp* *dolciss.* *p* *dolce* *espr.*

+33 1 1 (-31 c) (close to 2) 18:19 (+94 c) 2 (stretched)

57:56 (-31 c)

14 *a tempo*

ritenuto vicino al pont. (32/3) ord. 32/3 7/1 poco vicino al pont. 8/1

117 17/2 32/3 7/1 8/1

sonore *pressare!* *f* *p* *espr.* *espr.*

17:18 (+99 c) 16:17 (+105 c) 7:8 (+231 c) 48:49 (+36 c) 49:48 (-36 c)

121 7/1 8/1 ord. 20/3 7/1 change position 20/3

sonore *pp* *espr.*

48:49 (+36 c) 35:36 (+49 c) 21:20 (-84 c) 20:21 (+84 c)

125 change position 13/2 9/2 change position 7/1 change position 13/2 32/5 9/2 change position

sonore *f* *pressare!* *p* *espr.* *f* *p* *f*

39:40 (+44 c) 12:13 (+139 c) 7:6 (-267 c) 13:14 (+128 c) 64:65 (+27 c) 15:16 (+112 c) 7:6 (-267 c)

15 *vicino al tasto* *a tempo*

avanti! change position *ritenuto* change position vicino al pont. 17/3

129 7/1 32/5 19/3 9/2 20/3 6/1 vicino al pont. (#∞)

p *espr.* *espr.* *p dolce* *espr.*

32:35 (+155 c) 95:96 (+18 c) 18:19 (+94 c) (*) pushing 3rd finger aside a bit (if note is sharp, it sounds wrong) 9:10 (+182 c) 17:18 (+99 c)

133 11/2 9/2 6/1 11/2 change position 20/3 elbow down! 21/4 ("sing" F#) up!

f *molto sonore* *p* *espr.* *espr.* *p* *f*

33:34 (+52 c) 10:11 (+165 c) 6:5 (-316 c) 11:12 (+151 c) 10:11 (+165 c) 21:20 (-84 c) 22:21 (-81 c)

137 11/2 21/4 5/1 *ritenuto* 9/2 5/3 5/1

elbow down! vicino al tasto elbow up again!

p *espr.* *port.*

21:22 (+81 c) 3 (very close to 2) 20:21 (+84 c)

8 *riten.* vicino al pont. (ma non troppo!) *molto lento* *accelerando*

198 32/3 48/5 19/2 19/3 5/3

pp *p dolce* *pp* *p* *sonore pressare!* *f* *p* *f*

↓°1- (stretched) 3 °1- 4 (extremely close to 3) * ↑°1- 4 96:95 (-18c) (extremely close to 4) (please leave 3rd finger on the A-string at the same position) 95:96 (+18c) *) pushing 3rd finger aside a bit (if note is sharp, it sounds wrong) (or °2-)

change position vicino al tasto **21** *a tempo* vicino al pont. *) Avoid taking this bass note too high by playing it as low as the ear allows!

202 32/5 9/2 20/3 6/1 23/4 17/3

p *espr.* *p dolce* *sonore*

3 ↓°2- 0 ↓°4- 0 -18 ↓1 -44 2 (comfortable position, slightly stretched) * -19 2 (+25c) 9:10 (+182c) 23:24 (+74c) 68:69 (+25c)

vicino **22** change position

206 11/2 17/3 11/2 9/2 20/3 6/1

più sonore *espr.* *più sonore* *f* *p* *espr.*

3 -67 3 2 ↓°3- 0 °4- 0 -18 ↓1 °2- 11:12 (+151c) 33:34 (+52c) 34:33:34 10:11 (+165c) 9:10 (+182c)

allargando *ord.* vicino *a tempo* vicino al tasto

210 11/2 vicino al pont. 5/3 (♯∞) 16/3 9/2

molto sonore *f* *p* *f* *p* *sonore* *f* *p* *espr.*

1 (close to 2) °2 °2 or °3 2 or 3 °2- -14 ↑1 or 3 (with elbow down) ↓°1- 0 °2- 15:16 (+112c) 32:33 (+53c)

ritenuto *elbow down!* *a tempo* *elbow up again!* *elbow down!*

214 15/4 20/3 21/4 ("sing" B♭) 15/4 11/2 21/4

sonore *espr.* *f* *p* *espr.*

0 °2- 0 °2- ↓3 (very close to 2) °2- 0 °2- 1 3 (very close to 2) 21:20 (-84c) 20:21 (+84c) 11:10 (-165c) 21:22 (+81c)

23 *elbow up again!* *ritenuto* vicino *a tempo*

218 21/4 5/1 9/2 5/1 16/3 vicino al pont. 11/2

port. *dolce* *espr.* *f* *ff*

3 4 ↓°1- 0 °2- 4 0 °4 °2- 1 (close to 2) 20:21 (+84c) 11:10 (-165c)

vicino al tasto *ritenuto*

222 5/1 9/2 5/3 5/1

ff *p dolce* *espr.*

4 ↓°1- 0 °4- °2- 4 10:11 (+165c)

254 23/4 23/6 19/5

pp *p* *sonore* *espr.* *port.* *f*

114 : 115 (+ 15 c) for pitch comparison play F=9/2 below G*4 -8

258 5/4 19/3

pp *sonore* *p* *espr.* *sonore*

19 : 18 (- 94 c)

ritenuto *poco più lento*

(please leave 4th finger on A-string)

262 19/2 5/4 19/5

pp *p* *dolce* *sonore* *pp* *f* *p* *espr.*

104 : 105 (+ 17 c)

77 : 78 (+ 22 c)

ancora più lento *elbow up!*

266 4/3 15/4 5/2 9/2

f *p* *sonore* *f* *p* *espr.*

75 : 76 (+ 23 c)

9 : 10 (+ 182 c)

a tempo *elbow down again!* *ritenuto*

270 5/1 32/3 5/1 15/4

pp *p* *dolce* *f* *p* *sonore*

15 : 32 (+ 1312 c)

a tempo *molto vicino al pont.* **29** *vicino al tasto* *ritenuto* *elbow down again!*

274 28/3 35/8 13/3

espr. *port.* *sonore* *p* *espr.*

104 : 105 (+ 17 c)

molto vicino al pont. *a tempo* *poco vicino al pont.* *ritenuto*

(please leave 2nd finger on D-string)

278 39/7 11/2 11/3 11/2

sonore *più sonore* *f* *luminoso*

77 : 78 (+ 22 c)

102 : 103 (+ 17 c)

a tempo *più vicino al pont.* *più largo*

SLIDE PAGES (ad lib.)

282 *a tempo* 4/1 11/2 11/3

f *p* *pp* *espr.* *f* *luminoso* *p*

↓³ ↓⁴ } ⁴/₁ } ³- 1 11:12 (+151 c) ⁴/₁ } ³- (same position as before) ²- 3-

286 *avanti!* 17/4

sonore *p* *sonore* *f* *ff* *p*

↑¹- (+63 c) ³-36 ↑³ (+11 c only) 153:154 (+11 c)

290 *a tempo* *elbow up!* *ritenuto* 4/3 3/1 15/4 3/1 5/3

espr. *sonore* *p* *espr.* *sonore*

-16 ³- ²- ³ -16 ³ ³- 0 ²- 3- 0

84:85 (+20 c) 15:16 (+112 c)

294 5/3 15/4 15/4 5/3 *elbow down again!*

f *ff* *p* *espr.* *f* *pp* *p*

0 2 ²- 0 ³- 0 ²- 3- 0 3- ↓²-

298 **32** 32/5 24/5 32/5 24/5 *ritardando*

dolciss. *dolce* *espr.*

3- ↓¹- 3- ²- -16 3- ¹-

95:96 (+18 c)

302 *poco più lento* 19/4 *poco più vicino al pont.* *ancora poco più lento* 19/3 *vicino al pont.*

pp *pp* *p* *pp*

↑³- (+18 c) ²- (or ¹-) 3 -84 ↑³ (+14 c)

306 *molto vicino al pont.* 12/1 *ord.* *molto vicino al pont.* *ord.* **33** *a tempo* 7/12 *vicino al tasto* *vicino al pont.*

pp *pp* *p* *sonore* *f* *p* *espr.*

+33 ⁴- (close to 3) ⁴- } 0 ↑¹ ⁴- } 0 ↑¹- 4 ⁴-

32:19 56:57 (+31 c) 7:12 27:28 (+63 c)

310 27 / 4 *change position!* *poco più largo* *vicino al tasto* *vicino al pont.*
 7 / 2 7 / 3 12 / 1
sonore *f* *ff* *pp*
 0 ↑°1- 3- °4- 3 12:7 48:49 (+36c)

34 314 *vicino al tasto* *a tempo* 7 / 4 20 / 7
espr. *pp* *p* *ff* *p* *sonore* *f*
 ↓°1 4:7 (-49c) ↓°1-31 ↓4- (close to 3) 0 °3- (or °2-) 4-

318 *ritenuto* 20 / 3 9 / 2 35 3 / 1
p *espr.* *p* *pp* *dolce* *espr.*
 °3- 0 0 ↑°1- 0 °1- °4- 0 °2- °4-

322 *a tempo* 5 / 3 5 / 1 9 / 2 8 / 1 *ritardando*
pp *dolciss.* *p* *dolce* *espr.* *espr.* *pp* *p*
 °2- 4- 4- °1- 0 °1- 0 °2-

36 *più lento* *vicino al pont.* *più vicino al pont.* *ord.*
 326 5 / 1 11 / 1 17 / 1
dolce *pp* *dolciss.* *espr.* *pp* *dolciss.* *p*
 4- °2 ↑°1- (close to 2) 4- ↓°1- (-11c) 4- ↓°1- (-20c)

330 *al pont.* *poco meno vicino al pont.* *al pont.* *meno vicino al pont.* *al pont.*
 6 / 1 13 / 1 7 / 1
dolce *pp* *espr.* *pp* *dolciss.* *ppp* *p* *dolce* *ppp* *pp*
 4- -6 ↓°1- (-18c) -115 ↓°1- (-9c) 4- -23 ↓°1- (-8c) -37 ↓°1- (-14c) 4- ↓°1- (-19c)

37 20 / 1 *ritenuto* *meno vicino al pont.* *al pont.* 20 / 1
 335 32 / 3
dolciss. *p* *pp* *luminoso* *espr.*
 0 ↓°1- (-17c) ↑°1- (+17c)

14 *a tempo*

ritenuto

42 vicino al pont. *poco più lento*

368 7/1 27/4 7/1 27/4

sonore *pp* *pp* *p*

1 2 1 2

27 : 28 (+ 63 c)

80 : 81 (+ 21.5 c)

01 03 ↓01 03 01- (left side)* 3

**) with 1st finger touching the G string from the left side, resting on the edge of the fingerboard*

372 *a tempo*

elbow down again!

dolce *sonore* *pp* *p* *sonore*

elbow up! 20/3 12/1 vicino al tasto 7/1

↓04- (under 3) 3 01- 0 01 03- 1

6 : 5 (+ 27 c) 7 : 8 (+ 231 c)

376 *ritenuto*

vicino al pont.

elbow up!

più lento

376 10/1 20/3 vicino al tasto 20/3 *elbow down again!* *ord.* *al pont.*

pp *p dolce* *pp* *pp*

01 03 03 ↓01- (- 27 c) 3- ↓04- (under 3) 03 ↑03 (+ 20 c) ↑03 (+ 11 c) ↑03 (+ 12 c)

20 : 21 (+ 84 c)

43 *a tempo*

poco vicino al pont.

vicino al tasto

poco vicino al pont.

change position

380 *ord.* 13/2 (♭∞) 7/1 13/2

p *sonore* *p* *dolce espr.* *sonore* *f*

+58 +29 +58

02- 3 01 (+ 27 c) 02- 1 3 02-

39 : 40 (+ 44 c) 13 : 14 (+ 128 c)

384 *avanti!* *poco vicino al pont.*

13/3 (♭∞)

13/2

13/3

più f *sffz* *p* *f* *p* *espr.*

3 ↑04 ↑04- 01- 04- 2-

388 *ritenuto*

44 *a tempo*

elbow down!

ord. 5/3

elbow up again!

388 15/4 4/3 3/1 5/3

f *p* *espr.* *pp* *f* *ff*

+58 -16 ↑02- 0 02- 0 02 02- 03- -02- 0 -16 3- 0

12 : 13 (+ 139 c) 16 : 15 (- 112 c)

392 *ritenuto*

32/5

15/4

32/5

f *espr.* *sonore*

↑02 01- 2 02- 0 01- 2

15 : 16 (+ 112 c)

SLIDE PAGE (ad lib.)

45 396 *change position poco vicino al pont.* *a tempo* 6/1 *più vicino al pont.* 48/5

f *p dolce* *pp* *espr.*

°4 °4- °4/1} °4- 1- ↓°2- °4 °4

400 *cantare!* *vicino al tasto* 32/5 112/15 *vicino al tasto* 20/3

f espr. *sonore* *p* *espr.* *dolce* *f*

°3 8:9 ↑°2- -14 4- ↓°2- (-49 c) 15:16 0 3:4 °4-

404 15/4 *vicino al pont.* 48/5 *elbow up!* **46** *vicino al tasto* 3/1

pp *dolce* *pp* *f espr.* *espr.* *pp*

0 °4/1} 6:5 °4- -20 1- ↓°2- °4 °3- 8:9 ↑°3- -16 4-

408 *32/5 poco vicino al pont.* *elbow down again!* *più vicino al pont.* 128/15 17/2

p *sonore* *p* *espr.* *port.* *sonore* *sf*

°2- 4- °1- 4 4- (+7 c only) 255:256 (+7 c)

412 *più lento* 51/8 19/3 *molto vicino al pont.* *ancora più lento* 19/2

p *port.* *sonore* *pp* *dolciss.* *p*

°2- 4 4- (+11 c only) 152:153 (+11 c) °1- 4 18:19 (+94 c) (close to 1)

47 *vicino al tasto* 416 6/1 *ord.* 19/2 *cantare!* *largo* *vicino al pont.* *multiphonic (14+19) ad lib.*

dolce *espr.* *ppp*

0 °2- 1- (-3 c only) °2 (+36 c) ↑°4/1} ↑°2 (+49 c) ↓°4 (-18 c) 8:9 (-204 c)

420 *a tempo* *poco vicino al pont.* 19/3 *vicino al tasto* 9/2 *ord.* 6/1 *ritenuto* 8/1

p *sonore* *pp* *espr.* *dolce*

°2- ↓4 (-12 c only) 18:19 (+94 c) ↓°3- (-44 c) 0 ↑°1- 0 °3- 0

51 *a tempo*

avanti!

452 $11/2$ $15/4$ $6/1$ $11/2$

p *sonore* *espr.* *più sonore* *f*

$10:11$ $6:5$ $11:12$
(+165 c) (+316 c) (+151 c)

ritenuto *più lento* vicino al pont. $11/1$

456 $15/4$ $11/2$

sfz *p* *f* *p* *espr.* *pp* *dolciss.* *f*

$10:11$
(+165 c)

a tempo

52 *ritenuto*

elbow down again!

a tempo

elbow up!

460 $11/2$ $4/3$ $16/3$ $32/3$ $7/6$ $9/10$ $6/1$ $8/9$

p *espr.* *pp* *p* *espr.* *f*

$32:33$ $7:6$ $9:10$ $8:9$
(+53 c) (-267 c) (+182 c) (+204 c)

464 $16/3$ $15/4$ $16/3$ $15/4$ $6/1$

espr. *f* *p* *semplice* *dolce*

$15:16$ $6:5$
(+112 c) (-316 c)

elbow down again! *change position* *ritenuto*

a tempo

53 *change position*

("sing" high E \flat)

468 $6/5$ $4/3$ $21/4$ $7/6$ $21/4$ $9/10$ $7/6$ $21/4$

f *p* *espr.* *pp* *p dolce* *sonore* *f*

$9:10$ $7:6$ $21:4$
(+182 c) (-267 c) (+204 c)

elbow up! *elbow down again!* vicino al pont.

472 $21/4$ $26/5$ $5/1$

p *espr.* *pp* *p* *sonore* *f* *p*

$21:20$ $104:105$ $25:26$
(-84 c) (+17 c) (+68 c)

al pont. ("sing" high D \sharp) *ritenuto* vicino al tasto

54

poco vicino al pont. *cantare!*

476 $9/2$ $16/3$

dolce *espr.* *f*

$21:20$ $104:105$ $25:26$
(-84 c) (+17 c) (+68 c)

ritenuto

SLIDE PAGE (ad lib.)

7 ca. 96 - 104 *con rubato, sempre non vibrato*

508 *loco poco vicino al pont.*

3/2 10/3 (#∞) V

p *p* *dolce* *espr.*

°4- °4- } °1 (+ 21.5 c) 1- °4- °4 °1

512

23/5

pp *p* *dolce* *pp* *p*

°1 (+ 27 c) °4 ↓°2- (-75 ↓1 (- 2 c only) °4 ↑°1 (+ 17 c) 91 : 92 (+ 19 c)

58 *al pont. vicino al tasto*

516 *poco vicino al pont.*

13/4 15/4 13/4 20/3 13/4

sonore *espr.* *f* *p*

1 13 : 15 (- 248 c) 80 : 39 (- 1244 c) ↓°2- °2 (+ 19 c)

59 *elbow down!*

520

9/2 ("sing" F♯) 9/2 9/2

pp *p* *dolce* *pp* *p* *dolce* *espr.*

↑°1- -37 2 °3- 0 °2 °1- 2 °3- 0 °1- *elbow up again!*

90 : 91 (+ 19 c) 7 : 6 (- 267 c) 7 : 6 (- 267 c)

59

524

4/3 4/3 5/3 5/4 16/5

espr. *p* *f* *p* *sffz* *p*

-37 °2- °1- °4- °4- } °4- °4- } 0 -16 4 224 : 225 (+ 8 c) 2 (+ 8 c only) °4- 2

59 *vicino al tasto*

528 *poco vicino al pont.*

19/5 57/10 17/3

sf *p* *ppp* *p* *pp* *p* *f*

-115 °2 (+ 14 c only) °3- (close to 2) -11 2 (+ 3 c only) ↑°4- } (+ 49 c) (stretched) -11 2 -1 ↑2 (+ 10 c only) 170 : 171 (+ 10 c)

59 *ord.* *più vicino al pont.*

532 *vicino al pont.*

22/5 5/1

sonore *p* *f* *molto sonore* *p* *pp*

↑°1- (+ 63 c) -98 ↑2 (+ 3 c only) °2 (+ 14 c only) ↓°1- (- 36 c) 2 594 : 595 (close to 2) (+ 3 c) 175 : 176 (+ 10 c)

59 *vicino al tasto*

20
536 **60** 8/5 15/4 (♭∞) 15/4 8/5 15/4

p dolce *sonore* *f* *p* *f* *p* *espr.*

2 0 ↓³⁻ (over 2) 2 6:5 (-316c) 0 2 2 0 3- (over 2) 2 0 1-

540 35/8 13/3 (♭∞) **61** 11/3 (♭∞)

+12 +28 *f* *sonore* +12 *p* +43 *ppp* +14 *p* *f*

2 ↑2 (+17c) 104:105 (+17c) 77:78 (+22c) ↓² (-17c) 0³ (close to 2) 0²⁻ (-17c) -49 ↑³⁻ (+8c only)

ritardando *più lento*

544 *sonore* +14 *p* +29 *pp* +2 *p* *dolce*

0² -35 0¹ ↓⁰ (-36c) ↓⁰ (-27c) -49 3- (please leave 3rd finger on G-string, same position)

CADENZA ad lib.*

548 *espr.* +43 +56 *ppp*

0⁴⁻ 0¹⁻ ↑⁰ (+27c) ↑⁰ (+36c) 0³ (-8c only) ↑⁰ (+12c only) ↑⁰ (+6c only) 0¹ -38 0³ -38

548 *espr.* +43 +56 *ppp*

0⁴⁻ 0¹⁻ ↑⁰ (+27c) ↑⁰ (+36c) 0³ (-8c only) ↑⁰ (+12c only) ↑⁰ (+6c only) 0¹ -38 0³ -38

*) This cadenza serves to establish the precise tuning of the next bass note during the rehearsal process; it may be omitted in the performance of the piece.

552 *a tempo* 17/4 **62** 5/3 12/5

p *f* *sonore* *espr.* *p* *sf* *p* *espr.*

0¹⁻ -38 (↑)3 (+11c only, if cadenza was omitted) -18 ↑⁰ (+20c) 0 3 -18 0⁴⁻ 3 (stretched)

153:154 (+11c) 84:85 (+20c)

556 *più vicino al pont.* 24/5 19/4 19/8 7/3 (♭∞)

pp *p* *port.* *più sonore* *port.* *più sonore* *f*

0⁴⁻ 0¹⁻ 3 -18 3 3 (+18c) 95:96 (+18c) 0⁴⁻ 3 3 (+31c) 56:57 (+31c)

multiphonic (14+9+5) ad lib.

560 7/2 (♭∞) 4/1 7/4

p *f* *p* *pp* *f*

0¹⁻ (+84c) 0³ ↓⁰ (-49c) -33 4- (close to 3) 0

48:49 (+36c)

SLIDE PAGES 20 & 21

63

multiphonic (14+9+5) ad lib.

564

4 / 1 7 / 4 20 / 7 24 / 7 17 / 5

pp *f* *p* *f* *port. sub.p*

°1 (+49c) °3 ↓°1- (-49c) 4- (close to 3) 0 °2- ↑°1- (+49c) 4 -19 4 (+14c) 119 : 120 (+14c)

568

68 / 15 9 / 2 9 / 2

pp *p* *port. sub.f dolce* *espr.*

↓°1- (stretched) (-84c) 4 -19 4 (+13c) 135 : 136 (+13c) °4 ↓°1- (stretched) 4-

64

572

45 / 16 14 / 5 ("sing" G#) 84 / 25 10 / 3

f *port. sub.p* *sonore* *p* *f* *port. sub.p* *f*

°2- (close to 3) 4 -6 4 (+8c only) 224 : 225 (+8c) °1- (+84c) 4 -6 4 (+14c) 125 : 126 (+14c)

CADENZA ad lib. (may be omitted in the performance of the piece)

576

molto sonore *p* *pp* *vicino al pont.*

(please leave 4th finger on G-string, same position) °1 °2 -16 °2 -84 °2 (+31c) -2 (+18c) -48 °2 (+19c) (very close to 3&4)

65

580

poco vicino al pont. *pp* *p* *pp* *p* *port. sub.f* *più f* *vicino al tasto*

5 / 1 25 / 9 11 / 4

°2 (-19c) °2 (or +49c, if cadenza was omitted) °2- 4- (same position as before) -16 °1- (close to 2) +71c 4 -67 4 (+17c) 99 : 100 (+17c)

CADENZA ad lib. (may be omitted in the performance of the piece)

584

molto sonore *p* *ppp* *vicino al pont.*

(please leave 4th finger on G-string, same position) °1 °1 °1- °1/4 °1 °1- °4/1

66

588

vicino al tasto *p* *molto sonore* *f* *p* *f* *ord.*

11 / 4 11 / 5

°1 °1 °1- 4- (same position as before) -67 °3- or °2- (very close to 3&4) 4-

poco più vicino al pont.

CADENZA ad lib. (may be omitted in the performance of the piece)

592 $\frac{33}{10}$ $\frac{13}{4}$ ($\frac{4}{\infty}$)

$\circ 1-$ (-71 c) 4- (same position as before) 4 4 (+26 c) $\circ 1-$ $\circ 1$
 65 : 66 (+26 c) (please leave 4th finger on G-string, same position)

596 *vicino al pont.* *ord.* $\frac{13}{5}$ ($\frac{4}{\infty}$) *poco più vicino al pont.*

$\circ 1-$ $\circ 4$ (same position as before) $\circ 1-$ $\circ 4-$ $\circ 1$ $\circ 3-$ (slightly stretched) (+63 c) 4- (same position as before) $\circ 1-$

600 $\frac{13}{4}$ ($\frac{4}{\infty}$) **67** *change position* *ord. cantare!* *vicino al pont.* *multiphonic ad lib.* *ritenuto* *elbow up!* *multiphonic ad lib.*

4 **SLIDE PAGE** $\circ 4-$ $\circ 1$ $\circ 2$ (close to 1) $\uparrow \circ 2$ (-19) (+31 c) $\circ 3$ $\uparrow \circ 2$ (+35 c) $\circ 3-$

604 *meno vicino al pont.* *NO multiphonic* *a tempo* $\frac{15}{4}$ *elbow down again!* $\frac{15}{7}$

$\downarrow \circ 3$ (-21) $\downarrow \circ 2-$ (-19) $\downarrow \circ 3-$ (-21) $\circ 1-$ 3 $\circ 1-$ 28 : 15 (-1081 c)

*) Change position of 2nd finger at the beginning of the measure in parallel motion with the glissando of the the 3rd finger!

608 $\frac{16}{3}$ *multiphonic ad lib.* *ritenuto* *multiphonic ad lib.* *vicino al tasto* *a tempo* **68** *poco vicino al pont.*

$\circ 3-$ $\circ 1$ $\downarrow \circ 1$ (-63 c) $\downarrow \circ 1-$ (-49 c) (stretched) $\uparrow \circ 3-$ (+8 c only) 224 : 225 (+8 c)

612 $\frac{8}{5}$ ($\frac{4}{\infty}$) *NO multiphonic* $\frac{24}{5}$ *dolce* $\frac{19}{4}$ *più sonore* *f*

$\circ 4-$ (stretched) $\circ 4-$ $\circ 1-$ (+49 c) $\circ 1-$ 3 $\uparrow \circ 3$ (+18 c) 95 : 96 (+18 c)

616 $\frac{19}{9}$ $\frac{11}{3}$ ($\frac{4}{\infty}$) *multiphonic ad lib.*

$\circ 1-$ (+63 c) 3 $\uparrow \circ 2-$ (close to 3) $\circ 1-$ 3 (+13 c) $\circ 1$ $\downarrow \circ 1$ (-63 c)

620 *poco vicino al pont.* 14/3 (♭∞) *meno vicino al pont.* NO multi-phonic

pp *sonore* *p intenso* *molto* *f* *pp* *p*

98 : 99 (+17 c) ↑4 (close to 3) (= 17 c higher than previous bass note) °1 } °4 } ↑°1 (+63 c) ↑°2- 243 : 245 (+14 c)

624 18/5 ("sing" F♭ or low B♭) 7/2 (♭∞) multiphonic ad lib. 5/1 2/1

espr. *gliss.* *pp* *p* *dolce*

-51 4 (+14 c) -51 4 -2 4- -19 ↑°2- (+35 c) (very close to 3&4) 4 0 4- °1-

628 2/1 3/1 69 *più mosso* ca. 100 - 108 multiphonic ad lib. 11/1 7/1 multiphonic ad lib.

pp *dolciss.* *molto* *p* *dolce* *pp*

4 -4 4/1 °4- 1- °2- (somewhat close to 1) 1- -21 °3- (close to 2) 1- ↑°3- (+35 c)

632 10/1 2/1 7/2 (♭∞) multiphonic ad lib. 11/2 (♭∞) 8:1

dolciss. *pp* *p* *dolce* *pp* *dolciss.* *molto* *p marc.*

-4 1 °1- 4- -19 °2- (+31 c) 4- °1- (+53 c) (close to 2) 4- 32 : 33 (+53 c)

636 16/11 11/2 7/2 (♭∞) 5:1 10/7 (♭∞)

f *p espr.* *dolce* *p marc.* *f* *p*

+49 1 4/1 °1- 4- -19 °2- 4- °2 -19 2 4/2 °2-

55 : 56 (+31 c)

640 7/2 (♭∞) multiphonic ad lib. 5/1 7:1 7/5 14/5 56/15

dolce *luminoso* *p marc.* *f* *p*

4- ↑°2- (+35 c) (very close to 3&4) 4- 49 : 50 (+35 c) °2 2 4/2 °4- 2 °1- 2 (-53 c) (stretched) 55 : 56 (+31 c)

644 11/3 (♭∞) 11/4 *allargando* 11/3 11/4 8/3 vicino al tasto 5/2

f molto sonore *ff* *ff* *sonore* *ff* *p espr.*

-53 °1 3- (very close to 2) °4- 3- °1 3- °4- 3- 3/0 32 : 33 (+53 c) °1 1- °4- 1