MINDERAMES: MEDIA STUDY AT BUFFALO, 1973-1990

JOHN MINKOWSKY RECOUNTS AN INNOVATIVE EXHIBITION OF FILM. VIDEO, SOUND, AND DIGITAL ART INSTALLATIONS AND PROJECTIONS

Between 16 December 2006 and 25 March 2007, the Mind-Frames show at the Zentrum für Kunst und Medientechnologie (ZKM) in Karlsruhe, Germany showcased the careers of seven artists who taught at the Center for Media Study (CMS) at the State University of New York at Buffalo in the 1970s and 80s: James Blue, Tony Conrad, Hollis Frampton, Paul Sharits, Steina, Woody Vasulka, and Peter Weibel (the last three of whom served as curators of MindFrames: Weibel is now the Director of ZKM; there are further details available at hosting.zkm.de/mindframes_e/ and a full catalog is being prepared for publication by MIT Press). Also represented in the show was the prominent theorist Gerald O'Grady, who created the CMS and brought these founding figures of the so-called "structuralist" and "materialist" movements together. In his program notes, Peter Weibel likens the influence of the CMS to that of the Bauhaus or Black Mountain College, and this statement is not altogether far-fetched.

The exhibition was unprecedented, not only in conception and execution but also in the sheer scope and variety of materials it offered, and the diverse means by which the museumgoer could engage and interact with them. The show encompassed over 350 hours of work, much of it always accessible to the visitor (with some of it presented on schedules that changed daily). MindFrames raised many interesting questions about latent possibilities of media exhibition in the context of the museum and the roles that moving-image curators might play in the new technological architecture of our evolving information environment. It provides a model for future work

Steina and Woody Vasulka were the initiators of Mind-Frames. They started out with three assumptions. First: an all-digital show (with film and video works transferred as necessary). Second: a show that could be controlled from a distant location. Third: a show capable of being simultaneously

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disseminated worldwide. (The technological aspects are discussed below.) Major additional expertise was required to implement these ideas. It was provided by Robert O'Kane, who provided a capacious server and database and a particular encoding system similar to the one utilized in the manufacture of DVDs. MindFrames may have been principally a film and video show, but its execution was almost entirely achieved through the use of computers.

In terms of organization, the Medienmuseum at ZKM was configured into three concentric circuits or rings. Although the functions of the outer and central rings overlapped significantly, that of the inner ring, designed especially for MindFrames, was completely distinct and undeniably the most innovative attraction of the show. The Medienmuseum is a large space, roughly 40,000 square feet and sixty feet high, the perimeter of which, on this occasion, consisted of twenty-one rooms or "sequestered" regions of varying dimensions housing installation works, dedicated and thematically grouped screening rooms with dynamic schedules (i.e., changing daily), and a large gallery for photographic and other static works. This was the outer ring that circumscribed the whole exhibition

THE OUTER RING

Four of the galleries or viewing spaces presented more than one artist. There was a Film Room and a separate Video Room, distinguished by the medium in which the included works originated; there was also a Document Room where rare interviews with all of the makers were shown; and a Music Room presenting video and sound works informed by the musical backgrounds of Steina, Tony Conrad, and Peter Weibel. Outside each of these rooms was a luminous plasma-screen display of the precise schedule - by hour and minute-of what was then on screen, as well as a listing of what would be shown over the remainder of the day. The greatest quantity and range of material were presented in the



The other galleries were allotted to individual artists, with one exception: the largest of them displayed the photographic and related static visual work of Tony Conrad. Hollis Frampton, and Peter Weibel. Conrad was represented by Polaroid and poster-sized photographs and a larger Plato Corner Works (1976-77), varied configurations of adherent triangular edgepieces by which pictures have traditionally been mounted in photo albums. In the same gallery were five series of blackand-white photographs by Frampton, including Word Pictures (1962-63), The nostalgia Portfolio (1971), and Sixteen Studies from Vegetable Locomotion (1975), these three intimately related to his cinematic endeavors. Word Pictures, a series of documentary photos each beginning with a different letter of the alphabet, has direct bearing on Zorns Lemma (1970), and The nostalgia Portfolio is made up of the images and texts used in the film nostalgia (1971). Sixteen Studies from Vegetable Locomotion, made with Marion Faller, spoof the proto-cinematic works of Eadweard Muybridge. Six photographic and collage works by Peter Weibel were also presented in this space. However conventional this gallery appeared in relation to the rest of the show, it was a potent reminder that all of the artists in MindFrames had worked in a variety of media.

Of the remaining fourteen separate surrounding galleries, there were two screening spaces for Blue's 16mm and Super 8 film and video documentaries about international crises of famine and disease, and the housing problems of the underclasses in Houston, Texas; one for Conrad's productions for a weekly cable program, Studio of the Streets (1991-93), impromptu interviews with passers-by around Buffalo's City Hall on various civic issues; one each for a continuous screening of Frampton's Zoms Lemma and nostalgia; and one for Woody Vasulka's Studies for Scan Processor (1974-77), a series of short video experiments using a specialized form of analog synthesizer that he shot directly onto film. Sharits's two-screen work, Razor Blades (1965 - digitally reconfigured) shared a room with his film Apparent Motion (1975) which was screened in its original 16mm formal twice daily. Seven other galleries were given over to installation works, along with seven in the central ring.

THE INSTALLATIONS AND THE CENTRAL RING

Suspended above the central ring and viewed from a tiered space on a balcony, a Grand View-an extraction of the essence and preview of MindFrames-occupied a presiding position. On a panorama of three massive adjacent screens, excerpts from various works in diverse configurations introduced the viewer to materials displayed in different contexts in the exhibition. They were usually filled with footage from a single multiple-screen work or special edits devised especially for the Grand View.

Steina and Woody Vasulka

The two most prominent works in the central ring were both by Steina. Allvision was a new realization of a site-specific piece she has been refashioning over three decades, the recurrent feature a mirrored ball around which pivots a mechanical armature with a video camera mounted at each end, and with closed-circuit monitors displaying these camera images just beyond. At all times, the cameras, by means of the reflective sphere, capture the entire 360-degree surround (hence the title). In the past, Steina has sometimes left the circumambient space unaltered, but here she supplemented the piece with two large graphics of elliptical spheroids suggesting planetary forms.



The Vasulkas, Matrix I (c. 1970-72), Curren of NA.

The more recent Mynd (2000) is a splendid six-channel projection displayed on six contiguous vertically oriented paries of a large screen about fifty feet wide by twelve feet high. There are four distinct sections to the overall work, each defined by a different aspect of the natural environment of her homeland (including the sea and pastures with horses). The images in each section are closely interrelated, varying in rhythm and direction, and their delicate rendering is almost painterly, droplets of water in slow motion suggestive of finely executed brushstrokes.

There were also two collaborations by Steina and Woody Vasulka, Matrix I and Matrix II (both c. 1970–72). Both were presented on stacks of twelve monitors, four wide by three high, displaying related material on loops of horizontally drifting discs (a technique they innovated at this time).

Woody Vasulka's two complex electro-optical installations were staged in "sequestered" spaces, part of the central



Woody Yasulka, Theater of Hybrid Automation (1998), From C Sates on Redeath, Corner of SN



Woody Vasulka, Scribe (1998), detail, Curren of ItA.

ring and yet at its far corners. They are Seribe and The Theater of Hybrid Automata, from a set of six works collectively entitled The Bardherhood first realized in its entirely at the NTT InterCommunication Center in Tokyo in 1998. Both are elaborate kinetic systems of electronic observation built from combinations of cast-off military apparatuses, specially designed mechanical and pneumatic devices, live surveillance cameras, and computer synthesis tools, all of them intercommunicating. Dynamic sculptures that rearticulate the spaces



Steing, Mynd (2000), Hero © Par Sale



Steins, Allvision (2006), Part & Series on Verlands, Englay of DO

they inhabit, they are, by turns, predictable, ambiguous, and indeterminate.

The more accessible of the two Tables (as Vasulka calls them) was Scribe, which addresses printed language as notation and its electronic transcodification. It is an intricate automatic electromechanical copy-device of sorts-a scrivener of the post-technological age - by which printed text on paper is read by machine. A book, laid flat and open to a page bearing a brief and cryptic statement, is observed by a video camera mounted overhead, and text-recognition software empowers a light-plotting table to write out each word in sequence. The viewer can watch the actual luminous tracing of the letters on this horizontal bench, see it projected on the rear wall of the space, and hear a toneless computer-generated voice recite the message. The most dramatic component in Scribe, however, is a specially designed hydraulic arm that turns the pages of the book by means of a suction cup-like device. When each page of plotted text has evaporated from the screen, this robotic arm leaps to life, springs forward in a flash of light, engages the page and flips it over; the effect is startling as this strange mechanical contraption is counterpoised against a panoply of electronic devices.

The other work. The Theater of Hybrid Automata, is even more claborate, and makes direct use of a military artifact—a more claborate, and makes direct use of a military artifact—a motorized gyroscop—centred in a cubic space, upon which is mounted a video camera that pivots 360 degrees on the horizontal and vertical axes, pausing intermittently to map its own orientation in space by means of graphic targets. When the halted camera has identified the direction in which it is pointed, the camera resumes its programmed movements. A large video-projection screen hung on the far wall systematically displays combinations of the camera images with computer-generated objects to create new relationships between "actual" and "virtual" space, or, at other times, purely synthetic models of the construction and its architectural envirous.

Peter Weibel

The simplest of Peter Weibel's installations is the droll Possible (1969), a conundrum in which the word of the title is discovered to be painted on the screen rather than projected by an empty film projector, which merely serves as a source of illumination.

Weibel's video-projection work, Way Way Out (1968/2006 teconstruction), extends over the floor, wall, and ceiling, with one of three video projectors trained on each surface. The viewer may enter this environment, looking down, up, and straight ahead at contrapuntal images of nature, urban scenes, and other materials in relationships that often confound or subvert expectations.



Peter Weibel, Way Way Out (1968/2006), toxing all time

Weibel's two other installations share a common theme. The interactive Kruzifkation der Identitat (1973) is a critique of mediated observation. As the viewer stands on a platform, his or her haloed shadow is reflected on a life-sized cross with a small, unilluminated video screen embedded at the center. When one extends one's arms into a cruciform position, two sensors at the ends of the crossbar trigger a small lens located in the headpiece, and a live video image of the viewer's torso is displayed in that same monitor. One's image is caught and transfixed simultaneously be the lelevision camera.

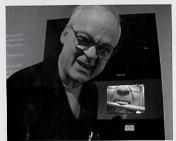
The aura of light that surrounded the participant in Kruzifikation was further intensified by a miasmic lealage from the adjoining room in which was another work about martydom, this time in a somber, elegiac tone. From the far comer of the space, slides of concentration-camp victims were projected onto a screen of steam about six inches deep by six feet wide. These compelling and appalling apparitions were given an illusory depth when viewed through the dense, swirling haze, like dark phantoms emerging from the residue of a pyre. This testament to the horrors of one of history's greatest atrocities was poignantly entitled Dumb-Show (1969/2006 reconstruction), and was both a powerful testament to the victims of the Holocaust and a provocation to question the appropriation of such inflammatory material into art.

Tony Conrad, Paul Sharits

The outer ring of galleries also housed four other installation works initially made on film. One room belonged to Tony Courad's Articulation of Boolean Algebra for Film Opticals, a seven-minute looped except from a 1975 film shown on a mounted 16mm projector. Trained in mathematics, Courad employed an abstract algebraic formula for logical operations to structure the most rigorous of his "flicker" films. Visually sophisticated, the film is more dependent upon its conceptual framework than the viewer's perceptual discernment of the organizational shape itself, which is as impenetrable to the eye as the mathematical ideas it is based on are to the monspecialist mind. Less immediate in impact than a work



Paul Sharits. Third Degree (1982), rom to her tole



Tony Canrad in front of the Media Lab, In Line (1986) on screen, Garage DV

like Conrad's earlier and essential film, The Flicker (1965), Articulation was one of the most resolutely "structural" works in the exhibition.

Paul Sharits had been allotted three installations: the two-screen Razor Blades and Epileptic Seizure Comparison and his spectacular triptych for film, Third Degree.

Razor Blades (1965) was Sharits's first multi-screen effort and was not conceived as an installation, but rather as an unconventional twenty-five-minute moviegoing experience; here it became more the object of casual observation than one for serious contemplation.

Epileptic Seizure Comparison, a 1976 work designed as a double-screen installation-or "locational film piece," as Sharits termed it-directly addresses the fact that the photic stimulation of flicker films can alter brainwave patterns in a small number of viewers, actually inducing epileptic convulsions. Sharits's intention was to simulate, via sound and light, the experience of a convulsive seizure under artificial conditions, an altered state of consciousness that is not, according to his research, without its ecstatic transports or aesthetic ramifications. Images of patients in the throes of grand mal seizures are among the visuals.

Many of Sharits's works, for all their formal, abstract beauty in the revelation of film's material attributes, are infused with elements of violence. In Third Degree (1982), this destructive impulse is directed at the substance of the celluloid strip itself. Presented on freestanding, optically altered film projectors with synchronized continuous image and sound loops, it displays three images of different dimensions. Color frames burnt and melted by intense heat, and the image of a woman's face before which a lit match is held, as though she were undergoing a vicious interrogation, radiate from the screen. By rephotographing successively from the smallest to largest screen, this last metaphorically presents third-degree burns, even as the woman, suggestively being threatened by the flame, is also undergoing the "third degree." An ominous intermittent soundtrack combines the noise of rattlesnakes and human utterances of resistance to torture. Third Degree is radical deconstruction through immolation, disclosing the frangibility of film in a flare of terrible beauty.

MEDIA LABS IN THE INNER RING

Moving inward from the central ring, the viewer came upon a group of eight specially designed Media Labs, one for each creator. These were like electronic study carrels with specialized collections whereby the work of each individual maker could be explored in depth and at length. Middlemost in each was a Video Jukebox, a console with a touch screen from which the visitor could select from more than a dozen complete films or tapes or from archival interviews with the artists, and view them, in full or part, on a nine-by-six-foot screen. To the immediate left as one entered a lab was a mounted computer database that permitted access to a much larger selection of films and tapes as well as a complete bibliography and film/videography, an extensive collection of the artist's writings, and a variety of photographic documents.

Along the right hand walls of five of the labs were interactive stations where one could simulate the creative practices or analyze excerpts of the work of each artist. For Paul Sharits, the participant was able to emulate the process of creating a flicker film by filling in linear fashion a matrix representing a sequence of frames with either a solid color or symbol, and play them back in sequence, at variable speeds selected by the participant, on a second monitor. It was an elegant, illuminating, and easy-to-use instrument, as was Steina's, where pressing any number on a keypad activated a unique digital transformation of one of several pre-taped sequences in ways similar to those she employs in her works.

Vasulka's and Frampton's stations, by contrast, were designed for the analysis of sequences of specific tapes or films, and were more difficult to use. Particularly resistant was



Creating a flicker film at the Sharits work station.

Parts D Soften on Vockerts (outroed 318)

Frampton's, where, in one monitor, the viewer could manipulate a cube, each side offering a portion of a different film. and select particular sequences of frames for replay on a second screen at a variable speed. Compared to the other lab stations, this was the least user-friendly. Vasulka's was more readily comprehended and controlled, allowing one to alter the transparency and number of overlapping video frames, but was rather frustrating as a learning tool. Both could have benefited from design modification, but the attempts were commendable

Finally there was a selection of work by Gerald O'Grady, who over the past thirty years has produced dozens of tabloid catalogues for CMS. His jukebox featured half-hour public television programs entitled Film-Makers, in which he interviewed thirteen independent makers showing and discussing their work.

DIGITAL TECHNOLOGY

As mentioned, it had been Steina's and Vasulka's intention from the outset that the exhibition be presented entirely in digital format. The digital format is unlike film or videotape, in that it has no material base. Digital code is binary data, pure and simple, that can represent all manner of information, including moving images and sound, with an extremely high degree of fidelity and clarity. Digital video has increasingly become the standard for television and Internet transmission and storage on DVDs, as well in as film production. For MindFrames, both film and analog video had to be reformatted, or compressed and encoded, into digital data, while attempting to minimize any loss of quality or essential component features of either medium.

There are several advantages to transferring film images and video signals into digital formats. One is general: unlike film and videotape, both subject to deterioration over time and repeated use, digital information is, essentially, immaterial, that is, pure data which can be stored in a variety of ways, and therefore not subject to corporeal corruptibility. Another is more specific, in this case, to the needs of MindFrames: given the vast amount of material included in the exhibition (more than two weeks of round-the-clock viewing!) and the desire to have it accessible in the most flexible manner nossible, a capacious server for the digital database was the most pragmatic solution.

Vasulka enlisted Robert O'Kane, who is based in Cologne as UNIX Administrator at the Academy of Media Arts, to design a technical system-the selection and configuring of necessary server and other instrumentation, and the oversight of the management of the database - whereby this yast quantity of moving image/sound material could be catalogued accessed, and distributed for exhibition in multiple ways.

O'Kane, aside from being a knowledgeable and creative designer of computer systems, was, as a former student at CMS, also familiar with the oeuvre of each of the artists, and the particular aesthetic and theoretical issues with which they had grappled. As one example, the nature of the film and video frame as the basic unit through which the image is conveyed was of particular concern for Paul Sharits and Woody Vasulka. Both sought to employ the frame to different ends - in the case of Sharits, to explore the formal nature and perceptual effects of the rapid fluctuation or flicker of color fields; and for Vasulka, as a means of investigating the manner in which an electronic signal was registered so that it could be controlled or processed. As it was essential in the digital compression of film and video images to preserve the reproduction of actual frames, O'Kane selected MPEG2, a prevalent standard for broadcast, cable, and DVDs, but one that is rapidly being superseded by video-streaming on the web as the more common manner of Internet transmission. Streaming, however, fails to maintain the convention of the

The server for all of the moving-image materials was located at Karlsruhe, and then managed from the database in Cologne, with O'Kane at the helm, maintaining an uninterrupted flow of information from one site to the other. Cologne was the location of "control central" because it is O'Kane's base of operations but, in pure theory (even if it not as yet practicable), the server could be maintained from anywhere in the world (even Buffalo).

All of the material had, of course, to be transferred to digital at the outset. This presented no problem to the video artists as both video and digital are electronically based. There was, however, a debate between film "purists" and the organizers of MindFrames, the former feeling that the integrity of their medium would be compromised by such a translation. There was little evidence that the films in MindFrames suffered by their digital presentation. But that debate explained the presence of Sharits's Third Degree as a film installation proper, a resolution that may have compromised Vasulka's notion of total digitality. However, the presence of the film apparatus was a reminder of the brute and beautiful mechanical basis for cinema, its projectors inelegant instruments emitting their sprocketfuls of clatter and other quirks.

But overall, this digital representation and long-distance transmission of film and video in a museum context was a forward-thinking technological breakthrough, pointing the way toward global simultaneous collaboration in the exhibition of the media arts. Vasulka's and Steina's commitment to constantly easting off into uncharted streams of electronic flow, exemplified in MindFrames, is unparalleled

THOUGHTS ON THE FUTURE OF MEDIA EXHIBITION

From my own experience as a curator/programmer of electronic art, a group show usually evolves around a specific topic as the basis on which individual works are assembled. In the case of MindFrames, the organizing principle was uncommon (although by no means unprecedented), determined by the fortuitous confluence of artists, all with very different but overlapping aesthetic concerns, in a particular place and time. The work of these eight creators, therefore, did not need to be thematically pigeonholed. Each choice could be based solely on its excellence and representative nature.

Of course, the selection of installations in MindFrames represented a mere fraction of such pieces by the artists who worked in that form. A much larger representation of their collective materials existed in the galleries, and as one penetrated to an even broader sampling in the inner labs, the entire exhibition seemed to expand to something more like eight simultaneous retrospectives than a typical group show.

The exhibition, then, tended toward the inclusive, and although none of the artists was actually given a full retrospective of their works in projected form, there was no reason that, technologically speaking, they could not have been O'Kane stated that he could easily have accommodated far more material in the show as it stood, and a larger database could have been mounted and maintained. He noted that, next time, he would begin with a sixteen-terabyte capacity, roughly thirty times the size of the memory that was used for MindFrames.

Although the Video Jukeboxes in the labs offered a limited selection, a portion of the process that might loosely be designated as "curatorial," concerning what to watch, how much of it, and in what order, had been relegated to the individual viewer, and this had been supplemented by the adjacent databases, which offered an even wider choice. Moreover, the centrality of the enlightening interview ma-

terials, which constituted a significant portion of the jukebox selection and the exhibition in general, might otherwise have been assigned a subsidiary role, if not totally excluded, from a show of this nature. It offered a depth and currency, as well as context, impossible to achieve by other means.

Perhaps nothing redefined the content of museum media exhibition so much as these labs themselves, any one of which would have required several days to fully plumb. A jukebox easily contained at least a full day's worth of concentrated viewing. The writings by the artists made available on the database, generally theoretical and sometimes dense, difficult reading because so rich in new aesthetic concepts, were a rare resource. Although most had been previously published, they are not, with a few exceptions, available in single collections, and then only partially. These essays allow greater insight into what are sometimes esoteric bodies of work. And the simulation/analysis tables had the playful interactivity more often linked to science museums in their educative capacities, as well as the scholarly pursuit through close, frame-by-frame examination that is associated with academic film/video study programs.

Like Vasulka's automata, this was a hybrid, if not mongrel, show, serving well a number of constituencies. From the first encounter, MindFrames was intoxicating; a majestic barrage of dazzling stroboscopic energy rendered large. Later, in the relative sanctums of more personal spaces, the plethora of possibilities was intellectually charged and challenging. The installations were expertly displayed, and the quality of film/ video in digital form of the highest order. The exhibition was dense, yet never had any sense of clutter about it, and each piece was provided more than adequate segregation to permit uninterrupted contemplation. The fault of the show is that it may have been too much of a good thing. Viewers may have been sated, gasping for breath, and at the same time frustrated at not being able to take it all in. After six days there, I still felt that I had only scratched the surface. That Mind-Frames existed beyond the constraints of the museum itself was a large measure of its significance. The exhibition was itself a work of art, in concept, design, and execution, a curatorial triumph that was appreciated by a wide range of visitors, from the curious initiate to the insatiable savant.

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ABSTRACT. An exemination of a German exhibition that presented, in an innovative digital format, 350 hours of film and video work and fourteen installations by eight artists, as well as specially designed Media Labs, which included Video Jukeboxes, databases, and work stations simulating these artists' creative and analytical processes.

KETWORDS experimental, video art, installation, analog-to-digital, media exhibitions

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