

Navid Bargrizan

Kupferteich

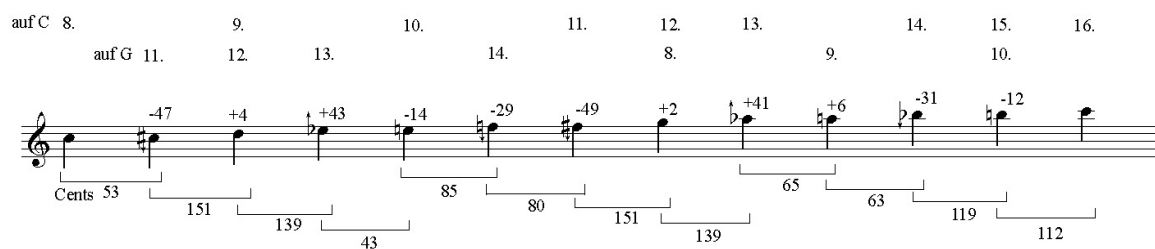
for solo viola

Dedicated to Manfred Stahnke

July 2019

Instructions

Kupferteich for solo viola is composed for and dedicated to Manfred Stahnke. As its pitch materials, it uses the following just-intonation scale based on the harmonic series of a C-fundamental and the harmonic series of a G-fundamental:



This scale is developed by Manfred Stahnke. In the illustration above, the top two highest rows of numbers demonstrate the number of the pitches as overtones in the two aforementioned spectrum of harmonics. The numbers immediately above the notes—combined with the microtonal accidentals—demonstrate the deviations from twelve-tone equal temperament in cent. The numbers below the notes demonstrate the intervals between the notes in the scale in cent.

However, for the sake of clarity of the notation and practicality, in the score the deviations from twelve-tone equal temperament are approximated to twelfth- ($1/12$), sixth- ($1/6$), and quarter-tones ($1/4$ -tones), showed by means of numbers plus microtonal accidentals:

- C# -47** = ca. C# $-1/4$
- D +4** = ca. D (the 4 cents deviation is ignored)
- Eb +43** = ca. Eb $+1/4$
- E -14** = ca. E $-1/12$
- F -29** = ca. F $-1/6$
- F# -49** = ca. F# $-1/4$
- G +2** = ca. G (the 2 cents deviation is ignored)
- Ab +41** = ca. Ab $+1/6$
- A +6** = ca. A (the 6 cents deviation is ignored)
- Bb -31** = ca. Bb $-1/6$
- B -12** = ca. B $-1/12$

The performer realizes the approximated twelfth- ($1/12$), sixth- ($1/6$), and quarter-tones ($1/4$ -tones), ignoring the micro-intonational differences between each pitch.

Viola's micro-tuning (scordatura), emerged from the aforementioned scale:

- A string** = A +6 cents
- D string** = D + 4 cents
- G string** = G +2 cents
- C string** = normal

The performer tunes the strings as precise as possible, according to the above micro-deviations.

Melodic segments from “Dastgah Nava,” a modal system in the Persian classical music, are juxtaposed with the harmonic just-intonation segments.

The tempi are mere suggestions.

Duration: ca. **10'30''**

Kupferteich

for Manfred Stahnke

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bow behind the bridge
freely for about 20 seconds,
slowly moving toward bowing
on the bridge for about
10 seconds

$\text{♩} = 50$

Solo viola

ppp ppp pp p mp pp $\text{ppp} <$

8 nat. sul pont. nat.

12 $\text{♩} = 80$ rit. $\text{♩} = 50$

15 mf f mf mp p ff p f mf f mf mp mf f

21 p mp mf mp p mp mf f p

25 ff f mf mp mf f mf mp p mf f mf mp

30 mf mp p pp ppp

34 $\text{♩} = 80$

sul pont. *nat.*

$-1/4$ $-1/4$ $-1/6$ 3 $-1/6$ $+1/6$ $+1/6$

pp p mp mf mp mf mp p > pp

39 $\text{♩} = 50$

rit.

$+1/6$ $+1/6$ $-1/6$ $+1/6$ $+1/4$ $-1/6$ $-1/4$ $-1/4$ $-1/4$ $+1/6$ $-1/12$ $-1/6$ $-1/12$

f pp f p f

43

$-1/6$ $+1/6$ $-1/12$ $-1/6$ $-1/4$ $-1/4$ $+1/4$ $+1/6$ $-1/6$ $-1/12$ $-1/6$ $-1/4$ $-1/4$ $+1/4$ $-1/12$ $-1/4$ $+1/6$

pp f pp f pp ff

48

$+1/6$ $-1/4$ $-1/12$ $+1/4$ $-1/4$ $-1/6$ $-1/12$ $-1/6$ $+1/6$ $+1/4$

ff pp p

51

$-1/4$ $-1/4$ 3 $-1/6$ $-1/12$ $+1/4$ $-1/6$ $-1/12$ $-1/6$ $-1/12$ $-1/4$ $-1/4$ $-1/6$ $+1/4$

f p f mf mp f mf mp p f pp

53 $\text{♩} = 80$ *rit.* $\text{♩} = 50$

$-1/4$ $-1/4$ $+1/6$ $+1/6$ $-1/6$ $-1/6$ $+1/6$ $+1/6$ $-1/6$ $-1/6$ $-1/4$

p f mp p f pp ff f mf

58

sul pont. *nat.* *sul tasto.* *nat. sul D*

$-1/4$ $-1/4$ $-1/4$ $-1/4$ $-1/4$ $-1/6$ $-1/6$

f mf mp p pp f p f mf mp

66 *sul D* $-1/4$ $-1/6$ $-1/6$ $-1/4$ $-1/12$ $-1/6$ $+1/4$ $-1/6$ $-1/12$ $-1/6$ $+1/6$ $+1/4$ $-1/4$ $+1/4$

p f p mf mp f mf mp ff f mf p ————— ff p pp

72 $+1/4$ $-1/4$ $+1/6$ $-1/6$ $-1/12$ $-1/6$ $+1/6$ $-1/6$ $+1/4$ $-1/12$ $-1/6$ $-1/6$ $+1/4$ $-1/12$ $+1/4$

mp p pp p mp p pp ff f mf ff f mf f =

77 $+1/6$ $-1/6$ $-1/6$ $-1/12$ $+1/6$ $+1/4$ $-1/6$ $+1/4$ $-1/6$ $-1/12$ $+1/6$ $-1/4$ $+1/6$ $-1/4$ $-1/6$ $+1/4$ $-1/12$ $+1/4$ $-1/12$

pp mf mp p f mf pp p mp p

83 $-1/4$ $-1/6$ $-1/12$ $-1/4$ $+1/6$ $-1/6$ $-1/6$ $-1/6$ $-1/6$ $-1/12$ $\text{♩} = 80$ *sul C.....*

ff pp mf mp p

88 *sul G.....* $-1/6$ $-1/6$ $-1/4$ $+1/6$ $-1/6$ $-1/6$ $-1/6$ $+1/6$ $-1/6$ $+1/6$ $-1/6$ $+1/6$ $-1/6$ $+1/6$ $-1/6$ $+1/6$ $-1/6$ $+1/6$ $-1/6$

pp f p ff f

93 *nat.* $+1/6$ *sul pont.* $+1/6$ $+1/6$ *nat.* $+1/6$

mf mp

bow behind the bridge freely for about 20 seconds, slowly moving toward bowing on the bridge for about 10 seconds

97 $+1/6$ $+1/6$ $+1/6$

p pp ppp