Time and Reciprocity in Improvisation

On the aspect of in-time systems in improvisation with and on machines.

Henrik Frisk

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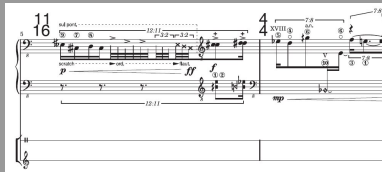
HEARTH, 11th ELIA Biennal Conference, 2010, Nantes

Real-time composition (?)

Misguiding concept

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Non Real-Time or Real-Time?
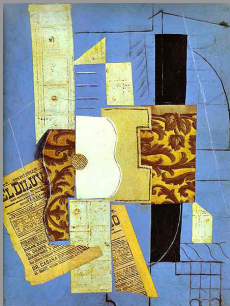
Non Real-Time or Real-Time?
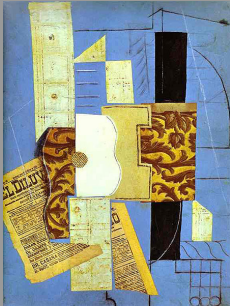
A related distinction

In-time
Processes that are
embedded in time.

A related distinction

In-time
Processes that are
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Over-time
Processes that are
contained in time.
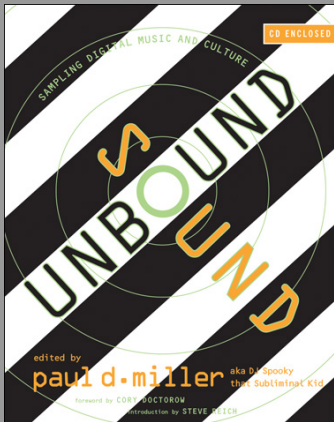
V. Iyer (2008)
'On improvisation, temporality, and embodied experience.'
(Chapter 26 in *Sound Unbound : Sampling digital music and culture*, (Paul D. Miller, edito). The MIT Press, Cambridge, Mass., 2008.)

In-time and over-time

For an action to be embedded in time means that the time it takes to perform it matters.

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Typical in-time operations

- Musical performance
- Improvisation

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Over-time operations

- Composition
- Reading a book
- Computation

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Resistance is an integral part of in-time operations.

What is interaction?

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Problematic...

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- "Reciprocally active" (OED Online)

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- In computer interface design: control

What is interaction?

Problematic...

- "Reciprocally active" (OED Online)
- In computer interface design: control
- In improvised music: exchange, communication and reciprocity (see *Saying Something* by Ingrid Monson (1996))

Sensitivity

A succesful interplay between musicians rests on a mutual sensitivity for taking, and responding to, musical initiatives.

Musical interaction

Sensitivity
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Difference
Musicians induce differences that "*make a difference*" and according to Gregory Bateson, such a difference that makes a difference is the definition of a bit of information (Bateson 1979, *Mind and Nature*)

Bateson and beyond

Interaction-as-control

Interaction-as-difference

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To control technology.

Interaction-as-difference

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Interaction-as-difference
To exploit the constraints and allowances of the natural timescales of the technology used.

Bateson and beyond

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To control technology.

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click and response ◄─────────► musical interaction

The interactive continuum

click and
response

←――――――――――――――→

musical or
human
interaction

click and
response

musical or
human
interaction

What are the inherent contstraints and allowances of the
technology?

Multiple temporalities

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- Xenakis:
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  - . . . and of time to space transformations.

Time to space transformation is a recurring thread in several art forms.

"It was only a moment to you..."

Parsifal (Wagner)

"Du siehst, mein Sohn, zum Raum wird hier die Zeit."

The spatial representation of music

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- A recording is a spatial representation.

"We might say that recording is a reflux, or distillation in which time is boiled off, for time must be added back in to get sound, in the form of a steady motion of the turntable or tape heads or the crystal clock in digital recording." (Evens, 2005)
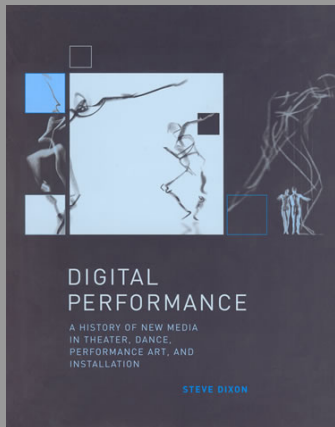
The spatial representation of music

- Musical notation is the out-of-time representation of music.
- A recording is a spatial representation.
- The digital representation of sound is similarly (abstractly) spatialized.

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Lack of 'liveness' in digital performance

DIGITAL PERFORMANCE

A HISTORY OF NEW MEDIA IN THEATER, DANCE, PERFORMANCE ART, AND INSTALLATION

STEVE DIXON
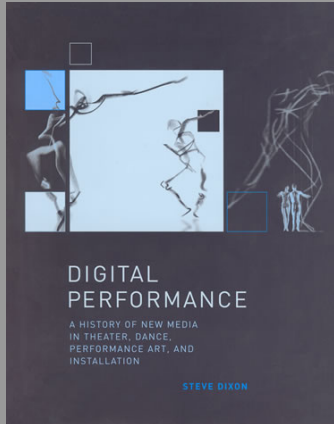
Lack of 'liveness' in digital performance

Technology have "*transformed or destabilized notions of liveness, presence, and the 'real'*".

Interaction design may benefit from a deepened understanding of the temporalities of musical improvisation.

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The issue is to more fully understand and appreciate the differences and *play* with them.

Thank you.