DeFanti, Morton, Sandin & Snyder

Members

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Image from Interactive Performance Piece RYRIL
by DeFanti, Morton, Sandin, EVE, April, 1976,
Photograph by Diane Kirkpatrick

206

Chronology of major events connected with development of DeFanti performance pieces:

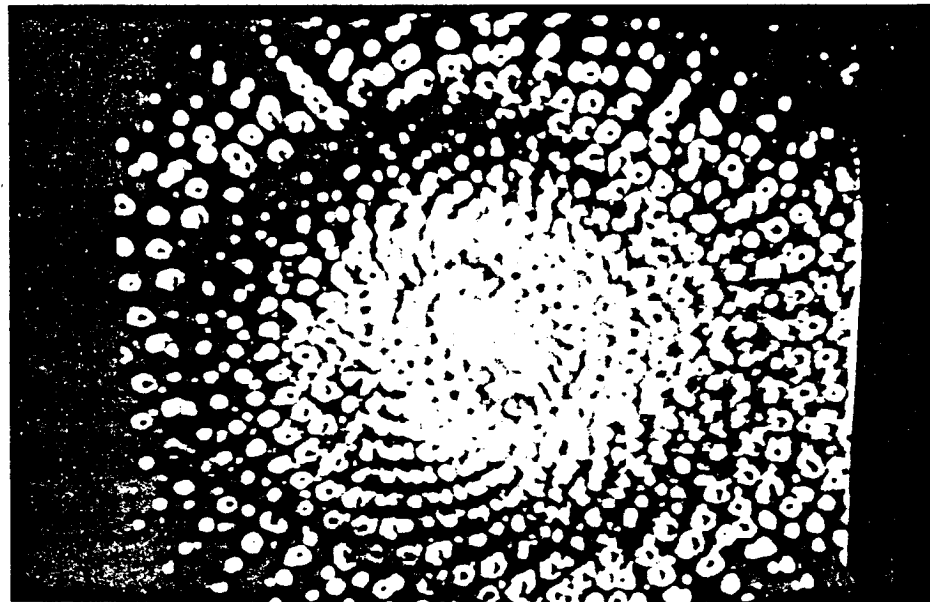|	
1969-70	Sandin and his students use video as a real-time performer at UICC Art Building with instant poster during the Cambodian crisis. They also set up live situations fed through video cameras to monitors elsewhere in the building which began to build awareness of video as a real-time system.
1971-72	Sandin develops first Image Processor.
1972, October	Sandin and Morton set up an interactive video environment at St. Olaf College in Northfield, Minnesota. It incorporates an Image Processor and pre-recorded tapes.
1973, January	"Inconsecration of New Space." Sandin and Morton on the Image Processor joined with Jim Wiseman on the Paik/Abbe Video Synthesizer to create a live video performance with an intricate equipment set-up.
1973	DeFanti arrived at UICC with GRASS.
1973-75	Circle Graphics Habitat developed.
1975, April	The First Interactive Electronic Visualization Event (EVE), UICC, Rotunda SES East. Snyder joined Sandin, Morton, and DeFanti for the joint performance of *Peano Boogie,* providing sound on a Fender-Rhodes Acoustic piano.
1976, April	The Second Electronic Visualization Event, UICC, Rotunda SES CB. Snyder brought EMU sound synthesizer from SAIC to provide sound for *Ryril,* the major interactive performance piece by Sandin, Morton, DeFanti, and Snyder.

The People's Fabric Project was to take people out of the artsy-craftsy, which is important because that's an extension of using your hands and your eyes and your skills to keep the . . . processes of creating things alive. Witness . . . the dress pattern . . . The People's Fabrics literally are to bring the . . . language, the communication process to people . . . I'm asking for the educated audience, the participatory audience.

The creative goals of the DeFanti-Morton-Sandin-Snyder group evolved slowly, influenced by the differing backgrounds and changing artistic experiences of the individual group members. DeFanti and Sandin came to art from science. DeFanti, currently Assistant Professor of Computer Science in Information Engineering, Chemistry, and the Computer Center at UICC, took his Ph.D. in Computer and Information Science. Sandin, an Associate Professor of Art at UICC, was originally a low energy nuclear physicist. Snyder, Assistant Professor of Art and Head of the Sound Program at SAIC, comes from a rigorous musical training with an interest in wedding electronic images and sounds. Sandin and Morton, Associate Professor of Art and Head of the Video Program at SAIC, have each worked with video art since the early 1970s. Gradually they developed an interactive performance mode of working together which laid the foundations for the more comprehensive works of the present four-man team.

The team's interactive performance art is centered around the electronic image-generating equipment of the Circle Graphics Habitat at UICC. The uniqueness of the DeFanti-Morton-Sandin-Snyder performances is formed in large part by the abilities of the combination of a particular computer graphics system and a distinctive video image processor. The Graphics Symbiosis System

(GRASS) is a digital computer graphics programming language and software system which DeFanti co-developed as a graduate student at the Ohio State University under the direction of Dr. Charles Csuri. Unlike many computer graphics systems, GRASS allows real-time "control of moving images in full color . . . in time as well as space"[7] and thus is ideal for interactive performance with Sandin's Image Processor (IP) [which] is a patch programmable general purpose analog computer optimized for the real-time processing of video images."[8]

DeFanti, Morton, Sandin, and Snyder have as one goal the growth of creative and informed human interaction with modern technology. As Sandin has said:

I think culture has to learn to use High-Tek machines for personal, aesthetic, religious, intuitive, comprehensive exploratory growth. [At school] one of the contexts that works for us when we teach is that we create an environment where people can work. We do a lot [of] setting up interactive environments where the audience can participate and play with the machines.

Both GRASS and the Image Processor are designed to be self-teaching systems. One of the first interactive video environments was set up in 1972 at St. Olaf College, Minnesota, by Sandin and Morton. Since then they and their students have invented numerous variations on the theme.

The interactive performance history of the DeFanti-Morton-Sandin-Snyder group perhaps goes back to January 26, 1973. On that date in a performance titled "Inconsecration of New Space," Sandin and Morton worked on the original

Image Processor and were joined by Jim Wiseman on the Paik/Abbe Video Synthesizer. The newly completed black-and-white Image Processor took naturalistic images from film (fed through a film-chain), pre-recorded video tapes, and/or live video camera input and subjected them to various electronic transformations. The Paik/Abbe Synthesizer was used to colorize the images.

Sandin soon developed a color version of the Image Processor. DeFanti arrived at UICC with GRASS and set up Circle Graphics Habitat in which GRASS and Sandin's color Image Processor could function together. The space initially was designed for the production of educational tapes and indeed students and faculty have used Circle Graphics Habitat to create instructional tapes for Chemistry, Mathematics, Computer Science, Art, and Geology classes. But DeFanti, Sandin, and Morton soon saw that the new technology hook-up dramatically expanded the possibilities fo real-time performance video. Much experimentation followed, culminating in the first Interactive Electronic Visualization Event (EVE) which took place at UICC in April 1975. Individual artists from throughout the Chicago video community presented individual pieces. Snyder was lured down from SAIC to provide interactive sound for many of the events on a Fender-Rhodes electric piano.

The present DeFanti-Morton-Sandin-Snyder team crystallized during the first EVE with an interactive group performance later called *Peano Boogie*, which happened spontaneously without the careful pre-planning characteristic of preparation for the group's later works. Sandin describes how *Peano Boogie* happened:

Peano Boogie doesn't refer to the piano you play. It refers to a mathematician—although it's a piano piece—. . . who, in particular, investigated what he called 'monster curves' . . . . I developed a three-dimensional version of that on Tom's system . . . . Tom saw that figure and wrote something called *Trails* which made that a little program that takes any figure and keeps graduating endless displays . . . . At the end of the first EVE event, I was just going to let that run on auto-pilot—a completely automated program—and I had released almost all the controls except the size of the object. At the very end of the event, after we had told everybody to go away, Bob [Snyder] dropped into this funny boogie. People grabbed me and said "here, do it." I only had one knob left, so I did play with that knob. And Bob Snyder did the sound of the boogie, which I think is a way out to relax after all the harder music, and Phil [Morton] was hanging out and jumped on the Image Processor. That was a completely-jammed one-pass work.

Peano Boogie is preserved on video tape because says Sandin: "We always have the tape going."

DeFanti, Sandin, Morton, and Snyder put in months of pre-planning and rehearsal toward the performance of *Ryril* in the second EVE in April 1976. Says Sandin of their creative process in performance at this time:

It's an attitudinal thing . . . . In a sense we do everything at once. It isn't a layering process where you tape materials and then reprocess these materials and reprocess those materials. It all happens at once.

Ryril is a two-movement piece which weds families of generative abstract patterns in real-time and video space with the movements of a live dancer. Viewing the piece is akin to experiencing an hallucinatory visionary event. For *Ryril* Snyder brought an EMU sound synthesizer from SAIC. The sound component of the EVE performances is still imperfectly interactive. Snyder sits high above the performance space with a small video monitor on which he watches the combined output of DeFanti's, Sandin's, and Morton's actions:

I look at the image and read it. I scan to see different tempos, etc., and what I can relate to. For instance, I can alter the figure-ground relationship depending on which part I lock on to. The soundtrack which can contribute structural detail has always interested me.

Sandin says Snyder's present role is:

because he's much better than we are . . . . Measured against the normal graphic tools that artists have, we're incredibly flexible, but measured against the kind of tools that musicians have we're very inflexible . . . . For us to switch from one whole visual space to another whole visual space takes quite a bit of planning in terms of programming the instrument . . . [Bob] can play a boogie right after playing a very sophisticated sound cluster . . . . That comes from tradition and training and things like that that we don't have yet.

For the future Sandin and DeFanti are working on new multidimensional input devices which will increase the responsiveness of their systems by allowing control through such inputs as touch, sound, and various biological and environmental sensors. Sandin is also working on a digital version of the Image Processor. As he said in a recent application for a Guggenheim Fellowship:

I believe the most profound change in our present society to be the availability of personal computing power . . . . My goal is the development of personal computing systems that are optimized for enhancement of creative expression and interaction.

For the present, in the heart of Chicago, Sonia Landy Sheridan and the artists connected with Circle Graphics Habitat continue, all in their own ways, to invent models for the creative use of modern technology by individual human beings. Within this important context, the specific artworks created by these artists provide richly illuminating visions of hitherto unseen aspects of our world, its objects, its patterns, and its structures.

Diane Kirkpatrick

1. The author wishes to express deep gratitude to Sonia Landy Sheridan, Dan Sandin, Phil Morton, and Bob Snyder for the hours of conversation shared about their work and ideas and for copies of papers by all the artists in this section. Unless otherwise noted, quotes in this essay are from interviews by the author with the artists.
2. Sonia Landy Sheridan, "Generative Systems," *Afterimage I* (April 1972), p. 2.
3. Thomas A. DeFanti, Daniel J. Sandin and Theodore H. Nelson, "Computer Graphics as a Way of Life," *Computers and Graphics*, Vol. 1, p. 9.
4. Laszlo Moholy-Nagy, *Vision in Motion*, Chicago: Paul Theobald Publishers, 1947, p. 12.
5. Often she does not wholly understand the content of an Inner Landscape drawing when an image is first retrieved, but all are kept and eventually, the meaning becomes clear. For example, many images retrieved before she began working with imaging machines now seem to illustrate technological concepts she has since learned.

   There are no representations of these Inner Landscape images in this catalogue where Sheridan is represented solely by a cross-section of her works produced with imaging machines.
6. Sheridan, op. cit., p. 2.
7. DeFanti, "Summary of His Work," unpublished.
8. Sandin in Daniel Sandin, Jim Wiseman, and Phil Morton, "Inconsecration of New Space," January 26, 1973, information sheet accompaniment to interactive video performance on that date.
9. Introductory sheet distributed with data on the Image Processor.
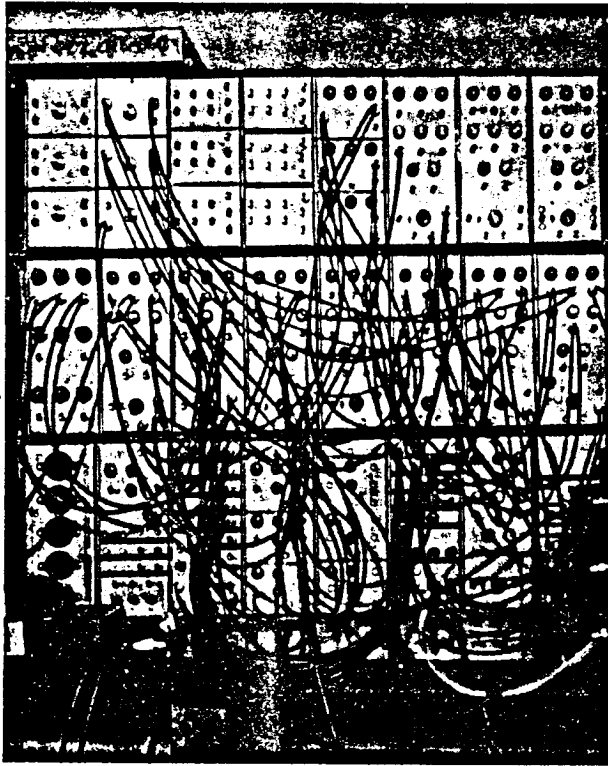
Sandin Image Processor (detail), Photograph by Diane Kirkpatrick

Dan Sandin at work on DeFanti's GRASS system in Circle Graphics Habitat, Photograph by Diane Kirkpatrick