

Profile of Woody Vasulka

Woody Vasulka was born in Brno, Czechoslovakia where he studied metal technologies and hydraulic mechanics at the School of Industrial Engineering. Later, at the Academy of Performing Arts (Faculty of Film and Television) in Prague, he began to direct and produce short films. He emigrated to the United States in 1965, living in New York City, where he worked as a freelance film editor and experimented with electronic sounds and stroboscopic lights. In 1974, he became a faculty member of the Center for Media Study at State University of New York, Buffalo, and he began investigations into video and the computer, constructing "The Image Articulator," a real-time digital video tool.

With his wife Steina, he founded The Kitchen in New York City, recognized as one of the foremost producing and presenting organizations in the world for experimental media theater. Woody has participated in major video shows worldwide, published articles, composed music, lectured and taught internationally. He is a Guggenheim Fellow, and the recipient of numerous other distinctions including grants from the National Endowment for the Arts and the Maya Deren Award from the American Film Institute in 1992.

Since his move to Santa Fe, New Mexico in 1980, he has produced three major video works: *Artifacts*; *The Commission* (an operatic work based on the legend of Paganini and Hector Berlioz); and *Art of Memory* (a series of "songs" thematically related to early 20th century political events). He is now working on a new, largely computer-assisted work, entitled *Brotherhood*, and he is continuing his investigations into "digital space" through the *Theater of Hybrid Automata* — exhibited in its most recent form at St. Denis, Paris for *Artifices 2*. A laserdisc interactive book he co-edited titled *Eigenwelt der Apparatewelt* featuring the "pioneers of electronic art" was produced by Ars Electronica for the exhibit curated by the Vasulkas in Linz, Austria, summer 1992. This fall he is Guest Professor in the Faculty of Art at the Polytechnic (VUT) in Brno where he will head the Atelier of Videoart and Multimedia. The year 1995 will see a major retrospective of the Vasulkas' works at the San Francisco Museum of Modern Art, with the publication of an expanded catalogue (book and CD ROM).

September 1993

Selected Recent Installations:

Artifacts

"Steirischer Herbst," Graz, Austria, 1989

"Shatten Projectionen," Oberhausen, Germany, 1992

Art of Memory

Museum of Contemporary Art, Helsinki, Finland, 1992

Denver Art Museum, Denver, CO, 1992

The Theater of Hybrid Automata

Ars Electronica, Linz, Austria, 1990

"l'immagine elettronica," Ferrara, Italy, 1991

"Artifices 2," St. Denis, Paris, France, 1992

Exhibitions:

Pioneers of Electronic Art, curated with Steina a large exhibition of early electronic tools and instruments for *Ars Electronica*, Linz, Austria, 1992. Concurrent publication of laserdisc interactive book and catalogue

Artifacts, The Commission, Art of Memory, exhibited at The National Gallery of Iceland, Reykjavik, 1993

Lectures and Professorships:

"Brainscomb Distinguished Artist In Residence," Folsom Library — Rensselaer, Troy, NY, 1991

"Digital Environment," Carnegie-Mellon, Pittsburgh PA, 1992

"NY Underground of the '60s," Rock Cafe Media Club, Prague, Czech Republic, 1992

Technical Museum, Prague, Czech Republic, 1992

Polytechnic Institute, Brno, Czech Republic, 1992

Kunstmuseum, Berne, Switzerland, 1992

Hochschule Der Kunst, Berlin, Germany 1992

Guest Professor, Institute for New Media — Staedelschule, Frankfurt, Germany, 1992

Guest Professor, Faculty of Art, Polytechnic Institute, Brno, Czech Republic, 1993

Theater of Hybrid Automata

How the work functions:

The basic concept here is the physicality of the “stage” related to an abstract representation held in the memory of a computer. My interest is not only to model this new space virtually but to present it physically: to create a model that contains physicality interlocked with virtual performance. The unification of this binary model is realized through a process of *calibration* in which a set of external coordinates merges with an internal orientation of the apparatus. In the computer, a virtual sphere reacts as the physical camera “head” moves in space. My method of exploring space is thus to explore this dual representation — actual and virtual — and in confrontation between the two, attempt to learn something.

In the primary ritual, which is the calibration procedure, the camera simply scans the space to locate itself by looking at the six targets which are placed precisely at north south east west above and below. In order for The Machine memory to work, and for The Machine to know where to look, it has to first orient itself. The head carries three index sensors for zeroing in on its own position in the nomenclature of an actual command — such as “Home,” which sends the head back to its resident state. The representation of space is written in Cartesian coordinates. Once the head is aligned with the targets, The Machine then begins to know itself, to gain a kind of self-consciousness. If it says “I am looking east,” it really must be looking east, as far as it knows. Of course, this particular ritual produces a limited kind of imagery — it’s not going to produce a complex narrative system. All together though, a well-performed ritual is, in a sense, highly narrative.

A singular feature of my *Theater* is its complete internal interactivity — any part can now influence any other part. A single gesture in space can influence all other elements. The *Theater* writes its own drama as it plays it out. Here, human presence, observation, and participation is optional. However, the construction of the Machine is a product of human curiosity, and as with other investigations of the author, was designed to provide new experiences.

The artistic intention:

The Theater of Hybrid Automata is yet another attempt to extend a set of syntactic devices operating in a dramatic space employing the instruments of new media. Its construction derives from a long tradition of dramatic and spatial experiments, giving attention to early stage apparatus and its conceptual significance in the evolution of a

dramatic genre. On the whole, knowledge of the Memory Theater and other spatial mnemonics (Cicero) has influenced this current line of investigation. However, in my own concept of automated theater, narrative genres employing *frame*, such as film and video, where dramatic telling is conducted through the image confined in a frame, are also considered. Theater, the media, and film in particular, have developed certain syntactic sets through which a representation of space is mediated. The space itself carries a dramatic function. Particularly in film, the narrative system develops out of the syntax of one shot relating to another. I am trying to figure out how these rules of dramatic presentation could be further developed and what rules might define a digitally-organized space. I don't know the rules. I have seen glimpses, certain reflections of possibilities. I've constructed this Machine to discover if there is a nucleus of rules of interaction that could redefine the dramatic functions of space, and later, human presence in it.

Virtual Reality differs from what I am doing in that with VR the participant is taken *inside* the computer memory's space. Virtual reality controls virtual space but I am trying to control actual space. There is some virtual space suggested but my work is more theatrical — an attempt to redefine dramatic space.

Hopefully, my *Theater* provides a critique of psychological theater, or psychological drama as presented in film and theater. Traditionally, a genre of drama deals with relationships between people. It is a psychologically-supported system. I wish to find something that appeals to human perception from rather a different angle such as the experience of observing a technological ritual, like the calibration of an instrument in space, which is unrelated to a human being's own emotional conditions or psychological states — something that is not concretized by an emotional relationship between protagonists, but still represents a certain order or pattern that can be discerned.

Of course, the human mind-and-body system constitutes the most elaborate control-system ever devised, the codes of communication are so complex and refined, so elegantly crafted and at times executed with such a divinity of talent that we may refer to the system as perfect, unequivocally. But, at the same time, it is a closed system, where success is measured only on the most familiar scale of reinforcements. Our dramatic sense longs for more surprising rules, more abstracted and open-ended genres, expressions, and methods of representing principles and tendencies from beyond our limited psycho-experience. Actually, I am not trying to de-psychologize dramatic space as traditionally represented in the theater and media: I am interested in making models for alternate states of awareness.

— Woody Vasulka, 1992

The Theater of Hybrid Automata

Technical Description: *The Theater of Hybrid Automata* is an ongoing project involving a pool of enlightened electronic tools. It is a construction utilizing a space-exploring machine that holds a configuration of physical sensors mutually interconnected by communications protocol. At its center stands a Universal Head carrying a video camera, a pair of opposite-facing infrared transmitters (and receivers) from a musical instrument called *Lightning*, a set of position calibrating indexes, and motion control motor drives. The RPT head (rotate, pan, tilt) constructed to “look” at its surroundings has unlimited orbital range on all three axes.

There are two main space-related operations in progress: the “pointer” mode in which the computer points to prescribed locations according to a program, and the “locator” mode in which sensors randomly scan discrete areas of space, reporting on the coordinates. As the infrared *Lightning* transmitters rotate through space stepping through various spatial locations, their coordinates are continuously relayed to the receivers. These receivers map the transmitter positions and a Sampler is conditioned via MIDI code to retrieve specific words and sounds from its memory, in the manner of Cicero’s technique of visualizing loci for retrieval of memorized information. Explicitly here, an invisible matrix of space has become a virtual “keypad” to the instruments.

The computer contains a MIDI-interfaced program which mediates the entire environment, assigning reports from the sensors, and managing all other components of The Machine. Attached to the computer is a speech box capable of listening to, speaking in response, and obeying a learned set of verbal commands. Also under computer command is a laser disc player with instant access to images in forward/backward, slow/fast variable speed motion. Additionally, the computer controls the lighting grid and, as already described, the robotic participation of the RPT head. Video images from the camera and from the laser disc appear on a video projection screen. The entire construction is confined inside a room-sized cube — 10 by 10 by 10 feet, framed of lightweight aluminum tubing — which carries the projection screens, calibration targets, lights, and six speakers. The *Theater of Hybrid Automata* is to be observed from outside: the cube, functioning as a “stage,” provides a transparent exo-skeleton upon which the various performing components of The Machine are affixed and displayed. This particular version of an “automated theater” is a self-contained, self-regulating system not conditioned by the presence of the viewer. It is fully interactive with itself.

— Woody Vasulka, 1992

Woody Vasulka on *The Theater of Hybrid Automata*

Today computers are decentralized — what we used to call sensors are now almost independent computers, meaning that each sensor is beginning to acquire more and more autonomy to map, sense, and direct. The way these decentralized sensors inform the other parts of the system increasingly follows more organic patterns. Since this kind of systemic behavior leads to more human-like performance it begins to challenge our established manner of perceiving. These new technologies manifest certain patterns of behavior that we as people choose to interpret in either an aesthetic or a psychological manner.

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The only obvious and indisputable achievement of these new technologies seems to be the machines' characteristic of being able to provide endless strings of variations. In music we know exactly what *variations* are, variations are used in many different art forms to examine a specific scheme or a particular pattern. This is one of the most valuable, most captivating, but also the most crippling aspects of working with new technologies. One can certainly become captive to these new variations because a variation is something one can observe again and again and it almost pre-empts one's interest in creating the new.

Learning seems the most intensive part of this process, maybe the most historically important part of the process. I think that what we are experiencing with the new technologies is something which is vastly closer to learning than it is to producing.

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It is difficult to explain why one chooses a nontraditional method of creative involvement. I might just say that there is a system of muses, and the muses allocate tasks to the workers, and these workers — the artists — work for the muses (who have some concept of whatever the hell this is all about). The muses assign you to the craft — in my case the use of technology — they nurture you from childhood and groom you for the task, and eventually, against your will, you are employed by some metaphysical corporation.

As for the purpose of the new technologies, I think that computers came here to give us many questions: The question to me has something to do with space. Is space the place where extraterrestrials come from? No up and down, right and left, north and south. Is space polytopic, multi-directional, and non-centric? Hence are we freed from the limits of a Renaissance definition? Or, is the computer memory the true place for a redefinition of space? It has no spatial qualities unless assigned. So this question — *what is space?* — must again be asked.

One of the reasons I like film is that it's basic representation of space is made of light and shadow, a very abstract way — there is a certain power in that. But I am a man of printed matter. All my upbringing was conditioned by the mistrust of objects, unique artifacts, as tangible property. I can't overcome my bias against art as commodity. I have settled eventually on describing my own work as a form of practical philosophy or rather a form of play where one experience follows another without being considered as fixed or recorded. The event marks itself historically. I guess I am most certainly captive of a process which assumes heraldic ethical proportions — I'm sure there must some nasty label for it. I was born into the world of book, media, and film transportability — I like things that can be duplicated, things that can be

represented. It suits me fine the way computers represent the world by code. I enjoy the ephemeral, the immaterial. My guess is that I have a kind of inherent disbelief in reality. I still think that theater could be immaterial with a kind of a real physical presence of the dramatic elements. Now I am trying to work with it, building a kind of stage. I am very confused about what this all means. But obviously the muses decided, or at least one of them decided, that this is what I should do and so I am obedient.

Right now my theater is simply looking at itself. But I have plans to include human beings — to build suits they'd wear with a complex system for detection of motions, gestures and body tensions. Imagine an actor or a protagonist who could feed into a system that records and instantly retrieves the performance. We learned from the laser disc that between each frame, between each gesture there is a micro dramatic structure that might be further developed.

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The new technology offers a set of decisions that can be made by the participant, the reader, the audience or the viewer. Film, for example, is a prescribed medium. You cannot alter the story. A book is more flexible, you can stop and reread, but film in particular is very totalitarian. You can see it only as the author prescribed it. Now in music we say also it is prescribed because of the notation, but there is a certain variety in interpretation, so there is always some room for interaction. But the new technologies truly give us a choice: space can be created while the viewer is finding a syntactic path — the way he or she wishes to go through the space. You can see it in the digital video games, they give you certain options such as doors or multiple pathways. In some ways the perfectly constructed new digital narrative space with all the narrative elements could provide for the viewer a completely personalized tour. However, is not the most interesting thing the prescription by the artist — the kind of unique guidance the artist gives? This has all been badly explored. Most of the exploratory materials made so far do not even come close to the respectability of a cultural experience. The spaces and concepts generated by the new technologies may still be so basic that one cannot yet make even the lightest comparisons with literature. I have grave doubts about non-authorship. I find that all I'm interested in is a particular mind, a very specific mind, to read and be part of.

However, I think that whatever we do with technology really depends on the viewer as well. None of us is willing or has the generosity to tolerate triviality or mediocrity even when employed in a noble cause, nor should we. Now I speak of intelligence. Without an intelligent viewer the new work could never be intelligent. This is a dilemma. Sometimes someone constructs an interesting work that is engaging and important at a certain moment, but if the viewer misses that particular moment, then the work becomes quite primitive. The articulation of the new tools is not as fluid as in some older forms. For example, the conductor of an orchestra moves a little stick just a little bit in a certain direction with a certain speed and a vast body of people interpret that movement with such minute precision that the result is stunning.

In order to engage the viewer there has to be some level of interpretation so that the viewer might truly trust that a cause and effect or the evocations of a mood or an atmosphere are meaningful. The technology usually goes its own way and one has to kind of bring it back and nail it down — it is continuously changing, it is dynamic, and precisely for those reasons the rules of the game are nearly impossible to get. The modes in which it is presented are too ephemeral or too crude. It doesn't have to be *real*, but it has to be convincing. Every emergence of new media empowers the artist to ambush the viewer again. Stripped of his dignity, the viewer cries for the rules of ethics, the very subject the artist abhors the most.