

BEYOND the
Piano

THE SUPER INSTRUMENT

WIDENING THE INSTRUMENTAL CAPACITIES
IN THE CONTEXT OF THE PIANO MUSIC OF
THE 21ST CENTURY

Presentation

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Definition

“... *super-* (comb. form)

1. above, over; beyond: ***superstructure***
2. to a great or extreme degree: ***superabundant***
3. extra large of its kind: ***supercontinent***
4. of a higher kind (especially in names of classificatory divisions):
superfamily.

● Origin from L. *Super-*, from *super* “above, beyond”.

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THE SUPER INSTRUMENT IN 21ST CENTURY

How to

define a **super instrument** and its identity in the context of the **21st century piano music?**

What are

the main functions and challenges of it in **aesthetical** and **technical levels?**

EXTENDED
FUNCTIONS ?

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Definition

1. a merely flexible concept or phenomenon
2. a coherent entity, more than the sum of its parts
3. a hybrid instrument with (superior) potentials



Functions

extending the capabilities of traditional instruments

context dependent.

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SUPERSIZING Methods

1. Electronic Method

2. Multiple instrument method

3. A combination of electronic method and multiple instrument method

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SUPERSIZING Methods

Karlheinz Essl

Hybrid instruments, ebows, and algorithmic composition techniques.

Tod Machover

Hyper score software (“Jeux Deux”).

Kallionpää

“Zusammenbinden. Winden? -
Hommage à Schumann“.



Karlheinz Essl: Stern (2013). Instrumental setup.

Identity

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“The identity of instruments is culturally defined, i.e. every instrument is defined by its musical zone, in which it fulfills a specific cultural function.”

(Mukuma, 2010, p. 84)

The essence of a musical instrument can be infinitely transformed through different instrumental or technological solutions.

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Performal Physicality

Primarily an analytical
task

(Cook, 1990; p. 77)

VS

Performal physicality as the
performer's
main perspective

(Hämeenniemi, 2007;
p. 34)

ELECTRONIC

for

PIANO

Music

THE MUSIC OF THE FUTURE ?

Research Methods

- Hermeneutic approach
Perspective of a creative musician
- “Performer self” and “analyser self” (Janet Schmalfeldt)
- “Super instrument”
“all is data”
“practice-based research” (Borgdorff, 2009; p. 7)

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Research =

Composing
Practising
Performing

•🎵• Karlheinz Essl .

“Sequitur V” (2008), “Sequitur XIII” (2010)

•🎵• Maria Kallionpää .

“Hommage à Schumann. Zusammenbinden. Winden?” (2009),
“Trinity Mania” (2010), “Celestifilia” (2012), “Toccata” (2011)

•🎵• Jeff Brown .

“Love and Hydrogen” (2013)

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ELECTRONIC
Method

Functions

- ✓ Altering natural qualities of sound and resonance, acoustic circumstances or room qualities
- ✓ Artificial sounds
- ✓ Real-time data processing
 - ✓ Multiplying the instrument

Development of Electronic Music and Sound Modification

“...sounds were no longer connected to instruments,
human expression or physical activity”

(Chadabe, 1996, p. 42)

“opening up to all sounds“

(Chadabe, 1996, p. 41)

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“Why doesn't your music

“My music is a process.

Like the weather“.

(John Cage)

- The Indeterminany in Music

- “It was so unpredictable, it was just wonderful!”

(David Tudor)

- “process“ over “object“ (Essl, 1990, p. 1)

Algorithmic
Composition

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Karlheinz Essl

Algorithmic
Composition

SEQUITUR V (2008)

 Functions

artificial dynamics, timbre modification, reverb, delays, structures and processes.

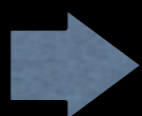
 Structure

algorithmic micro canons

Enhance the toy piano: tuning reverb, dynamics

Electronic material as a “second instrument“

Multiplying toy piano



a “toy“ becomes a
super instrument

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Algorithmic Composition

Maria Kallionpää

Zusammenbinden. Winden?

Hommage à Schumann

- Algorithmic mosaic of micro canons
- Piano as an orchestra and labyrinth of sonic processes
- Sound from the piano or the speakers?

Conclusions

Multiplication of the piano, as if seen in a collection of mirrors.

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Multiple Instrument Method

Jeff Brown

Love and Hydrogen

(2013)

- 👁️ A “super pianist“ sings microtones, plays toy piano and piano.

Conclusions

A new mixture of sounds that is more than the sum of its parts.

More options regarding the tuning (microtones).

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Multiple Instrument

Method

Maria Kallionpää

Toccata

(2011)

- 👁️ A “super pianist“ sings microtones, plays toy piano and piano.

Conclusions

Virtuosity and instrumental flexibility

Textural and rhythmical overlappings

Multiplying the regular instrument by two

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Combination of Electronic Method and Multiple Instrument Method

- ① At least two instruments, with some electronics
- ① All instrumental/electronic parts equally important
- ① Electronic part as an extra instrument

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Combination of
Electronic Method and
Multiple Instrument Method

Maria Kallionpää

Trinity Mania

(2010)

- A unity consisting of pre-designed samples and acoustic material

amended virtuosity

new mix of timbres

rhythmical overlappings

tuning alterations

- Changing the piano's natural sound production

- Visual effect

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Combination of
Electronic Method and
Multiple Instrument Method

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Celestifilia

(2012)

Conclusions

Added virtuoso potential

Mixing electronic and acoustic timbres

Artificial sounds as a part of acoustic performance

Visual effect

Discussion

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THE SUPER INSTRUMENT IN 21ST CENTURY

- (Super) piano as an orchestra
 - Virtuoso tradition
 - Playing around with instrumental, compositional, and performal identities, renewing the composition- and instrumental techniques, extending the functions and identities.
 - Enhancing instrumental capacities:
New expressive and aesthetic potentials

Discussion

What is it?

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THE SUPER INSTRUMENT IN 21ST CENTURY

- **A hybrid instrument more than the sum of its parts**
 - ✓ Consists of several instrumental/technological solutions.
 - ✓ Own identity and essence on its own right.
 - ▷ specific (superior) sonic potentials, functions, instrumental qualities.
- **Transcending the essence and natural capabilities of a regular acoustic instrument**

Discussion

Identity

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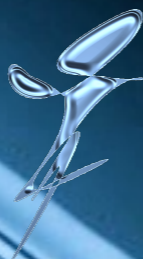
THE SUPER INSTRUMENT IN 21ST CENTURY



Each super instrument has its own special essence in the context of each composition.



An organic unity that has its own congruent identity.



New kind of performer identity.

Discussion

Functions

What does it do?

Depending on the context of each composition

Overcoming the limitations of an acoustic instrument,
multiplying the original piano

▷ timbral, rhythmical, spatial, technical, or harmonic qualities,
instrumental range.

A keyboard as an “orchestra”
for one performer.

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*Thank you for
listening!*

Any questions?

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