

Torsten Anders

# Tempziner Modulationen

## Microtonal Notation

This score is notated in 31-tone equal temperament (which is very close to quarter-comma meantone). A quartertone sharp raises by one 31-tone step (38.71 cents), the chromatic semitone (e.g., C-C $\sharp$ ) are two steps (77.42 cents), the diatonic semitone (e.g., C-D $\flat$ ) are three steps (116.13 cents) and so forth. This temperament includes virtually just 5-limit intervals (e.g., frequency ratios  $5/4$ ,  $6/5$ ), but also virtually just 7-limit intervals (e.g.,  $7/4$ ,  $7/6$ ).

7-limit intervals are notated either as augmented intervals or using quartertone accidentals. For example, the frequency ratio  $7/4$  can be notated as augmented sixth (e.g., C-A $\sharp$ ) and  $7/6$  as augmented second (e.g., C-D $\sharp$ ). A quartertone sharp/flat raises/flattens effectively by a septimal comma  $64:63$ , the difference between a Pythagorean seventh—two stacked fourths—and a harmonic seventh. For example, the frequency ratio  $7/6$  can alternatively be notated as a minor third diminished by a quartertone flat, and  $8/7$  can be notated as a whole tone augmented by a quartertone sharp.

## Instrumentation

31-tone Fokker organ

96-tone Carrillo piano

(certain pitches of the Carrillo piano are very close to notes of the Fokker organ, with a maximum of 6 cents difference)

## Notation of the Carrillo Piano Part

The Carrillo piano part is notated twice in the full score, first in 31-tone temperament (for the convenience of the score reader) and then the performance notation (for the convenience of the musician). In the latter notation, the pitches are notated as they would be for a normally tuned piano (ranging over 96 tones). The first notation uses a single staff (as the sounding pitches are all contained in a single octave) while the second notation uses 4 staves in order to avoid very many ledger lines. The mapping for all notes between these two notations is provided on the next page.

Torsten Anders, September 2011

Piano

6

15<sup>mb</sup>

Pno.

5

15<sup>ma</sup>

# Tempziner Modulationen

## I

Torsten Anders

Largo ♩ = 46

Carrillo Piano

Grace notes always rather slow

*f*

5

Carrillo Piano

Grace notes always rather slow

*f*

Lowest staff two octaves down!

Ped.

Fokker Organ

Largo ♩ = 46

Man. 1 *ff*

Man. 2 *mp*

5

Pedals

*ff*

Harmony (Analysis)

harmonic 7th

harmonic 7th

subharmonic 6th

harmonic 7th

subharmonic 6th

**rit.** . . . . . **a tempo**

Pno. *f* Ped. <sup>10</sup>

Pno.

**rit.** . . . . . **a tempo**

Org. *ff* <sup>10</sup> *mp*

Ped. *ff*

Harm. *harmonic 7th* *harmonic 9th* *harmonic 7th* *harmonic 7th* *subharmonic 6th*

**rit.** . . . . . **a tempo**

15

Pno.

Ped.

Ped.

Org.

Ped.

Harm.

harmonic 7th

harmonic 9th

subminor 7th

subminor 7th

subharmonic 6th

The musical score is divided into five systems. The first system is for the Pno. (Piano), with a treble clef and a 2/4 time signature. It features a melodic line with a fermata at measure 15, followed by a series of chords. Dynamics include *f* and *Ped.*. The second system is for the Pno. (Piano), with a grand staff (treble and bass clefs) and a 2/4 time signature. It features a melodic line in the treble and a bass line. Dynamics include *f* and *Ped.*. The third system is for the Org. (Organ), with a grand staff and a 2/4 time signature. It features a melodic line with a fermata at measure 15, followed by a series of chords. Dynamics include *ff* and *mp*. The fourth system is for the Ped. (Pedal), with a bass clef and a 2/4 time signature. It features a single note with a fermata at measure 15, followed by a series of chords. Dynamics include *ff*. The fifth system is for the Harm. (Harmonium), with a treble clef and a 2/4 time signature. It features a series of chords. Dynamics include *ff*. The score includes various markings such as *rit.*, *a tempo*, *f*, *ff*, *mp*, and *Ped.*.

Pno. 20 *rit.* ----- *a tempo*

Musical notation for the first piano part, including a treble clef, a key signature of one flat, and a 2/4 time signature. It features a melodic line with slurs and a fermata at the end of the first measure. A bracket spans the first three measures, and a dashed line indicates a tempo change from *rit.* to *a tempo* between the second and third measures. The staff ends with a 3/4 time signature.

Pno.

Two staves for piano accompaniment, one in treble clef and one in bass clef. The bass clef staff has a key signature of one flat. The music consists of chords and single notes, with a fermata at the end of the first measure in both staves. A bracket spans the first three measures, and the time signature changes to 3/4 at the end.

Org. 20 *rit.* ----- *a tempo*

Musical notation for the organ part, including a treble clef, a key signature of one flat, and a 2/4 time signature. It features a complex melodic line with many notes and accidentals. A bracket spans the first three measures, and a dashed line indicates a tempo change from *rit.* to *a tempo* between the second and third measures. The notation includes a *ff* dynamic marking and a fermata at the end of the first measure. The staff ends with a 3/4 time signature.

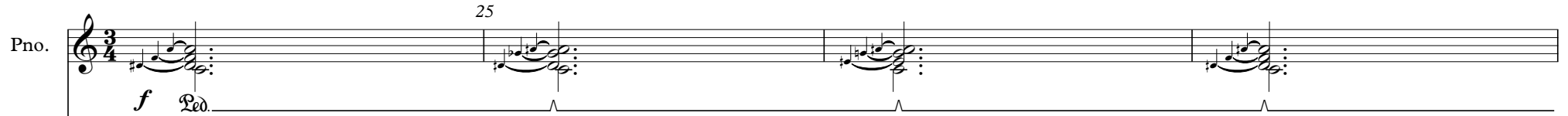
Ped.

A single bass clef staff for the pedal point, containing a sustained low note with a fermata at the end. A *ff* dynamic marking is present at the end of the staff. The time signature changes to 3/4 at the end.

Harm.


Musical notation for the harp part, including a treble clef, a key signature of one flat, and a 2/4 time signature. It features a simple melodic line with a fermata at the end of the first measure. Labels below the staff identify the notes: *subharmonic 6th*, *subminor 7th*, *subharmonic 6th*, and *harmonic 9th*. The staff ends with a 3/4 time signature.

Pno. *f* Ped. 25



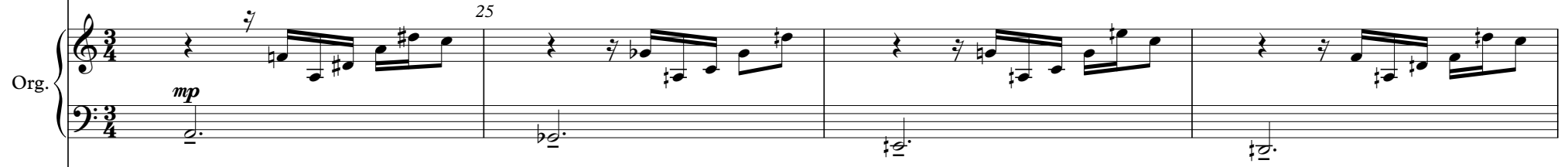
Musical notation for the right hand of the piano, starting at measure 25. It features a series of chords with a forte (*f*) dynamic and a pedal point. The notes are primarily in the middle register.

Pno. *f* Ped.



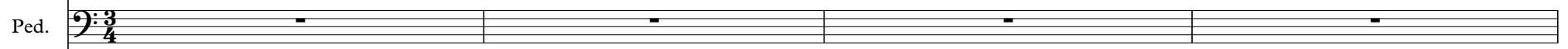
Musical notation for the left hand and grand staff of the piano. The left hand plays a steady bass line with a forte (*f*) dynamic. The grand staff shows the interaction between the right and left hands, with a pedal point indicated at the bottom.

Org. *mp* 25



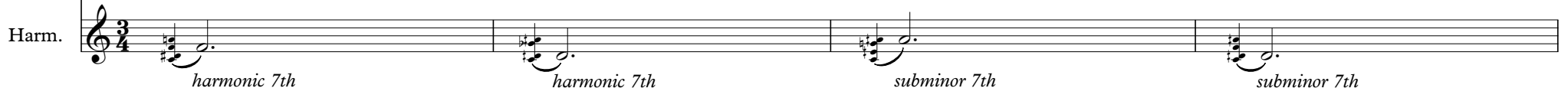
Musical notation for the right hand of the organ, starting at measure 25. It features a melodic line with a mezzo-piano (*mp*) dynamic. The notes are primarily in the middle register.

Ped.



A single staff for the pedal point, showing a constant bass note throughout the measures.

Harm. *harmonic 7th* *harmonic 7th* *subminor 7th* *subminor 7th*



Musical notation for the harmonic part, showing four measures with specific chord labels: *harmonic 7th*, *harmonic 7th*, *subminor 7th*, and *subminor 7th*.

30 **rit.** - - - - -

Pno.

Pno.

Org.

Ped.

Harm.

*subminor 7th*      *harmonic 7th*      *subharmonic 6th*      *harmonic 7th*

The image shows a musical score for four parts: Pno. (Piano), Org. (Organ), Ped. (Pedal), and Harm. (Harmonium). The score is divided into four measures. The first measure is marked with a '30' and a 'rit.' (ritardando) instruction. The Pno. part consists of a single melodic line with a fermata. The second Pno. part is a grand staff with a treble and bass clef, featuring a melodic line in the treble and a bass line in the bass. The Org. part has a treble and bass clef, with a melodic line in the treble and a bass line in the bass. The Ped. part is a single bass clef line with a fermata. The Harm. part is a single treble clef line with a fermata. The harmonic labels are: subminor 7th, harmonic 7th, subharmonic 6th, and harmonic 7th.

II

Con brio  $\text{♩} = 38$

rit. . . . .

Fokker Organ

Pedals

Harmony (Analysis)

Scale (Analysis)

*harmonic 7th*

*Hahn pentachordal*



Poco meno mosso

Solo

Org.

Ped.

Harm.

Scale

*harmonic 7th*

*subminor 7th*

40 **rit.** ----- **Meno mosso** **A tempo**

Org. *p* *f*

Ped.

Harm. french 6th harmonic 9th harmonic 7th 11-limit ASS Pepper's Square harmonic 7th Hendrix chord subminor 7th Pepper's Square

Scale

**Poco meno mosso**

45 **rit.** ----- **Solo**

Org. *p*

Ped. *p* *p*

Harm. subharmonic 6th harmonic 7th

Scale

**rit.** **Meno mosso** **A tempo**

Org. *p* *f*

Ped.

Harm. *subminor 7th harmonic 7th subharmonic 6th* *Pepper's Square harmonic 7th* **Modulation chord** *french 6th subminor 7th subharmonic 6th* *harmonic 7th*

Scale *Hahn pentachordal*

**rit.** **Poco meno mosso**

Org. *p*

Ped.

Harm. *harmonic 7th*

Scale

**Solo**

**rit.** ..... **Meno mosso** ..... **A tempo** 5

Org. *p* *f*

Ped. *p*

Harm. *Pepper's Square* harmonic 7th french 6th *Pepper's Square* harmonic 7th french 6th harmonic 7th

Scale *Hahn pentachordal*

**rit.** ..... **Meno mosso** ..... 65

Org. *p*

Ped. *f*

Harm. harmonic 7th *Pepper's Square* harmonic 7th  
11-limit ASS *Hendrix chord* *Pepper's Square* subminor 7th

Scale

III

Andante ♩ = 80

Carrillo Piano

70 75

*f* *pp* *f* *pp* *poco f*

Carrillo Piano

*f* *pp* *f* *pp* *poco f*

8vb

Ped.

Andante ♩ = 80

Fokker Organ

70 75

*p*

Pedals

*p*

Harmony (Analysis)

subminor 7th subminor 7th subminor 7th

Scale (Analysis)

de Vries 11-tone II

80 85

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

Pno.

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

Ped.

Org.

80 85 Solo

Ped.

*pp*

(*p* if *pp* is not possible)

Harm.

*mp*

Scale

*mp*

subminor 7th subminor 7th Pepper's Square

de Vries 11-tone II

90 95

*f*

Pno.

15<sup>mb</sup> 8<sup>vb</sup>

Org.

90 95

Ped.

Harm.

Scale

*subminor 7th* *Pepper's Square* *subminor 7th* *Pepper's Square* *subminor 7th* *subminor 7th*

*de Vries 11-tone II*

This musical score is arranged in five systems. The first system is for the Piano (Pno.), featuring a treble clef with a melodic line and a bass clef with accompaniment. The second system is for the Organ (Org.), with a treble clef for chords and a bass clef for a lower line. The third system is for the Pedal (Ped.), consisting of a single bass clef line. The fourth system is for the Harmonium (Harm.), with a treble clef and a melodic line. The fifth system is for the Scale, with a treble clef and a single melodic line. The score includes dynamic markings such as *pp*, *f*, and *p*, and performance instructions like *subminor 7th*. Measure numbers 100 and 105 are indicated at the top of the first system.

This musical score page contains the following staves and parts:

- Staff 1:** Treble clef, melodic line with eighth notes.
- Staff 2:** Treble clef, rapid sixteenth-note accompaniment. Includes a *mp* dynamic marking and a crescendo hairpin.
- Staff 3:** Grand staff (treble and bass clefs) for Piano (Pno.). Treble clef has rapid sixteenth-note accompaniment. Bass clef has rests. Includes a *Ped.* marking and a crescendo hairpin.
- Staff 4:** Grand staff for Organ (Org.). Treble clef has chords and a melodic line. Bass clef has rests. Includes a *mp* dynamic marking.
- Staff 5:** Bass clef for Pedal (Ped.). Features a long, sustained note with a *p* dynamic marking.
- Staff 6:** Treble clef for Harmonium (Harm.). Features chords with a *subminor 7th* label.
- Staff 7:** Treble clef for Scale. Features a scale-like line with a *subminor 7th* label.

110

Pno.

Org.

Ped.

Harm.

Scale

*mp*

*subminor 7th*

Detailed description: This page of a musical score contains five staves. The top staff (Piano) features a melody of eighth notes in a major key, with a measure rest at the beginning. The second staff (Piano) has a dense texture of sixteenth-note runs. The third staff (Piano) continues with sixteenth-note runs in the bass clef. The fourth staff (Organ) shows chords in the treble clef and sustained notes in the bass clef, with a dynamic marking of *mp*. The fifth staff (Pedal) has a few notes at the start. The sixth staff (Harm.) contains dotted notes with a *subminor 7th* label. The seventh staff (Scale) shows a scale with slurs under groups of notes.

115

Pno.

115

120

Org.

*p*

Ped.

Harm.

subminor 7th

subminor 7th

Scale

125

130

The musical score consists of five staves. The first staff is a single treble clef line. The second staff is a grand staff with a treble clef on top and a bass clef on the bottom. The third staff is a grand staff with a treble clef on top and a bass clef on the bottom. The fourth staff is a single bass clef line. The fifth staff is a single treble clef line. The sixth staff is a single treble clef line. The score includes dynamic markings such as *poco f*, *f*, *pp*, and *p*. It also features performance instructions like *Ped.* and *8<sup>va</sup>*. Measure numbers 125 and 130 are indicated above the first and third staves respectively. The notation includes various note values, rests, and articulation marks.

This musical score is arranged in five systems. The first system is for a single melodic line, with measures 135 and 140 marked. It features a crescendo from *poco f* to *f* and a decrescendo to *ppp*. The second system is for Piano (Pno.), with a similar dynamic range and a *Ped.* marking. The third system is for Organ (Org.), showing a melodic line with a *Ped.* marking and a *135* measure indicator. The fourth system is for Pedal (Ped.), consisting of a continuous bass line of dotted notes. The fifth system is for Harmonium (Harm.), also consisting of a continuous bass line of dotted notes. The sixth system is for Scale, showing a continuous melodic line of dotted notes.