Reimagining Hyperinstruments
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VALIS

with Joe Chung
Opera???
Opera???

New kind of story
Opera???

New kind of story

New kind of “theater”
Different singers/sound
Opera???

New kind of story

New kind of “theater”

Different sound/singers

Rethink the orchestra
Hyperinstruments
Tod & Joe Chung ca. 1987
VALIS
opéra

Commande de l'IRCAM
d'après le roman de Philip K. Dick

UN SPECTACLE DE TOD MACHOVER ET CATHERINE IKAMI

MUSIQUE DE TOD MACHOVER
assistas: Arnold Peter IRCAM
Joseph Chung MY

IMAGES ET SCULPTURE/ENVIRONNEMENT: CATHERINE IKAMI

coordination artistique: Louis-François Rémi
post-production vidéo Duran

MISE EN SCENE: JEAN-LOUIS MARTINELLI

Lumières de Jean-Louis Althorn
Costumes de Daniel Charton

avec

Olivier Angèle, Ph. K. Dick et Webster Ear. Anne Azema, Sophie; Terry Edwards, docteur lome;
Mary King, Linda Lampert, Sophie Martin-Degor, Gloria;
Daryl Lantwick, Eric Lampert

Emma Stephenson, claviers
Daniel Campione, percussions

et, dans le rôle de Kini: Tod Machover

DIRECTION: TOD MACHOVER

adaptation: Catherine Ikami, Tod Machover, Bill Raymond;

texte français: Catherine Ikami, André Sannouze

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traduction: Robert Louis

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VALIS Brief Video Excerpts

https://web.media.mit.edu/~tod/media/video/VALIS_excerpt-video_CAST.mp4
Hyperinstruments

A Progress Report
1987 - 1991

The VALIS Hyperinstruments

The most complete instruments so far have been a pair of systems developed for Tod Machover’s opera VALIS [Machover 1987], and were implemented in 1987. The two systems, a keyboard based system similar to Figure 1.2, and a percussion system which employed the Simmons Silicon Mallet and Roland Octapad as MIDI controllers, were built from essentially the same software. Object inheritance was used extensively to exploit similarities.

Keyboard Based Instrument

The basic software architecture of the keyboard based instrument is shown in Figure 1.4 below. The instrument has four major modes: through mode, which is simple play through on a specific time; shadow mode, a more sophisticated version of play through which allows generalized mapping of notes to MIDI channels; arpeggio mode, which generates arpeggios of the chords being played; and manual mode, which generates polyphonic repetition of held notes.

![Diagram of Keyboard System Software Architecture]

Figure 1.4. Keyboard System Software Architecture

When MIDI input arrives from the scheduler, it is fed into a dispatch table which directs the input to different functions in the instrument depending on the type and values of the MIDI bytes. The instrument has four dispatch tables, one for each mode, and the mode that the instrument is in is entirely determined by which table is active.
Suffering Song

https://web.media.mit.edu/~tod/media/mp3/16_VALIS_Suffering-Song.aiff
Future of VALIS Hyperinstruments
Future of VALIS Hyperinstruments

Get Original Hyperinstruments to Work Again!
Future of VALIS Hyperinstruments

Get Original Hyperinstruments to Work Again!

Richer Texture yet More Flexible

“Fat’s Dream”

https://web.media.mit.edu/~tod/media/mp3/05_VALIS_Fat's-Dream.aiff
Future of VALIS Hyperinstruments
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Richer Texture yet More Flexible
“Fat’s Dream”

Make Impossible Possible
“VALIS Song”
VALIS Song video clip from Paris production
https://web.media.mit.edu/~tod/media/video/VALIS_Excerpts-Paris.mp4
2:46-7:15
VALIS Song video clip from MIT CUBE production
https://web.media.mit.edu/~tod/media/video/VALIS-Song/MIT-version-excerpt.mov
VALIS Song
video clip from
Lincoln Center production

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Richer Texture yet More Flexible
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Make Impossible Possible
“VALIS Song”

Make Possible Impossible
“Mini’s Solo”
Mini’s Solo

https://web.media.mit.edu/~tod/media/mp3/17_VALIS_Mini-Solo.aiff