Title: The Theater of Hybrid Automata

Status: Spring 1991

This installation is an ongoing project which provides a continuously evolving playground populated by various electronic devices. These are able to "respond" to certain communication protocols through microprocessors imbedded in each device. While our ambition is to continuously intercept and exercise a variety of machine to machine and machine to human communications through underlining system of codes, this activity also promises to articulate the possibility of a new aesthetic structuring: the automated theater where an aesthetic/experimental confrontation between a physycal space and its synthetic model can be composed.

"The Theater of Hybrid Automata" is a computer based interactive environment, incorporating video, electronic sounds and robotics under realtime control of voice, music and text tgrough various software programs. The software takes an active responsibility for the management of a robotic camera (on three basic axes), voice recognition box, optical disc, loudspeakers and lights.

Incorporated into installatinn's circular design is a matrix of video monitors as the principal image display. Sound design utilizes "The Cube", a structural frame supporting six loudspeakers which provide positional reference to a microphone mounted on the computerized Pan/Tilt/Rotate video head (robotic camera). The resultant visual and acoustic results are then distributed further: the video signal to the video matrix display and the audio into four outer loudspeakers which provide the overall acoustic environment.

The Theater of Hybrid Automata consist of and operates in two dialectic spaces, the actual and the virtual. The actual is the physical stage which supports the robotic and space calibrating hardware while the virtual is present in the form of data based media.

Acoustic and visual relationships, generated or organized by computer are then placed into the absolute coordinates of the stage whose dimentions are determined by a set of physical visual targets. Once the space is calibrated and mapped into computer memory, each element acquires its virtual/actual space coordinates. Hopefully the viewer can participate in the blurring of distinctions between the actual and the virtual through an extention of the human senses into new perceptional modes latent within the technological resources.

The basic design and the physical outlook of the instalation does not lead to the literary interpretation. There is no singular selection of narrative vectors, no significant moments. The certain effort was made to disconnect the physicality of stage from its well estabilished traditional purpose and thus point towards more

The Theater of Hybrid Automata,
Physical description:

   The visual part of the Installation is conforming into
NTSC Video Standart and has available at all times: Matrix
of six 19" color monitors, matrix of 16 b/w 19" monitors,
video projector, four U-Matic VTR's, two Laserdisc players,
several color and b/w video cameras, Pan-Tilt-Rotate robotic
video head, six calibration Targets, the "Cube" - a six
channel amplifier/speaker spatial acoustic arrangement, an
audio pitch follower, voice command analyzer, Five string
Midi Violin, a Computer and finally Midi controlled lighting
system. There are many other auxiliary smaller components
and sub-systems, which change with the current project
needs. All components of the Theater of Hybrid Automata are
under interactive control of customized software.

Short history of The Theater of Hybrid Automata:

   The concept of THA has appear as an original intent of
uniting a newly acquired graphic 3d software (from Digital
Arts) and its synthetic (virtual) camera with its
counterpart, the actual video camera in physical space, able
to probe and record the representation of space in its
binary and dialectic interlock. From here there is just a
small step to much wider concept of an interactive
electronic stage.
   As early as 1985, Steina was already been in
collaboration with Joan LaBarbara, singer an composer on a
series of electronic interactive compositions under the
title "Voice Windows" and "Vocalizations" and this
collaboration was later summarized in Labarbara's theatrical
project titled "Events in the Elsewhere", project fully
utilizing interactive design of the THA. The performace has
been put under control of LaBarbara by software, tailored to
her vocalization and the piece was performed in Santa Fe in
the summer of 1990.
   With addition of the "Cube" by David Dunn, the system
became a complex audio-visual machine. In this configuration
the Installation become a part of Ars Electronica Festival
in Linz, Austria in the Fall of 1990, and further on
initiative of Steina, the system acquired a Midi Violin as
an additional control instrument and Laserdisc was added as
a part of a real time interactive display.
   In this developing form the THA was invited to Ferrara
Italy in the Spring 1991, where David Dunn performed a piece
by Tim Thompson titled PARIAH designed by Woody Vasulka for
solo actor, laserdisc and Five string Violin, Steina
presented a preview of a multichannel video composition
titled TOKYO 4 and THA Installation was awarded L'Immagine
Elettronica Price.

abstract digital space void of meaning, interpretation and
iconic artifacts.

The environment will include four different operational
modalities:

1) Preprogrammed Audio by David Dunn*
2) Preprogrammed Video by Steina*
3) Autonomous interactive and continuous performance
4) Scheduled lecture/demonstrations by the authors
   which will include a display of the environment's
   interactive behaviour through a short performance.

*) List of Titles (?)

In Santa Fe, March 18, 1991

Woody Vasulka and David Dunn