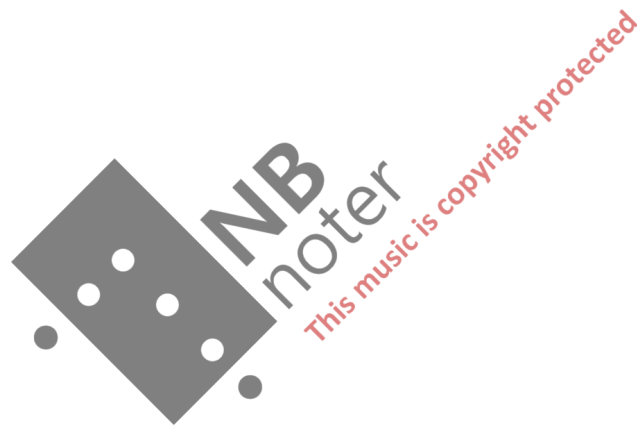
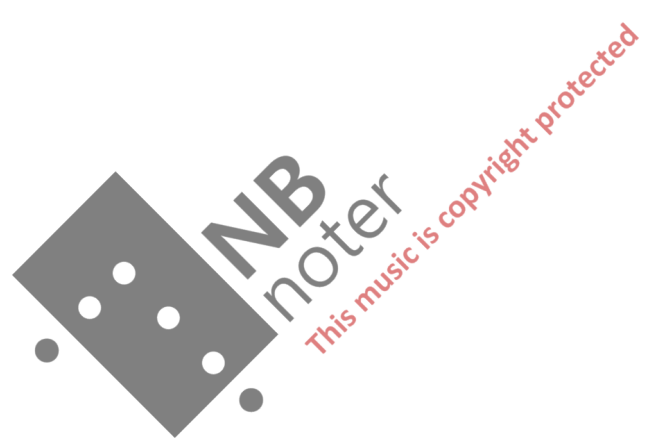


DAVID STEPHEN GRANT

(Un)stable Equilibria

Fiolin, cello og elektronikk





David Stephen Grant

COMMISSIONED BY NYMUSIKKS KOMPONISTGRUPPE AND NU:NORD

WITH FUNDING FROM THE ARTS COUNCIL NORWAY

(Un)stable Equilibria

- for Violin, Violoncello and Electronics



Full Score

unstable equilibrium

A state of equilibrium in which a small disturbance will produce a large change.

(Un)stable Equilibria was commissioned by nyMusikks Komponistgruppe and nu:nord with funding from the Arts Council Norway.

First performed at Cafeteatret, Oslo on Sunday August 10th 2014 by Mira Benjamin (Violin), Colin Alexander (Violoncello) and David Stephen Grant (Electronics).

Durata

Approx. 5 minutes

Electronic Requirements

The electronics may be interpreted freely, though the indicated pitches should be strictly observed. The role of the electronics is to create an interesting environment around the Violin and Violoncello. For the premiere performance an Ableton Live set running a Max patch was used, with three sine wave oscillators routed through GRM Tools *Evolution* (a spectral morphing/smoothing effect). Some subtle random panning was also applied. Depending on the venue a suitable reverb may be required, and the performers may require amplification. The oscillator parts could even be performed by suitable variable pitch instruments for an acoustic version of the piece.

Notation Conventions

(Un)stable Equilibria is written in Extended Just Intonation. Microtonal deviations are indicated with a number close to the note in question, showing the deviation in cents from the closest pitch in twelve-tone equal temperament. No microtonal accidentals are used.

-  Fermata
-  Long fermata
-  Very long fermata

- Flageolet
- ✕ No flageolet (ord.)

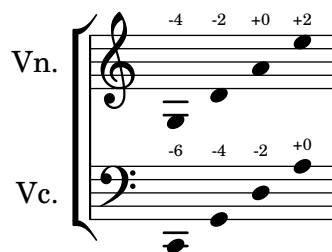
- × “Half-dot” — increases the duration of the basic note by a quarter of its original value (whereas a dot increases the duration of the basic note by half of its original value)

Transitions between techniques are indicated with arrows.

As an aid to rehearsal, a simple analysis is included in the full and playing scores. Boldface fractions show the relation of individual notes to a root. Italicized fractions show the relations between two notes (connected with a bracket).

Tuning

The Strings should tune in pure fifths ($\frac{3}{2}$), with the open A-strings tuned to 440 Hz (+0 cents).



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(Un)stable Equilibria
- for Violin, Violoncello and Electronics

Full Score

David Stephen Grant

Violin

Violoncello

Osc. 1

Osc. 2

Osc. 3

Analysis

Root: C -6

Tempo: $\text{♩} = 72$

Violin part: Treble clef, 4/4 time signature. Notes include IV, -20, -37, -37, -10. Dynamics: *p*, *mp*, *mf*.

Violoncello part: Bass clef, 4/4 time signature. Notes include IV, 0, -20, -4, -8. Dynamics: *p*, *mp*, *mf*.

Osc. 1, 2, 3: Bass clef, 4/4 time signature. Notes include 0, 0, 0, 0, 0, 0.

Analysis: Treble and Bass clef, 4/4 time signature. Notes include 3/2, 5/4, 7/4, 4/3, 5/4, 3/2, 4/3, 1/1. Dynamics: *mp*, *mf*, *p*, *f*, *pp*.

Vn.

Vc.

Root: F# -23

Vn. part: Treble clef, 4/4 time signature. Notes include +8, +2, -6, -22, +8, -4, -23. Dynamics: *mp* (non dim.), *mf*, *p*, *f*, *p*.

Vc. part: Bass clef, 4/4 time signature. Notes include -37, -37, -6, -37, -21, -39. Dynamics: *mp*, *p*, *mf*, *f*, *pp*.

Analysis: Treble and Bass clef, 4/4 time signature. Notes include 8/5, 9/8, 1/1, 5/3, 8/5, 3/2, 7/5, 10/9, 3/2, 5/3, 1/1. Dynamics: *mp*, *p*, *mf*, *f*, *pp*.

4

14

Vn.

Vc.

Osc. 1

Osc. 2

Osc. 3

harm. gliss.

ppp

mp

mp

mp

Root: D -2

5

Root:
C -33

6

6

35

Vn.

Vc.

Osc. 1

Osc. 2

Root: C -6

1/1



D **Meno mosso** (♩ = 54)

accel.

Meno mosso (♩ = 54)

41

Vn.

Vc.

p

pp

p

mf

mf

[illegible]

47 **E** = 72

Vn. *p sub.* *p cresc.* *f* *p*

Vc. *p sub.* *cresc.* *mf* *pp* *mp*

Osc. 3 *p* *mp*

Root: F# -23 Root: G# +8 Root: A +0

54

Vn. *pp* *p* *harm. gliss.*

Vc. *p* *pp* *p* *mf*

Osc. 1 *mf*

Osc. 2 *mf*

Osc. 3 *p*

Root: C -6

8

This musical score is for the piece "The Great Wall" by Tan Dun. It features a full orchestra, including Violins (Vn.), Violas (Vc.), three Oscillators (Osc. 1, 2, 3), and a Piano. The score is written in 4/4 time and consists of three measures. The Violin and Viola parts are marked with dynamics such as *mf* (mezzo-forte) and *p* (piano). The Oscillator parts are marked with dynamics such as *mf* and *p*. The Piano part is marked with dynamics such as *mf* and *p*. The score includes various musical notations, including notes, rests, and accidentals. The first measure is marked with a 60, indicating the measure number. The second measure is marked with a 5, indicating the measure number. The third measure is marked with a 6, indicating the measure number. The score is written in a standard musical notation style, with a key signature of one flat (B-flat) and a time signature of 4/4.

Violin (Vn.) and Viola (Vc.) parts, measures 63-67. The Violin part features a melodic line with a crescendo from *mp* to *ppp*. The Viola part features a melodic line with a crescendo from *ppp* to *ppp*. The piano part features a bass line with a crescendo from *ppp* to *ppp*. The score includes dynamic markings (*mp*, *ppp*), articulation marks (accents, slurs), and performance instructions (crescendo, decrescendo).