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Media Art Histories Masters Thesis Danube University Krems May 2009

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# THANK YOU

I wish to first extend my most sincere thanks to Professor Oliver Grau and Sean Cubitt who have supported and advised me on this Media Art Histories research project. Their academic support, advice and the work that they have done in the field and to develop the discourses in which I am working cannot be emphasized enough. I am indebted to their development of the field of Media Art Histories and their encouragement of this international discourse. Additionally, those scholars already working in the field whom I am also referencing in this research and whose contributions to the field have been deeply formative and inspirational include: Lev Manovitch, Michael Century, Mona Jimenez, Christiane Paul, Florian Cramer, Fred Turner, Erkki Huhtamo, the late Jack Burnham, Edward A. Shanken, Kathryn Farley, the late Christine Tamblyn, Claudia Cumbie-Jones, Diane Kirkpatrick and Pamela Lee. The work of cultural theorists, legal scholars and critics of copyright such as Thomas Streeter, Janice T Pilch, Debora Jean Halbert, Matteo Pasquinelli and Dmytri Kleiner provided invaluable points of reference for my considerations of proto-Open Source models. My academic colleagues such as Ed Rankus and artistic collaborators such as Jake Elliott and the criticalartware group helped me to form the thoughts that have led to this research. I wish to thank the artists working in experimental Media Art in the period and place of my research (the decade of the 1970's to the 1980's in Chicago) including: Dan Sandin, Tom DeFanti, Bob Snyder, Jane Veeder, Jamie Fenton, Larry Cuba, Ted Nelson, the late Timothy Leary, Gene Youngblood, Steina and Woody Vasulka, Sonia Landy Sheridan, Kate Horsfield and the late Lyn Blumenthal. Their innovations and collaborative work is the basis on which this study became possible. And finally, I wish express my deepest gratitude to the late Phil Morton whose exploratory and experimental work has been and continues to be deeply inspirational and to Barb Abramo, Morton's surviving partner, without whose generosity none of this research would have been possible.

# INTRODUCTION

# THEME (OUTLINE OF THE TOPIC)

As Sean Cubitt states in his introduction to Videography: Video Media as Art and Culture, Video and thereby Video Art are "at the heart of increasingly interlinked webs of previously separate media... video is neither an autonomous medium, free of all links with other forms of communication, nor entirely dependent on any one of them." <sup>1</sup> Ten years later Lev Manovich would write in his Introduction to Korean edition of The Language of New Media that the languages of New Media Art are "are always hybrids, incorporating memories, expertise, and techniques of already well established cultural forms such as cinema, theatre, printed books, and so on, as well as new more recent techniques which come from the new engine of global information society – digital networked computer."<sup>2</sup> For Cubitt and Manovich Video Art and New Media Art are both similarly meshworks of interconnections that are socially situated and culturally formed as technological artforms. Furthermore, the similarity of Cubitt's and Manovich's claims for their respective subjects in these introductory texts underscores the interconnectedness of the Media Art Histories of Video Art and New Media Art.

In the work that follows, I will argue that current New Media Art theorypractices have developed from the Media Art Histories of Video Art. I intend to show that the Video Art of the 1970's anticipated many specific New Media Art theorypractices. I will trace these histories through the lens of experimental Media Art projects made in Chicago during the decade of the 1970's by a group of artists and academics whose deeply collaborative artistic research and development led to the establishment of new technologies, approaches, organizations and Media Art projects. The social dynamics of this group of collaborators influences these Media Art Histories and as such is a strong and explicit component of my research. One

<sup>1</sup> Sean Cubitt, Videography: Video Media as Art and Culture, 1993, Palgrave Macmillan p. xv 2 Lev Manovich, The Language of New Media, 2003, The MIT Press, p. 1

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individual in particular, Phil Morton, will be key in my study of this period. Morton acted as a major hub of interconnection in this group and importantly articulated the positions of the groups that formed through these collaborations.

I am not attempting a biography of Phil Morton. The goal of my research is to ask a series of questions through methods such as a critical historical comparison, interviews and by conducting primary research. I will use original materials from The Phil Morton Memorial Research Archive, located in the Film, Video and New Media Department at The School of the Art Institute of Chicago, as Media Archaeological evidence. I initiated The Phil Morton Memorial Research Archive in 2007 after I received a generous donation of Phil Morton's personal video databank from Morton's surviving partner Barb Abramo. This study collection and related research, including interviews I have conducted with those involved in the early Video Art and current New Media Art moments will form the basis of the original contributions that I seek to offer through my research. Additionally, I draw from the work of the leading Media Art Historians and Media Archeologists in order to connect Morton's individual and collaborative work to current New Media Art theorypractices and Free and Open Source Software cultures. My approach stems from attempting an understanding of the collaborative experimental Media Art works of Morton and others in the interconnected, socially situated and culturally relevant contexts that Cubitt and Manovich have advocated for in their writings on Media Art.

DESCRIPTION OF PROBLEM

During the early 1970's, the work of Media Artists in Chicago anticipated and developed Open Source approaches to Free Culture, foregrounding collaborative experimentation. Phil Morton's COPY-IT-RIGHT ethic motivated the early Video Art communities in Chicago and beyond to share resources, widely distribute media and create transparent, decentralized and open systems. In 1971 Dan Sandin developed The Sandin Image Processor, a patch-programmable analog computer optimized for video processing and synthesis. Morton, who was a friend and neighbor t Sandin, asked Sandin if he could build the first copy of Sandin's original Sandin Image Processor. Sandin and Morton then began to work together creating the schematic plans for the Sandin Image Processor from 1971 to 1973. They named this document The Distribution Religion. Through The Distribution Religion, Sandin open sourced his unparalleled innovation, giving the plans away for only the cost of the Xerox copies and postage while simultaneously incorporating any additions or modifications made by those who built their own Sandin Image Processors into any further releases of The Distribution Religion. This proto-Open Source project gave an international community of artists unprecedented abilities to process and perform realtime audio and video projects.

During this time Morton developed an approach he called COPY-IT-RIGHT, an anti-copyright approach to making and freely sharing Media Art. The Distribution Religion and many of Morton's individual and collaborative Media Artworks were released under his COPY-IT-RIGHT license. COPY-IT-RIGHT encouraged people to make faithful copies, caring for and distributing Media Artworks as widely as possible. A close-knit community of collaborators including Phil Morton, Dan Sandin, Tom DeFanti, Bob Snyder, Jane Veeder, Jamie Fenton, and others worked together in Chicago on the New Media of their time, incorporating digital and analog computing with realtime audio and video synthesis, processing, programming and performance. Many of these individuals as well as Morton's students

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adopted the COPY-ITRIGHT ethic, applying and modifying it in their own projects. I will discuss these predecessors to the Open Source and Free Culture movements as collaborative and experimental Media Art Histories.

Morton's COPY-IT-RIGHT! ethic and collaborative theorypractice in combination with The Distribution Religion, that he crafted with Sandin to document and distribute the Sandin Image Processor, present alternative Media Art Histories of open collaboration and exchange. These histories have, as of yet, been little documented and generally not included in the current accounts and academic formations of Media Art Histories. Inclusion of these alternative histories of open, playful and experimental approaches to collaborative Media Art making will broaden the scope of the field and enliven discourses on complex and nonlinear patterns of influence. Furthermore, these mostly undocumented histories, activities and projects are 'alternative' in their relation to capital and commodity as they are expressions of Free Culture. As such, these projects resist being commodified and thereby calculated and contained as neatly in canonized Art Historical accounts as other more commercial projects. This research process is therefore an act of recovery and reconstruction in the Media Archeological sense.

# DESCRIPTION OF THE HISTORICAL CONTEXT EARLY VIDEO ART IN CHICAGO

Christine Tamblyn states in her Image Processing in Chicago Video Art, 1970-1980 that the "significant role that Chicago artists played in the early development of video art has never been adequately documented." <sup>3</sup> As such, the early Video Art moment in Chicago constitutes an alternative Media Art History within the histories of Video Art and New Media Art. Tamblyn identifies various reasons for this lack of historicization, such as these artists institutional affiliations which left them "relatively free from pressures to publicize themselves or market their work in conventional art contexts." <sup>4</sup> Institutional support certainly did influence these artists deeply, allowing them the ability to focus on their projects rather than on how to commodify and sell these projects as products. Schools such as The School of the Art Institute of Chicago and The University of Illinois at Chicago acted as incubators for the ideas and approaches that these communities shared. Students and faculty formed new departments and organizations that would develop into internationally recognized homes of artistic experimentation and technological development. As Jane Veeder refelected in 2003, this supportive situation granted Sandin and Morton, in particular, "the independence of being academics." <sup>5</sup> This independence became, according to Veeder, a way to allow these artists and their collaborators the freedom to experiment with their artistic, academic and organizational work.

In 1969 Dan Sandin was, in his own words, "hired to bring computers into the art curriculum" <sup>6</sup> of the University of Illinois at Chicago, then referred to as the University of Illinois at Chicago Circle Campus. Tom DeFanti (originally hired as Faculty in the Chemistry department of the

<sup>3</sup> Christine Tamblyn, Image Processing in Chicago Video Art, 1970-1980, 1991, Leonardo, Vol. 24, No. 3, p. 303

<sup>4</sup> Ibid.

<sup>5</sup> criticalartware, 'Jane Veeder interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

<sup>6</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

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University of Illinois at Chicago) joined Sandin and they co-founded the Circle Graphics Habitat at the University of Illinois at Chicago in 1973. The Circle Graphics Habitat would soon be renamed the Electronic Visualization Laboratory and would continue functioning at the leading edge of the intersections of Art and Engineering into the present moment. When DeFanti joined the Faculty at the University of Illinois at Chicago and co-founded the Electronic Visualization Lab with Sandin he brought with him the Graphic Symbiosis System (GRASS) that he had developed as a PhD student at Ohio State University while working with Charles Csuri. <sup>7</sup> GRASS was a realtime computer graphics programming system that allowed for realtime interactions, allowing programs to be written or altered interactively while the visual graphics output of those programs was rendered onscreen. During this time Ted Nelson also joined the Faculty at the University of Illinois at Chicago. Nelson was roommates with DeFanti and self-published his now famous Computer Lib/Dream Machines book while living in Chicago with DeFanti<sup>8</sup>.

Like Sandin, Phil Morton arrived in Chicago in 1969, joining the Faculty at The School of the Art Institute of Chicago. Only one year later Morton founded the Video Area. The Video Area was the first department in the United States to offer a BA and MFA degree in Video Art. Within the Video Area, Morton founded The Video Data Bank, which has now become one of the world's leading collections of Video Art. The Video Area later became the Video Department, which then merged with the Film Department to form the Department of Film Video and New Media. Frequent guests in the Video Area during the 1970's included Steina and Woody Vasulka (who established The Kitchen, an experimental Media Art space in New York City, in 1971) and Gene Youngblood (who published Expanded Cinema in 1970). Graduate students such as the late Lynn Blumenthal, Kate Horsfield, the late Christine Tamblyn and Jane Veeder helped to form the

<sup>7</sup> Robert Rivlin, The Algorithmic Image: Graphic Visions of the Computer Age', 1986, Microsoft Press, p.13

<sup>8</sup> Ted Nelson, Dream Machines/Computer Lib, 1974, self-published, p.3

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early Video Art community at The School of the Art Institute of Chicago and also became important contributers and developers of the early culture of Media Art in Chicago.

Less than three miles separated the Chicago campuses of the University of Illinois at Chicago and The School of the Art Institute of Chicago downtown but Morton and Sandin would meet on Chicago's Southside in the Pilsen neighborhood where they both had artist studios. In neighboring studios, Morton and Sandin became friends while Sandin was in the early stages of developing his Sandin Image Processor. Morton was the first person to copy the Sandin Image Processor. It was in fact, his idea to make the copy. Morton asked Sandin if he could copy Sandin's recently completed system and Sandin replied that Morton definitely had permission to build a copy, but that Sandin was not sure if it was technically possible as he had designed and built the system on his own. As Sandin says, he was "so immersed in this stuff, in designing and building it" <sup>9</sup> that he was unsure what resources and skills would actually be necessary to copy the system. As Sandin and Morton discussed what was needed and Morton set about the task of building the first copy of the Image Processor in 1971. As a part of this process they began creating "documentation that was sufficient so that other people could copy it." <sup>10</sup> When it was completed, this document would be named The Distribution Religion and would be given away freely to anyone who was interested in building their own copy of the Image Processor

As Sandin describes this collaborative process "took a year's worth of Friday afternoons where I'd show up at Phil's house and we'd work on his Image Processor for awhile and he'd produce part of the documentation and I'd work on it. We developed a format and a way of doing it. I wont say it was intensive work every Friday afternoon but it took a year of getting together and fiddling at it." <sup>11</sup> As Veeder explains, this process, of creating The

<sup>9</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

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Distribution Religion, was a fundamentally collaborative effort that would not have been possible for either Sandin or Morton individually because Sandin is very dyslexic and Morton was "very meticulous and good at that kind of stuff." <sup>12</sup> Or more directly, as Sandin told Gene Youngblood in one of Youngblood's interviews with him: "The only reason documentation for the analog IP got done is because Phil Morton helped me do it." <sup>13</sup> Morton and Sandin's work together to develop the first copy of Sandin's Image Processor may have been their first collaboration but it resulted in many more collaborations to follow, artistically and professionally. This was also the beginning of a long-lasting and deep friendship between Morton and Sandin. Furthermore, the device that they built (the first copy of the Sandin Image Processor) and the documentation that they authored (The Distribution Religion) became literal points of contact as well as functioning conceptually and technosocially as organizing principles for their communities and the community that would form around them and Image Processing in Chicago during the 1970's.

<sup>12</sup> criticalartware, 'Jane Veeder interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

<sup>13</sup> Gene Youngblood, 'Dan Sandin Interview', 1979 – 1981, unpublished

# OPEN SYSTEMS SANDIN IMAGE PROCESSOR



Dan Sandin and his Image Processor from "5 Minute Romp Through the IP"

As Sandin explains, the Sandin Image Processor is a "general purpose patch-programmable analog computer... optimized for processing video information" which can also "process sound or any other signal". <sup>14</sup> When complete, fully documented and copyable by 1973, the Sandin Image Processor offered artists unprecedented abilities to create, control, effect and transform video and audio signals in realtime, enabling live audio-video performances and the production of work that would become collectively known as Image Processing and associated with the early Media Art

<sup>14</sup> Dan Sandin, '5 Minute Romp Through the Image Processor', 1973, Video Data Bank

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community in Chicago. Image Processing is a subgenre of Video Art historicized and documented in detail in the "Performance of Video-Imaging Tools" section of "Surveying the First Decade: Video Art and Alternative Media in the U.S.", the Video Data Bank's historical collection of Video Art. <sup>15</sup> As Chris Hill writes in an essay that accompanies that collection, an interest in developing systems and tools such as the Sandin Image Processor was shared among those in the early Video Art moment across the United States. Hill writes that "Throughout this period, artists, usually in conjunction with independent engineers, modified and invented video "instruments" or imaging tools, making possible the construction of new video and audio systems shaped by their individual aesthetic agendas." <sup>16</sup> The Sandin Image Processor is one of the most well known and well documented of these instruments.

In 2003 Mona Jimenez developed The Artist Instrumentation Database Project as a Researcher in Residence with the Langlois Foundation. <sup>17</sup> The Artist Instrumentation Database Project is one of the most recent studies of this activity of instrument building in the early Video Art communities of the United States. Jimenez compared two custom built tools developed and used by artists during this Media Art historical period. In her description of the project, Jimenez refers to "technological devices as art-making tools and as components of electronic art works" <sup>18</sup> thus linking the artist-inventors work of technological innovation in the creation of these instruments with their placement within works of art. If these devices are developed by artistinventors and used not only to make art but as components of electronic art works, then they may also be considered, at least in part, as artworks in and of themselves. The two instruments that Jimenez details in her research are the Rutt/Etra Scan Processor and the Sandin Image Processor. As Jimenez

<sup>15</sup> Video Data Bank, 'Surveying the First Decade: Video Art and Alternative Media in the U.S.', 1995, Video Data Bank

<sup>16</sup> Chris Hill, 'Attention! Audience! Production! Performing Video in its First Decade, 1968-1980', 1995, Video Data Bank

<sup>17</sup> Mona Jimenez, 'The Artist Instrumentation Database Project', 2003, Daniel Langlois Foundation, http://www.fondation-langlois.org/html/e/page.php?NumPage=708, accessed 2009.03.16 18 Ibid., p. 1

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states, these two instruments were actively used in the 1970's and 1980's in and for the production of "time-based media art and performance incorporating media." <sup>19</sup> Jimenez recounts that both instruments were inspired by previous developments in Media Art and Electronic Music such as Nam June Paik and Shuya Abe's Paik/Abe Scan Modulator and Bob's Moog's Synthesizers. Still, each instrument's artist-developers took fundamentally different approaches to the conceptual and technical structures of the instruments and the cultural or commercial distribution of these devices or systems.

Jimenez compares the Rutt-Etra device and the Sandin system technically and in terms of their distribution models. Jimenez's comparison underscores and reveals important distinctions between these instruments which can be understood as articulating the perspectives of their developers. The Rutt-Etra device was designed to perform a specific set of operations on standard NTSC analog video signals including "stretching, shrinking, flattening, rotating, etc..."<sup>20</sup> of the video image and allowing the movement of these parts of the effected image "independently within the screen area." <sup>21</sup> Completed in 1973 by Steve Rutt and Bill Etra, the Rutt/Etra Scan Processor was marketed as a stable commercial product. Rutt and Etra used a business model hoping to profit from the development of the final version of their device by marketing the instrument to the audiovisual market, artists and educational institutions. In contrast, the Sandin Image Processor is an open system of which "numerous versions were built." <sup>22</sup> As Jimenez has documented, those that copied the Sandin Image Processor undertook this work themselves and often extended and expanded the functionality of the system. This kind of versioning, extension and expansion was possible due to the "early model of open source" <sup>23</sup> that Sandin used to distribute the system. Sandin himself also notes this similarity to and

- 19 Ibid.
- 20 Ibid. p. 2
- 21 Ibid.
- 22 Ibid., p. 3
- 23 Ibid., p. 1

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anticipation of Open Source Software develop strategies in his approach to the distribution of the Image Processor saying "it is very much like the open source development that we have today in software." <sup>24</sup>

The Sandin Image Processor is a modular system that is expandable or extendable via the creation of new modules, components and plugins developed by the community of co-developers who recreated and reimagined the possibilities of the system. Structurally, Sandin's system is open and decentralized. The decentralization of the system is a technical, structural and philosophical position. Christine Tamblyn states in her history of Image Processing (as a subgenre of Video Art made in Chicago) that "Sandin eschewed the hierarchical organizational mode favored by television engineers that places all components under the control of one centralized unit." <sup>25</sup> The Sandin Image Processor does have a 'classic' configuration that allows all basic functions to operate, but the system is itself importantly modular, composed of modules that can be arranged and rearranged to achieve highly customized effects and personalized styles, to attain what Tamblyn calls "unpredictable and unprecedented results." <sup>26</sup> The Distribution Religion is itself the collaborative project that made such decentralization possible.

These technical aspects are mirrored in the social reach of the system as the proto-Open Source approach to which Sandin distributed the Sandin Image Processor. By sharing the 'source code' (i.e. the schematic plans and circuit diagrams as documented in The Distribution Religion) the Sandin Image Processor was not only noncommercial (as compared to the Rutt/Etra device) but importantly decentralized as an open project that others could further develop. Sandin reflects on the proto-Open Source approach used for the Image Processor and still judges it as a success. He has said that the

26 Ibid., p. 304

<sup>24</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.06.17

<sup>25</sup> Christine Tamblyn, 'Image Processing in Chicago Video Art, 1970-1980', 1991, Leonardo, Vol. 24, No. 3, The MIT Press, p. 304

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process "propelled itself" <sup>27</sup> without putting him into the role of "managing a company or personally helping every Image Processor builder". <sup>28</sup> This situation, enabled also by the fact that he was institutionally supported by his faculty position at the University of Illinois at Chicago, allowed him to avoid "being put in a maintenance mode or a management mode" in relation to his system. <sup>29</sup> Furthermore, in the same interview, Sandin connects this proto-Open Source distribution model to the development of communities in which people "who had already built Image Processors could help other people build Image Processors". <sup>30</sup> The first person of this type was in fact his close friend and collaborator Phil Morton who had crafted the first copy of the Image Processor and authored the plans for making further copes (The Distribution Religion) with Sandin and who articulated and defended the COPY-IT-RIGHT license, the proto-Open Source model by which this system was distributed.

In an interview with Gene Youngblood, Sandin explains the differences between closed source TV studio technologies for the production of broadcast television and the open source modularity of the Sandin Image Processor. <sup>31</sup> The concept of systemic "generality" with which Sandin works and that formed the basis of his design for the Sandin Image Processor constitutes an opportunity for participation, experimentation and exchange from the community of users/developers. As Sandin and those who have written about him previously indicate, this allows for surprising, unplanned and unpredicted results. In other words, the systemic generality of the Sandin Image Processor fundamentally contributes to a less hierarchical relationship between Sandin and those who use or further extend or modify his system. In Sandin's words this means that people can build their "own creations at exactly the same level as something that 'came with the

30 Ibid.

<sup>27</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.06.17

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>31</sup> Gene Youngblood, 'Dan Sandin Interview', 1979 – 1981, unpublished

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machine' ... to extend the machine, make it extensible". <sup>32</sup> A power relation is thus developed that recognizes and encourages the creative role of users/developers who can be thought of more as participants in this decentralized system. In the contemporary language of Open Source software development, participation of this kind exists along a wide spectrum of involvement that ranges from being simply an 'end user' of the software to being a 'contributor' to the development of the Open Source software project and furthermore to the deepest and most influencial level of involvement in developing the source code at the most fundamental level of the software, called the 'baseline' of the project. In the Open Source model then, those who were in contact with the Sandin Image Processor as an open sourced system could move between these various positions or roles, using the Image Processor and/or contributing to it's development as a system by extending it. When people extended the Sandin Image Processor their efforts effectively encouraged anyone else to similarly extend the systems. This resulting encouragement, shared between those within this community, set the stage upon which the system could become extensible. In addition to the ability of the community to self-select various modes of non-mutually-exclusive participation at various times and levels of depth, this model also consistently foregrounds a specific sociopolitical meaning. Even if one self-selects to remain at the level of simply being an end user they are still aware of the ongoing openness of the system and the explicitly anti-copyright and thereby anti-commercial ethics of the system's construction and distribution. These ethics seek to empower rather than exploit those who engage with the system from end users to baseline developers.

32 Ibid.



THE DISTRIBUTION RELIGION

The Distribution Religion as rereleased digitally by criticalartware

As noted previously, the document that enabled the degree to which the Sandin Image Processor could be a Free and Open Source project was The Distribution Religion created collaboratively by Sandin and Morton during the period of 1971 through 1973. The Distribution Religion contains all of the schematic plans and electronic diagrams necessary to build an Image

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Processor in the classical configuration of the baseline project as well as any of the significant contributions made by those who extended or modified the system after The Distribution Religion's release in 1973.

Although primarily a technical document, The Distribution Religion also offers articulations of the technosocial and Media Philosophical positions of Sandin and Morton. These philosophies introduce and conceptually enframe the technical plans. In the Introduction to The Distribution Religion, Sandin wrote: "I think culture has to learn to use high-tek machines for personal aesthetic, religious, intuitive, comprehensive, exploratory growth. The development of machines like the Image Processor is part of this evolution." <sup>33</sup> Following this Introduction by Sandin is a section written by Morton entitled "NOTES ON THE AESTHETICS OF 'copying-an-Image Processor'". Morton begins by saying that he is a "copier of many things" and "the first copier of an Image Processor" so that his notes and observations that follow should be meaningful to "future copiers". <sup>34</sup>

In this section, Morton wrote with emphatic enthusiasm that:

"First, it's okay to copy! Believe in the process of copying as much as you can; with all your heart is a good place to start - get into it as straight and honestly as possible. Copying is as good (I think better from this vector-view) as any other way of getting, 'there.' " <sup>35</sup>

This position, as articulated by Morton and included in The Distribution Religion, constitutes an important aspect of his COPY-IT-RIGHT ethic. The aspect highlighted above holds that copying is right, morally correct and good. For Sandin and Morton's project, copying is not only good it is necessary for their process and the project of distributing the Sandin Image Processor. Copying is necessary and necessarily good for Sandin and Morton

<sup>33</sup> Dan Sandin and Phil Morton, The Distribution Religion, 1973, self-published, p. 1 34 Ibid., p. 2 35 Ibid.

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because the Image Processor was conceived of (conceptually and technically) as expandable, decentralized, free and Open Source.

Morton begins the next paragraph of his section saying that: "The more vou 'buy' the 'copying' of Sandin's encoded intelligence in the I-P, the more you will learn about the man-and-machines." <sup>36</sup> In Morton's frequent wordplay are multilayered messages relevant to this study. Morton makes ironic use of the word 'buy' to emphasizes that the Image Processor is not for sale. <sup>37</sup> It is not a commercial product but is rather freely available for copying. He then goes on to say that through the process of making a copy, the copier will learn from the intelligence that Sandin has encoded in the design of the system thereby expressing that the Image Processor is an artistic and ideological expression of Sandin's perspectives and positions. Next, Morton suggests that copying an Image Processor will also lead the copier to learn "about the man-and-machines." <sup>38</sup> Morton's hyphenated phrase 'man-and-machines' references the field of Cybernetics in which the relationship between 'men and machines' is the central issue of concern. Cybernetics was of great interest to Morton. As he told Claudia Cumbie-Jones in a 1989 interview, "Norbert Weiner is one of my intellectual heroes." <sup>39</sup>

The field of Cybernetics was similarly of great interest to many others who were in the homebrew computer and countercultural movements of the 1960's and 1970's. As previously mentioned Tom DeFanti arrived in Chicago after having developed his GRASS computer graphics programming system as his PhD thesis with Charles Csuri. The term "Symbiosis" in the acronym GRASS is a direct reference to J.C.R. Licklider's Cybernetics text "Man-Computer Symbiosis" from 1960. <sup>40</sup> Licklider is widely considered to be

36 Ibid.

<sup>37</sup> Linguistic Theorists Herbert H. Clark and Richard J. Gerrig have detailed in their study of the use of quotations, quotations illustrated by quotation marks such as these often indicate irony or sarcasm in spoken American English. Morton thereby was simulating a verbal speech act of American English in his written text.

<sup>38</sup> Dan Sandin and Phil Morton, The Distribution Religion, 1973, self-published, p. 2 39 Claudia Cumbie-Jones, chidoc: a snapshot of Chicago's electronic art community, 1989, University of Alabama at Birmingham Masters Thesis

<sup>40</sup> J.C.R. Licklider, "Man-Computer Symbiosis", 1960, IRE Transactions on Human Factors in Electronics, vol.

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among the pioneers of Cybernetics and according to Flo Conway and Jim Siegelman's work on Norbert Wiener, the so-called "Father of Cybernetics", Licklider had been a presenter at the Macy conference on Cybernetics that Wiener attended and was also a part of Wiener's social circle and was "conducting his own research in response to Wieners call for new approaches" <sup>41</sup> to Cybernetics. Through computer graphics, DeFanti's symbiotic GRASS programming language facilitated the "cooperative" interaction between men and electronic computers" <sup>42</sup> that Licklider advocated for as a part of his approach to the field by allowing for realtime interactions and feedback. Obviously, the naming of the GRASS system in the early 1970's also references the popular American English slang name for the hallucinogenic and illegal drug marijuana. By co-mingling Cybernetics, computer programming and the countercultural reference to smoking illegal hallucinogenic drugs, DeFanti expressed a position that he shared with Sandin, Morton and others. This position held that cybernetic systems can and should be developed and deployed for the purposes of personal transformation and expansion of consciousness through psychedelic technologies. Those "small-scale technologies of psychedelia" 43 as Fred Turner refers to them were inclusive of personal digital and analog computing systems, experimental Media Art and electronic musical forms as well as mind-altering drugs such as marijuana and LSD. <sup>44</sup> I will refer to this

HFE-1, 4-11

<sup>41</sup> Flo Conway and Jim Siegelman, Dark Hero of the Information Age: In Search of Norbert Wiener, the Father of Cybernetics, 2005, Basic Books, p. 320

<sup>42</sup> J.C.R. Licklider, "Man-Computer Symbiosis", 1960, IRE Transactions on Human Factors in Electronics, vol. HFE-1, 4-11

<sup>43</sup> Fred Turner, From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism, 2006, The University of Chicago Press, p. 33

<sup>44 &</sup>quot;I literally had images of what i wanted to do with the Image Processor. I had these things and they were based on educating myself in these photographic process of optical processing stuff and in my own experience. I worked with a company called Lighting Systems Design, LSD. And it had cards with the letters LSD glowed in black light. And we did light shows and i did it for several years. It was great. I really enjoyed it. There are these kinds of lifestyle issues of being able to involve yourself in your art at all sorts of levels. Tom and I did the first technical presentation at the first Siggraph. It was called "Computer Graphics as a Way of Life". We really meant it that way. We felt that these were tools that could transform your life. You could use it in education. You could use it in the expression of your art. You could use it in the creation of tools. It was a technology that could effect an enormous range of activities. And that's of course true." - Dan Sandin interviewed by criticalartware, 2003

combination of cybernetics and psychedelics in the work of Morton and his collaborators as 'cyberpsychedelic'.

The social dynamics of this group of collaborators as well as their attention to attribution of involvement or authorship bears significance to this study as these factors influenced their collaborative and individual projects. The social dynamics of collaboration in this group become become apparent in the ways in which Ted Nelson was involved in the group during this time period. Nelson is best known for his 1974 self-publication Computer Lib/Dream Machines, his major work during this period. Computer Lib/Dream Machines is another publication besides The Distribution Religion that came from those in this social, artistic and academic circle in Chicago during the early 1970's. In his introduction to the excerpts of Computer Lib/Dream Machines that were included in The New Media Reader, Noah Wardrip-Fruin wrote in 2003 (almost 30 years after the publication of Computer Lib/Dream Machines) that Computer Lib/Dream Machines "is the most important book in the history of new media." <sup>45</sup> If Computer Lib/Dream Machines constitutes such a seminal and influential work, then the positions that Nelson articulated in his self-publication relative to the issues of collaboration and copyright require significant examination in this study. These issues of collaboration and copyright were being actively addressed and discussed in his circle of peers and friends in Chicago. In Computer Lib/Dream Machines, Nelson details DeFanti's GRASS system, the Circle Habitat, Dan Sandin and the Sandin Image Processor but does not mention Phil Morton. Sandin and Morton had just completed The Distribution Religion when Nelson was authoring and self publishing Computer Lib/Dream Machines. At that time Nelson was teaching at the University of Illinois at Chicago in the Circle Habitat. Living in Chicago, Nelson was roomates with Tom DeFanti in the summer of 1974, when he completed Computer Lib/Dream Machines and self published this now highly regarded work.

As a roommate of DeFanti's, Nelson must have known Morton well as

<sup>45</sup> Noah Wardrip-Fruin and Nick Montfort, The New Media Reader, 2003, The MIT Press, p. 301

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he was part of the same closely knit group of artists, inventors and educators whose collaborative work had already begun. Nelson certainly knew Morton in some capacity because when Nelson, DeFanti and Sandin collaboratively wrote their paper "Computer Graphics as a Way of Life" <sup>46</sup> for the first Siggraph conference, Morton created the video that was part of their presentation of this paper. Computer Graphics as a Way of Life was as Sandin describes "the first technical presentation at the first Siggraph" <sup>47</sup> and yet when Sandin discusses the paper (in the interview previously referenced) Sandin does not refer to Nelson as one of the collaborators.

Computer Lib/Dream Machines includes sections on the Sandin Image Processor, DeFanti's GRASS system and on the Circle Graphics Habitat at the University of Illinois at Chicago in Chicago. Interestingly, Nelson claims in the section on the Image Processor that his account is the "first published description" <sup>48</sup> of the Image Processor despite the fact that the release of The Distribution Religion preceded Nelson's self-publishing of Computer Lib/Dream Machines. Nelson's brief descriptive overview of the Image Processor repeats much of the material that Sandin had already explained about the system in his "5 Minute Romp Through the Image Processor" videotape from 1973<sup>49</sup> while adding some contextualization and editorial commentary. A section follows on DeFanti's GRASS system. Nelson enumerates features of the GRASS system such as it's "CLEAR SIMPLICITY", "GENERALITY" and "DEEP GENERALITY" <sup>50</sup>as a programming language. Under the heading of "GENERALITY", Nelson lists attributes such as the extensibility of GRASS that allows users to "create new commands as programs" (emphasis Nelson's) that "may be used in later programs as if they were built into the language itself." <sup>51</sup> Nelson concludes with emphasis,

<sup>46</sup> Thomas Streeter, "That Deep Romantic Chasm": Libertarianism, Neoliberalism, and the Computer Culture", 1999, published in Andrew Calabrese and Jean-Claude Burgelman, eds., Communication, Citizenship, and Social Policy: Re-Thinking the Limits of the Welfare State, Rowman & Littlefield, p. 49 - 64

<sup>47</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.06.17

<sup>48</sup> Ted Nelson, Computer Lib/Dream Machines, 1974, self-published, p. DM 8, CL 121

<sup>49</sup> Dan Sandin, "5 Minute Romp Through the Image Processor", 1973, Video Data Bank

<sup>50</sup> Ted Nelson, Computer Lib/Dream Machines, 1974, self-published, p. DM 31, CL 98 51 Ibid.

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by capitalizing all of the letters in the following sentences, that the most important aspect of GRASS to consider when evaluating it's 'extraordinariness' is the fact that it can be rapidly taught to new beginners who can then quickly produce "FULL THREE-DIMENSIONAL ANIMATED INTERACTIVE GRAPHICS WITH TREE-STRUCTURED DATA." <sup>52</sup> The values of general purpose applications, extensibility and education were part of a set of concerns that Nelson shared with his colleagues in Chicago. Both Sandin and DeFanti are mentioned again in the section, entitled "The Circle Graphics Habitat". This section reiterates that both Sandin and DeFanti's systems are conjoined in the Circle Graphics Habitat at the University of Illinois at Chicago and includes a diagram of the combined system, samples of output and a photo of Sandin and DeFanti (all with annotations). This section also references the "Computer Graphics as a Way of Life" paper that Nelson, DeFanti and Sandin developed together.

Other sections or aspects of Computer Lib/Dream Machines that are relevant to this study, but that do not directly address the Chicago group of collaborators, may help to explain how Nelson differed and ultimately departed from this group. These sections include the section on Video Art, called "VIDEO. The happy medium? some mutterings" <sup>53</sup>, the visual qualities and overall copyright issues that operate within the publication as a whole and the discussions of authorship in Nelson's proposed Xanadu system. In the section "VIDEO. The happy medium? some mutterings" Nelson writes that in "recent years, many young folks have taken to video as a <u>way of life</u>" <sup>54</sup> (emphasis Nelson's). Nelson continues, stating that he has "found it rather difficult to talk to video freaks" and that he doesn't "understand" them. <sup>55</sup> He goes on to disdain the claims of the "video freaks" that their medium of Video Art is alternative, "intrinsically radical or Revolutionary" or inheriently different from Film. <sup>56</sup> In a later section called

52 Ibid.

54 Ibid.

56 Ibid.

<sup>53</sup> Ibid., p. DM 6, CL 123

<sup>55</sup> Ibid.

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"COMPUTER MOVIES" Nelson does champion Media Art made with computers such as the work of Kenneth Knowlton, Stan Vanderbeek, Lillian Schwartz and John Whitney. <sup>57</sup> Nelson's disdain for 'video freaks' is of interest to this study in that it may help to explain his disinterest in mentioning or discussing the work of Morton. Moreover, Morton's exclusion from Nelson's writing helps to explain how the existing accounts of New Media Art, Computer Culture and Media Art Histories have underrepresented Morton and his role in these collaborative cultures of artistic research and development in Chicago during the period of which Nelson's work was being created.





Examples of illustrations from Computer Lib/Dream Machines

In contrast to The Distribution Religion that Morton and Sandin had created at the same time that Nelson was developing Computer Lib/Dream

<sup>57</sup> Ibid., p. DM 24, CL 105

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Machines, Nelson does not promote any proto-Open Source resistance to copyright in his self-publication. Nelson does practice what would today be understood as sampling and remix in the layout and design of Computer Lib/Dream Machines. Nelson intentionally samples text from various sources and graphically remixes copyright protected materials including iconic images of Mickey Mouse from Disney (that he claims to have acquired permission for) and The Wizard of Oz from Frank L Baum (which he claims to be no longer covered by copyright in 1974) next to hand drawn images, cartoons, schematics and diagrams. As Thomas Streeter has written, Nelson acknowledged that he was inspired to layout Computer Lib/Dream Machine by visually cutting and pasting in the style of The Whole Earth Catalog by Stewart Brand. Brand's Whole Earth Catalog was a widely read and significant "countercultural compendium" <sup>58</sup> primarily published between 1968 and 1972. In fact, as Streeter observes, Nelson's visual quotation of The Whole Earth Catalog was so clear and explicit that Nelson remixed the The Whole Earth Catalog's "cover (and most famous image) with a full page computer-generated image of earth from space, captioned 'The Hole Earth Catalog.<sup>11 59</sup> The full page computer-generated image of the Earth that Streeter refers to from Computer Lib/Dream Machines is credited to and was created by DeFanti using the GRASS system.

<sup>58</sup> Thomas Streeter, "That Deep Romantic Chasm": Libertarianism, Neoliberalism, and the Computer Culture", 1999, published in Andrew Calabrese and Jean-Claude Burgelman, eds., Communication, Citizenship, and Social Policy: Re-Thinking the Limits of the Welfare State, Rowman & Littlefield, p. 49 - 64

<sup>59</sup> Ted Nelson, Computer Lib/Dream Machines, 1974, self-published, p. CL 69

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"THE HOLE EARTH CATALOG" from Computer Lib/Dream Machines

Like The Whole Earth Catalog that inspired him, Nelson clearly upholds ideas of copyright despite any of the afore mentioned remixological formatting of Computer Lib/Dream Machines. The publication of Computer Lib/Dream Machines was expressedly covered under Nelson's assertion of his own copyright as author of the publication. Furthermore, he states an opposition to the idea that materials such as Computer Lib/Dream Machines

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or software should be available for free. Nelson articulates this position in detail in the "SPECIAL SUPPLEMENT TO THE THIRD PRINTING, AUGUST 1975" of Computer Lib/Dream Machines when he wrote in a section titled "COPYRIGHT AND COPYWRONG" that the countercultural position that "ideas should be free" <sup>60</sup> was dangerously wrong, to be warned against and that copyright "makes publishing, and the better computer software, possible." <sup>61</sup> He continues, calling himself a "champion" of the protective power of copyright and the "©" copyright symbol's "strong magical properties as a legal incantation." <sup>62</sup> While simultaneously defending copyright and Intellectual Property on an assertion of their respective rationality (as providing a logical, legal and economic basis from which creative work is made possible), Nelson also refers to the "©" copyright symbol as a magically protective talisman to be used liberally. In doing so, Nelson mixes contradictory claims of rationality with a superstitious reliance on the magical protections granted by invoking the "©" copyright symbol.

As is perhaps best known and most repeated, Nelson famously described his speculative Xanadu system in full and fully imaginative detail in Computer Lib/Dream Machines. Put simply, Xanadu is a proposed software project to implement Nelson's concepts of hypertext and hypermedia (terms that he coined and defined in Computer Lib/Dream Machines). Wardrip-Fruin has referred to this speculative system as a "radical, open publishing network" <sup>63</sup> but as Streeter has noted it is also a romanticly individualist "dream of perfect Intellectual Property" <sup>64</sup> that Nelson envisioned. As such, Nelson's vision has been represented heroically as the vision of a 'pioneer' who proposed radically open publishing models. But, in contrast to that widely circulated and held perspective on his work,

<sup>60</sup> Ted Nelson, Computer Lib/Dream Machines, 1975, self-published, p. 126 D 61 Ibid.

<sup>62</sup> Ibid.

<sup>63</sup> Noah Wardrip-Fruin and Nick Montfort, The New Media Reader, 2003, The MIT Press, p. 301 64 Thomas Streeter, "That Deep Romantic Chasm": Libertarianism, Neoliberalism, and the Computer Culture", 1999, published in Andrew Calabrese and Jean-Claude Burgelman, eds., Communication, Citizenship, and Social Policy: Re-Thinking the Limits of the Welfare State, Rowman & Littlefield, p. 49 - 64

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Nelson has also been critiqued as taking a conservative, ahistorical position by proposing a "mathematically perfect property system" <sup>65</sup> that helped to facilitate the transition of "sixties countercultural social libertarianism into technology-based economic libertarianism, and eventually lent credibility to today's dominant neoliberalism." <sup>66</sup>

If compared to current models that are coexistent with and function coherently within (rather than in resistance or opposition to) contemporary copyright law, Nelson promoted a form of adapting copyright to digital hypermedia that is not unlike certain licenses offered by the Creative Commons. Creative Commons is a nonprofit corporation based in San Francisco which promotes the idea of simplifying the abilities of "people to share and build upon the work of others, consistent with the rules of copyright." <sup>67</sup> The Creative Commons organization intends to provide licenses that are legally binding, simultaneously upholding the concept of copyright while making provisions for sharing, remixing and further extending or freely distributing works released under Creative Commons.

Creative Commons first developed and released their licensing schemes in 2002. The Xanadu system that Nelson proposed thirty years earlier is most similar to the specific Creative Commons licenses called "Attribution Share Alike (by-sa)" and "Attribution No Derivatives (by-nd)". If compared to Creative Commons, Nelson's system most closely resembles these two options. The Creative Commons Attribution Share Alike (by-sa) license allows others to "remix, tweak, and build upon" <sup>68</sup> work released under this scheme. This solution also allows "for commercial reasons" <sup>69</sup> as long as the person sampling, remixing, tweaking and/or building upon the work credits the original author and maintains the by-sa license for any of their new creations that were made using these materials. As Creative

<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Creative Commons, What is CC?, http://creativecommons.org/about/what-is-cc, accessed 2009.01.11 68 Creative Commons, Licenses, http://creativecommons.org/about/licenses, accessed 2009.01.11 69 Ibid.

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Commons states: "This license is often compared to open source software licenses. All new works based on yours will carry the same license, so any derivatives will also allow commercial use." <sup>70</sup> Nelson also advocates for a kind of licensing of networked hypermedia that closely resembles the Creative Commons "Attribution No Derivatives (by-nd)" license under which work can be redistributed both commercially and non-commercially "as long as it is passed along unchanged and in whole" <sup>71</sup> with credit to the original author. Nelson's argument in his Computer Lib/Dream Machines was that attribution and the authority of authorship should be stable principles by which nonlinear literature should be connected, navigated, bought and sold.

This conception of hypertextual authorship necessitates the authority of the singular author in a decentralized and digital networked environment. This singularity relies on traditional conceptions of authorship and authority that support copyright protection of the singular (unique) creative production of individuals rather than relying on a more radically decentralized conception of collaboratively developed projects created by multiple artist-developers in various technosocial configurations such as The Distribution Religion supports. Nelson's proposed and speculative Xanadu system (which has never been fully realized) maintains singular authorship as well as the authors' authority but allows for multiple forms of commercial use and reuse in decentralized digital networks. As Howard Rheingold wrote, the Xanadu system supports commerical interests, copyright and the authority of authorship through a "system based on his conception of royalties and subroyalties." <sup>72</sup> Rheingold summarizes that in Xanadu "royalties are automatically monitored... and are based largely on transmission time -- the amount of time people pay on-line attention to a given document. Every document in the system has an owner, and every owner is paid "a whiff of royalty" whenever somebody calls their document

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Howard Rheingold, Tools for Thought: The History and Future of Mind-Expanding Technology, 1985, Simon & Schuster/Prentice Hall, p. 304

from the memory and displays it in words, sounds, or images." <sup>73</sup>

This form of commodification is experiential, based on the experienced time of accessing information and monetized through measurements of attention time 'paid' to that content. Media transactions of this kind, that can be monitored and made profitable online in very granular levels, are completely consist with current copyright and transnational corporate desires for increased copy protection and expansion of copyright law in order to secure further forms of profit from increasingly digitally mediated exchanges. These desires would motivate the development of legislation in the United States such as the Digital Millennium Copyright Act (DMCA) of 1998, more than a decade after the time of Rheingold's writing and more than thirty years after it was conceived of by Nelson.

As the title of Rheingold's book from which these guotes are taken indicates, Tools for Thought: The History and Future of Mind-Expanding Technology, Rhiengold is concerned with the ways in which computers are tools for personal transformation through technology. His work investigates computer histories and countercultures in order to detail the uses of these systems for social and personal transformation and sketch their future potentials for further expansion of consciousness (at both the individual and collective cultural levels). In the section in which Rheingold discusses Nelson, he begins with a historical account of Nelson and Nelson's conception and articulation of his proposed Xanadu project and then continues to elaborate on the ways in which the principles of communitybuilding are realized and extended in the networked personal computing environments of the 1980's. Rheingold says of Nelson that "Even in a crowd of precocious, eccentric loners, Ted seems to set himself apart from the rest." <sup>74</sup> Being set apart thus pushes Nelson to "the fringes of computer history" <sup>75</sup> where Rheingold states in his 1985 text that it is unclear if Nelson

73 Ibid. 74 Ibid. p. 296 75 Ibid. p. 298 will ever be fully included or recognized in legitimated historicization of the era.

In retrospect, Nelson has now been fully included in the New Media Art historical record as Wardrip-Fruin's quote from the New Media Reader makes clear. The outsider status that Rheingold proposed for Nelson did not prevent Nelson from being included in the historical account of New Media Art or his recent appearances and presentations at internationally recognized conferences such as Ars Electronica and organizations such as the Ludwig Boltzmann Institute. <sup>76</sup> Still, Nelson's personal and professional qualities that Rheingold refers to may perhaps result, at least in part, from the ways in which Nelson works or fails to work with others. Rheingold suggests, in his account of the histories of Nelson's professional work in the field, that Nelson has had "a history of disenchanting and antagonizing the people who have enough respect for his wild talents to take the risk of hiring him." <sup>77</sup>

Given the professional, personal and structural details sketched out above, I do not find it especially unusual that Nelson does not mention Morton. Nelson was primarily focussed on the developers of the specific computational systems that he believed could contribute to changing culture rather than the artists who were working with those systems. Still, Nelson's exclusion of Morton from the section titled "Computer Films" may arise from several factors including historical and categorical distinctions between Film Art and Video Art, Nelson's attitudes about Video Art and Video Artists, Morton's identification with Video Art and as a Video Artist as well as the social dynamics and issues of collaboration in this group. Perhaps Nelson also experienced difficulty, even as someone close to

<sup>76</sup> In 2008 Nelson presented his work at the internationally recognized Ars Electronica Festival 'Goodbye Privacy' and the Ludwig Boltzmann Institute's 'Unifying Future Media' event. Nelson's inclusion in these events further demonstrates his current inclusion in New Media Art discourses.

<sup>77</sup> Howard Rheingold, Tools for Thought: The History and Future of Mind-Expanding Technology, 1985, Simon & Schuster/Prentice Hall, p. 297

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Morton and inside his social and artistic network, with being able to compartmentalize and categorize Morton's hybrid approaches to Media Art making. In particular, Morton had already put forward his anti-copyright position of COPY-IT-RIGHT in The Distribution Religion and was developing artistic methods of hybridizing analog and digital forms and Media Art historical genres into sprawling cyberpsychedelic Media Art projects. Morton may also have simply been too close to Nelson, too similarly driven by wildly creative technosocial or even technotopic visions. Clearly, Morton's commitment to decentralized collaborative practices that resist copyright does not fit neatly into Nelson's listing of originators, authors and artists. The fact remains that they were undoubtedly in conversation and clearly informed by each others pursuits.

Just as Nelson does not mention Morton's work in Computer Lib/Dream Machines, Sandin does not mention Nelson in interviews (such as those included in this study) when discussing this period of collaboration. Morton also does not mention Nelson. Based on these facts, the description of Nelson's conflicts with those with whom he worked professionally and the deeply held Media Philosophical differences articulated in their stances on Free Culture and Open Source, one can infer that a significant split took place between these collaborators and that Nelson ultimately continued on his individualistic path, leaving Chicago, but having been influenced by as well as influential to the collaborative efforts occurring in the Chicago group at that time (Sandin, Morton, DeFanti and others) , those who would soon join these collaborative efforts (Veeder, Snyder, Fenton and others) and generations to follow.

In Michael Century's Media Art historical accounts of this time period and group of collaborators, Century credits Nelson's influence on the Chicago group as having been very formative and influential. <sup>78</sup> I would argue that given the documented facts of this groups' social dynamics and

<sup>78</sup> Michael Century, Graphical Performance Machines: Computer Graphics as a 'way of life', 2008, unpublished manuscript
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the deeply politicized and potentially divisive differences between Nelson and the others (in regard to copyright, ownership and economics) that Morton had a greater, more direct and long-lasting influence. Morton effectively shaped the expansive imaginative range of the group and their commitments to what we would now refer to as Free Culture and Open Source approaches. The sociopolitical and economic differences of commitment to the counter cultural practices of Free Culture and Open Source as opposed to Nelson's complex (and at times contradictory) defense of copyright may have ultimately driven the apparent split between Nelson and the Sandin, DeFanti and Morton group.

Additionally, what Streeter refers to as Nelson's "denial of history, social structure, and political struggle" <sup>79</sup> may have also fundamentally contributed to what drove Nelson apart from the group of collaborators in Chicago. Afterall, as Lucinda Furlong wrote in her 1985 essay on the Video Art subgenre of Image Processing, Dan Sandin himself "got involved in video in 1970 during the student protests that resulted from the Kent State killings" and so, like Morton, Sandin understood the medium of video and realtime Media Art to be importantly always already sociopolitical rather than neutral. Sandin and Morton set out to mobilize critiques of economic power structures such as copyright, the singular authority of authorship, profit as a basis for creativity and technological hierarchies in their decentralized innovations and pedagogic projects. They understood their work, not only in terms of being personally and culturally transformative through technologies, but also importantly in the context of sociopolitical and economic struggle.

The inclusion of Streeter's arguments in this study points towards Fred Turner's further analysis of Stewart Brand and the computer counter cultures of the 1960's and 1970's as a historical antecedent of these ideas (which will

<sup>79</sup> Thomas Streeter, "That Deep Romantic Chasm": Libertarianism, Neoliberalism, and the Computer Culture", 1999, published in Andrew Calabrese and Jean-Claude Burgelman, eds., Communication, Citizenship, and Social Policy: Re-Thinking the Limits of the Welfare State, Rowman & Littlefield, p. 49 - 64

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be explored in more detail in later sections of this text) but is also intended to underscore the ways in which Nelson's concept of Xanadu (as articulated in Computer Lib/Dream Machines) relies on individualistic Libertarian and Neoliberal positions that support conservative and corporate desires for expanded legal and economic control structures. From Nelson's perspective, these control structures are imbued with the power to clearly and comprehensively reify maintenance and enforcement of Intellectual Property. Yet Streeter argues that these technosocial structures are based "on such nebulous notions as "originality" and the distinction between an idea and its expression." <sup>80</sup> As Streeter reminds the reader, the concept of Intellectual Property itself "is a famously shifting and murky area of the law, replete with qualifying complications like fair use, copyright collectives, and compulsory licensing" <sup>81</sup> for which Nelson offers a "technical fix". <sup>82</sup> The forms of authorship of original materials that can be established in Nelson's Xanadu system are defined themselves by clearly distinguishable and singular forms of authorship rather than the more radically open and decentralized systems of collaboration such as Morton's concept of COPY-IT-RIGHT as articulated in The Distribution Religion or as applied to Sandin's Image Processor.

80 Ibid. 81 Ibid. 82 Ibid.



# COPY-IT-RIGHT

# Phil Morton's COPY-IT-RIGHT symbol

In this section I will contextualize Morton's principle and practice of COPY-IT-RIGHT in relation to current forms of resistance to copyright and Intellectual Property regimes. The continuum of alternatives to copyright provides a set of contemporary comparisons to COPY-IT-RIGHT and serves to illustrate the ways in which Morton's COPY-IT-RIGHT ethic anticipated and has several different relationships to these current models. Morton used his anticopyright COPY-IT-RIGHT ethic or licensing system for his individual and collaborative Media Artworks during the period when he was developing the first copy of the Sandin Image Processor and The Distribution Religion with Sandin. The previously discussed "NOTES ON THE AESTHETICS OF 'copyingan-Image Processor'" by Morton from The Distribution Religion appears to be the first fully formed articulation of Morton's COPY-IT-RIGHT ethic. In the years that would follow the 1973 release of The Distribution Religion, Morton would continue to define COPY-IT-RIGHT through his individual (written) and collaborative (Media Art) projects. By the late 1970's and early 1980's his COPY-IT-RIGHT ethic would be visibly articulated in all of the works that will

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be mentioned in this study. Furthermore, his students, colleagues and collaborators would, during this time period, come to know and similarly use this ethic, taking up collaborative and anti-copyright approaches to making and distributing experimental Media Art. These people and groups created communities of sharing and exchanging Media Art. Not only did they share their projects with one another but also in what will later be explained in this study as the 'folk technology tradition' initiated and promoted by The Distribution Religion. They openly shared their methods for the production of their work. Because of Morton's COPY-IT-RIGHT position they came to think and feel strongly that their work was operating simultaneously as Media Art and community building.

In an interview from 2003, Morton's former artistic collaborator and partner Jane Veeder explains Morton's COPY-IT-RIGHT ethic, saying:

"Phil was really famous at the time for copying everybody's work, he was always famous for copying people's tapes. There was that early counterculture sense, and it's strong in the digital realm as well, that counterculture sense that information should be free. Now it's actually gaining momentum. Look at the Open Source software development movement. Look at Linux. Alot of people find fault in Linux but nevertheless, it's certainly got a lot farther than people thought at the time, and I am sure there are many that are threatened by it. Phil had an expression that was, 'Copy it right.' The idea was to make a faithful copy, take care of it, show it to people, and that justified making a copy of anything." <sup>83</sup>

Veeder was Morton's closest collaborator and partner during Morton's most artistically active period from the mid 1970's until the end of the decade. Morton and Veeder collaboratively developed experimental Media Art projects, started new academic initiatives and Media Art organizations at The School of the Art Institute of Chicago and traveled the United States together.

<sup>83</sup> criticalartware, 'Jane Veeder interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

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With Veeder's intimate first hand knowledge of the meaning of COPY-IT-RIGHT and as explained in the terms she chooses in the quote above, it is clear that COPY-IT-RIGHT is an anti-copyright approach coming from a countercultural position that preceded and anticipated cultural projects such as Free and Open Source Software. Still, Veeder, in the comments reproduced above, purposefully makes clear that in addition to being similar to Free and Open Source Software, COPY-IT-RIGHT could also be called a Pro-Piracy position on Morton's part as he felt "justified making a copy of anything." <sup>84</sup> The ethic of COPY-IT-RIGHT thereby emphasizes a multivalenced moral imperative to freely copy and openly distribute creative works as widely as possible, especially in the hostile environment of copyright and Intellectual Property regimes that would make such activities illegal.

As Janice T Pilch states in her essay "Collision or Coexistence? Copyright Law in the Digital Environment" <sup>85</sup> Intellectual Property regimes are most "often associated with efforts to wipe out music and film piracy" <sup>86</sup> in terms of file sharing and copying of digital files online or in peer to peer networks. Morton's COPY-IT-RIGHT ethic and his formation of the Video Data Bank (initially as a collection of copied and copyable resources) were conceived of for the purpose of exactly this kind of digital sharing and distribution of Media Arts thirty years before the possibility existed for video materials to be easily exchanged in, on or through online networks and personal computing devices. The globalized Intellectual Property regimes that exist today, have been defined in the United States and filtered through a great deal of transnational corporate interest.

These laws began to be revised and firmly established in their current forms during the 1980's through The General Agreement on Tariffs and Trade (The GATT), the 1990's through the formation of the World Trade Organization (WTO) and the WTO's Agreement on Trade-Related Aspects of Intellectual

### 84 Ibid.

<sup>85</sup>Janice T Pilch, 'Collision or Coexistence? Copyright Law in the Digital Environment', 2005, Virtual Slavica: Digital Libraries, Digital Archives (ed: Michael Neubert) The Haworth Information Press, p. 79 - 116 86 Ibid., p. 80

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Property Rights (the TRIPS Agreement) and most recently the Digital Millennium Copyright Act (DMCA). The development of these laws, legal systems and organizations are generally understood to have been landmark events in the process of Globalization. The DMCA is the most digitally specific, wide reaching and expansive of these laws and has recieved widespread criticism for it's severity, scope and enforcement.

Various forms of resistance to copyright have been identified by scholars such as Debora Jean Halbert in her work on forms of resistance to Intellectual Property. Halbert seeks to find and highlight the strengths of "alternatives to protecting knowledge resources that don't translate them into private property" <sup>87</sup> while investigating a number of areas of the legal expansion of copyright with a focus on the ways in which Intellectual Property regimes limit creativity and the exchange of information while increasing suspicion. One of the failures of imagination that the current globalized legal system of copyright and Intellectual Property suffers from is, in Halbert's words, the assumption that "creation stems from the chance of monetary rewards." <sup>88</sup>Morton and his Chicago-based group of collaborators and students, did not share this assumption and considered their creative work to be for the (moral, artistic, personal and political) good of the communities to whom they were a part and for whom they were a formative core of artisteducators. As such, Halbert's search for alternatives and resistance to as well as critiques of copyright law and Intellectual Property regimes hold particular importance, underlining that the experimental work undertaken by these artist-developers is echoed in critical and scholarly analysis thirty years later. Over the course of these thirty years the issues of copyright and Intellectual Property in Media Arts become even more pressing as the digital forms that Morton and his collaborators developed and experimented with eventually became the basis by which almost all media is rendered, distributed and exchanged.

<sup>87</sup> Debora Jean Halbert, 'Resisting Intellectual Property', 2005, Routledge, p. 5 88 Ibid.

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Since the 1990's, when the internet became commercially popularized through the development of the World Wide Web and Digital Video became a more affordable and accessible format, the United States Congress and the Intellectual Property industries (including the transnational corporations who own the rights to creative works, the Motion Picture Association of America, the Recording Industry Association of America, their legal teams, etc...) have responded, as Halbert details in her work, by legally extending the concept of copyright "as it confronted the new technologies of the information age."<sup>89</sup> These changes to to idea of copyright and the laws governing copyright and Intellectual Property articulate a "desire to own what only has value through circulation and to control every possible exchange of this information".<sup>90</sup> Halbert considers what she refers to as the resulting increase in suspicion "as everyone starts worrying about property and not about sharing the results of their intellectual or creative work". <sup>91</sup> She identifies this result as an important key in her critique of copyright and Intellectual Property law as the effect of this increased suspicion is corrosive to creative communities.

Halbert does not suggest that this worry or suspicion is irrational or unwarranted. Rather, she suggests that there is in fact great cause for concern and that alternatives need to be developed and explored. Halbert explains that as "solutions become increasingly draconian with each new lobbying round by major intellectual property interests" <sup>92</sup> and the conceptual framework of property is the main way in which creative work is enframed or understood more suspicion is produced. This suspicion has a destructive effect, causing people to worry about "how their work will be misused instead of used". <sup>93</sup> Halbert continues, writing that "Concerns about property protection do nothing to enhance the free exchange of ideas." <sup>94</sup> Rather than promoting a culture in which the creative arts are valued in frameworks other

89 Ibid., p. 1 90 Ibid., p. 3 91 Ibid. 92 Ibid. 93 Ibid. 94 Ibid.

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than property and artists are encouraged to freely exchange and share ideas, copyright law as enacted by the United States Congress has, according to Halbert, moved to "provide even stronger protective measures for copyright and patent owners." <sup>95</sup> More directly, the United States Congress has enacted laws at "the behest of the entertainment industries" <sup>96</sup>in order to further expand the definitions of copyright and Intellectual Property in favor of the industries and in order to further protect these corporate interests rather than the public interest. In particular, the United States Congress and the corporations that this legislative government body has defended and acted at the request of, drafted the DMCA in part to respond to new digital technologies but also as an opportunity to expand the definitions of copyright and Intellectual Property for the sake of corporate copyright owners. Halbert plainly states that these combined facts demonstrate that the DMCA "clearly illustrates that the law is not a neutral body of abstract principles, but is instead the codified will of those with economic and political power." <sup>97</sup>

Matteo Pasquinelli has written in "The Ideology of Free Culture and the Grammar of Sabotage" that the Creative Commons initiative faces "a growing criticism that comes especially from the European media culture." <sup>98</sup> The European media culture critics cited by Pasquinelli include Florian Cramer, Anna Nimus, Martin Hardie and Geert Lovink. Among the critiques, Pasquinelli defines two main positions. The first focuses on the fact that the producer-centered ethic of Creative Commons does not recognize or include a critical rethinking of the uses of media produced under a Creative Commons license (and therefore continues to contribute to a sociopolitical imbalance in the technosocial creation/construction of "producers" and "consumers"). The second position highlights the related fact that Creative Commons is consistent with existing copyright laws and therefore does not provide a real alternative. Pasquinelli advocates instead for "a tactical notion of

95 Ibid.

<sup>96</sup> Ibid.

<sup>97</sup> Ibid.

<sup>98</sup> Matteo Pasquinelli 'The Ideology of Free Culture and the Grammar of Sabotage', 2008, The Institute of Network Cultures, NAi Publishers, p. 6

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autonomous commons can be imagined to include new projects and tendencies against the hyper-celebrated Creative Commons." <sup>99</sup> To imagine an autonomous commons Pasquinelli refers to the concept of 'Copyfarleft' by Dmytri Kleiner. Copyfarleft opposes systems of private control over the means of publication, distribution, promotion and media production. This opposition takes the form of a critique of ownership of material assets, recognising class issues and allowing workers to reclaim production. Copyfarleft insures that products such as Media Art works that are made under Copyfarleft remain free and as Pasquinelli states "can be used to make money only by those who do not exploit wage labour (like other workers or co-ops)." <sup>100</sup>This explicitly ethical sociopolitical position connects back to COPY-IT-RIGHT as Morton's position was also an "ethic" that opposed private property, ownership and economic exploitation on the basis of new technologies.

Florian Cramer has also addressed the ways in which current copyright and Intellectual Property laws are not neutral and has suggested that alternatives which are offered need to be explicitly articulated in ethical terms. Furthermore, Cramer has consistently addressed these concerns to New Media Art communities through his writings and presentations at festivals such as Ars Electronica and Wizards of OS and his posts to lists such as nettime. Cramer advocates for New Media Artists to critically analyze the context of current copyright laws as they relate to creative and computational works. Cramer has detailed how the General Public License (GPL) and Free and Open Source Software movement's strategies can be applied to more that simply software and how these and other alternatives to copyright relate to Media Art.

The General Public Licence, as Cramer explains, differs significantly from the Creative Commons. The Creative Commons has gained popularity among New Media Artists and in Media Art communities while the GPL has

99 Ibid. 100 Ibid., p. 7

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not been as widely adopted as a way to distribute works. While the principle of openness may have popularity among New Media Artists, Cramer encourages these artists to weigh the differences and carefully consider the implications and results of using variously open or closed approaches such as those presented by Creative Commons, the Free Software Foundation or the Open Source Initiative. Inke Arns (who has collaborated with Cramer on curatorial projects that address these topics of openness) has written on the Art Historical practices and movements that have informed current forms of resistance to copyright. In her 2008 exhibition catalog text "Use = Sue: On the Freedom of Art in the Age of 'Intellectual Property'" <sup>101</sup> Arns traces these histories through Situationist detournement in the 1950's, The Cut-Up Method of Brion Gysin and William S. Burroughs in the 1960's, the Neoist 'Festivals of Plagiarism' in the late 1980's and what she calls "a broad culture of appropriation" in the Art movements of the twentieth century such as Pop Art. In these analog forms, including the Film Art subgenre of Found Footage, Arns states that artists engaged in these practices "undermine concepts like originality and authenticity" and "subvert the nineteenth-century Romantic concept of the artist-genius autonomously creating from within". In my later discussion of Morton's collaborative Media Art works made and released under the COPY-IT-RIGHT license I will show the ways in which those works function in relation to Arns' Art Historical assertions, simultaneously questioning and reasserting technoromantic myths of originality and the identity of the artist.

When discussing the shifts that have occurred in the transition to the twenty first century, Arns quotes philosopher Eberhard Ortland's analysis of the expansion of copyright law stating that this situation is "leading to an unparalleled concentration of resources in the hands of globally active quasimonopolists in the media and IT markets." <sup>102</sup> Arn's applies Ortland's critique to the arts. Still, Arns does not directly address Media Art or include the

<sup>101</sup> Inke Arns, 'Use = Sue: On the Freedom of Art in the Age of 'Intellectual Property', 2008, Hartware MedienKunstVerein 102 Ibid.

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Media Art Histories of Video Art in her text. I raise Arns' Art Historical account at this point to again underscore that what Arns refers to as the "Asymmetrical Expansion of Copyright to the Advantage of Exploiters" <sup>103</sup> is an important, if often overlooked, aspect of Media Art Histories in relation to current New Media Art theorypractices and Free and Open Source Software cultures. Arns' example also serves to point out that even among those who understand the issues in detail, are working and writing critically in the field of Media Art and with whom Cramer has collaborated, his attempts at educating New Media Artists to the realities of copyright, Intellectual Property and Free and Open Source Software cultures provide important and often under-represented critiques and alternatives.

Cramer similarly references Art Historical trajectories and motivations for present day interest in and commitment to resisting copyright but is particularly concerned with the cultural implications of code and New Media Art as forms of anti-copyright activism. When Cramer compares options for openness in Media Art he questions the Creative Commons options on the basis of their "lack an underlying ethical code, political constitution or philosophical manifesto such as the Free Software Foundation's Free Software Definition or Debian's Social Contract and the Open Source Initiative's Open Source Definition". <sup>104</sup> As he states this lack of a fundamentally ethical, political or philosophical basis undermines the effectiveness of Creative Commons from the onset. As has been previously estblished in this study, Morton's COPY-IT-RIGHT concept is primarily an ethical, political and philosophical position and as such remains on a firm basis if placed into the continuum of Cramer's comparative analysis of forms of openness in Media Art.

Cramer has defended the application of the Free Software Foundation's General Public License to non-software work, in other words, to artistic

<sup>103</sup> Ibid.

<sup>104</sup> Florian Cramer, 'The Creative Common Misunderstanding', 2006, nettime,

http://www.nettime.org/Lists-Archives/nettime-l-0610/msg00025.html, accessed 2009.01.12

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practice that is not explicitly or literally Software Art. The Free Software Foundation released Version 1 of the General Public License on in 1989 in order to articulate and defend their position that software should be freely available (to distribute and change, improve or extend) to both developers and end users. The Free Software Foundation clearly maintains that this ability is a 'freedom' which should be 'guaranteed' and maintained in resistance to commercial software companies who "try to keep users at the mercy of those companies." <sup>105</sup> As Cramer notes, the only reason that the General Public License has not been more quickly or widely applied to artistic practice is that this license "speaks of the licensed work as 'the program', not 'the work'". <sup>106</sup> Still, as Cramer reminds the New Media Artists, theorists and critics to whom he addresses "many non-software works, such as manual pages, have been released under the GPL and continue to be released." <sup>107</sup> In the text from which these quotes are drawn, Cramer continues by reiterating that the Creative Commons, despite their popularity, do not actually encourage the development of a Commons or a shared and freely accessible cultural space. The Creative Commons project is actually intended to maintain coherence with existing Intellectual Property and international copyright laws. These laws are based on the assumptions of a profit motive for creative work and an assertion that creative works are private property, identifiable, distinct products made by those who claim authoritative authorship. This situation, which confuses the concept of the Commons with adherence to current Intellectual Property and international copyright law, according to Cramer, results bluntly "in a big mess and confusion." <sup>108</sup> As Cramer concludes "Perhaps one should start an advocacy effort for the GPL as the good, intellectually beautiful, standard license for free work." <sup>109</sup> While Morton's COPY-IT-RIGHT may or may not fulfill the same criteria if it were to be considered by Cramer, COPY-IT-RIGHT certainly does provides a Media Art

<sup>105</sup> The Free Software Foundation, 'General Public License', 1989, The Free Software Foundation
106 Florian Cramer, 'Re: <nettime> What's the meaning of "non-commercial"?', 2005, nettime, http://amsterdam.nettime.org/Lists-Archives/nettime-I-0501/msg00012.html, accessed 2009.01.12
107 Ibid.
108 Ibid.
109 Ibid.

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Historical example of an alternative to both copyright and the proposals of Ted Nelson's Xanadu with it's Creative Commons like method of adhering to copyright while advocating for expanded flexibility (and commoditization of increasingly smaller transactions) in digital networks.

As has been explained above, Creative Commons is not an alternative or a form of resistance to copyright but was intended from it's inception to be offered as being consistent within existing copyright law and Intellectual Property regimes. But the question of the historical perspective of Creative Commons remains relevant to understanding the differences offered from an alternative historical account and in order to explain the absence (within the framework of Creative Commons) of an understanding of the types of resistance to copyright as have been outlined above. In 2002, Lawrence Lessig defined many of his ideas of Creative Commons in his "The Future of Ideas: The Fate of the Commons in a Connected World". In a section entitled "Creativity in the Dark Ages" Lessig discusses creativity in the Dark Ages before the internet, which he defines as the "1970's". <sup>110</sup> He claims to detail two forms of creativity, i.e. in "The Arts" and in "Commerce". His claim of discussing "The Arts" is met only by his ability to very briefly outline the conditions of mainstream media, in particular through summarizing the developments of cable television in the United States. He does not engage Media Art Histories nor Video Art History through any discussion of any of the alternative artist-made media of the late 1960's or 1970's.

This oversight puts Lessig at a disadvantage by limiting his ability to encounter work such as Morton's COPY-IT-RIGHT which directly critiqued copyright prior to the popularity of Free and Open Source approaches or Creative Commons. Lessig imagines Internet technologies to present radically new and unprecedented abilities for exchange, sharing and collaborative or collective authoring of media. The radically new and unprecedented status that Lessig asserts requires a denial of the alternative Media Art Histories

<sup>110</sup> Lawrence Lessig, 'The Future of Ideas: The Fate of the Commons in a Connected World', 2002, Vintage, p.104

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that this study undertakes to consider. The physical and technologically mediated networks that Morton and his collaborators used to exchange (or in their own words "bicycle") <sup>111</sup> tapes and to copy them in order to further redistribute and remix these materials is overlooked by Lessig but provides an important foundation for current internet-based, digital and New Media Art related systems that setup alternative conditions of production, distribution, use, reuse, exhibition, etc. Halbert advocates for an analysis, such as this study undertakes into alternative Media Art Histories, that can provide historical accounts of forms of resistance to copyright in Media Art cultures and communities. As Halbert writes, transnational corporations with desires for "monopolistic control over content" have increasingly sought and received legal support for expanded control over creative content and "the vehicles through which that content is provided" in order to envision a future wherein all content is exchanged within "the framework of profit" and any other vision of possible futures is "utopian." <sup>112</sup> As Halbert states and as the example of Morton's COPY-IT-RIGHT makes clear: "there are thousands of people around the world who have developed their own ways of dealing with what we call intellectual property." <sup>113</sup>Halbert concludes hopefully that these "parallel systems, alternative paradigms, and small resistances prove that we do have a choice in how the future develops." <sup>114</sup> This future, in which these alternatives to copyright can exist and flourish, relies on a recognition and critical inclusion of under represented, repressed, lost or forgotten histories (such as the subject of this study) in order to establish the past upon which the future Halbert defends, a viable future of ideas, can be based.

<sup>111 &</sup>quot;The only way you were able to see anybody's work wasn't through festivals. There weren't any festivals then, it was through what everybody called "bicycling." Somebody would send Phil Morton a tape and he would invite everybody over to his house to look at it." - Kate Horsfield interviewed by criticalartware, 2002

<sup>112</sup> Debora Jean Halbert, 'Resisting Intellectual Property', 2005, Routledge, p.7

<sup>113</sup> Ibid.

<sup>114</sup> Ibid.

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# COLLABORATIVE MEDIA ART PROJECTS REALTIME AUDIO VIDEO PROJECTS ELECTRONIC VISUALIZATION EVENT (EVE)



Phil Morton performing realtime video processing on the Sandin Image Processor

On January 26, 1973 Sandin, Morton and Jim Wiseman created the first of a series of realtime audio video Media Art performance events. The performance that Sandin, Morton and Wiseman created in 1973 was entitled "Inconsecration of New Space" and featured Sandin and Morton performing on a Sandin Image Processor and Wiseman on a Paik/Abbe Video Synthesizer. Following the "Inconsecration of New Space" event, DeFanti, Morton, Sandin and Bob Snyder created the first "Interactive Electronic

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Visualization Event" (EVE) in April 1975. Bob Snyder joined the Faculty at The School of the Art Institute of Chicago in 1974 and became the head of the Sound Area in 1976. Snyder told Claudia Cumbie-Jones in her 1989 interview with him, that he met Morton through Sandin whom he already knew and Morton helped Snyder secure the teaching position at The School of the Art Institute of Chicago. <sup>115</sup> Snyder, who currently remains on Faculty in the Sound at The School of the Art Institute of Chicago, recalled these histories to Cumbie-Jones saying that due to his professional relationship with Morton "there was always a rather close relationship between the Video department" <sup>116</sup> and the Sound department and that this was still the case in 1989. <sup>117</sup> Likewise, Morton remembered the collaborations with Snyder warmly, telling Cumbie-Jones that he had never "enjoyed working with anybody as much as I did with Dan and Tom and Bob Snyder in those days. They were very high days, very challenging." <sup>118</sup>

The challenges that Morton refers to in his 1989 interview are technical and aesthetic challenges of performing realtime audio video. Morton expresses that these events were "very uplifting and very adventurous because it was breaking new terrain". <sup>119</sup> I will return to a discussion of the romantic implications of the language that Morton uses in this interview to describe his early collaborations in my discussions of his video projects General Motors and Program #7. Aside from the romantic individualist spirit revealed in his description, Morton asserts that this collaborative group was "doing live performances with instruments that really no one was doing live presentations with before." <sup>120</sup> While this claim for originality may be difficult to be substantiated from an international

<sup>115</sup> Claudia Cumbie-Jones, chidoc: a snapshot of Chicago's electronic art community, 1989, University of Alabama at Birmingham Masters Thesis

<sup>116</sup> Ibid.

<sup>117</sup> Anecdotally, this remains the case in 2009, at the time of this writing, which attests to the lasting influence that Morton had on the development of these interdisciplinary areas of study at The School of the Art Institute of Chicago.

<sup>118</sup> Claudia Cumbie-Jones, chidoc: a snapshot of Chicago's electronic art community, 1989, University of Alabama at Birmingham Masters Thesis

<sup>119</sup> Ibid.

<sup>120</sup> Ibid.

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perspective, it can be supported that at least locally, this group of artisteducators specifically introduced these practices to the Chicago Media Art community. Morton, Sandin and Snyder all concur in this set of interviews with Cumbie-Jones that their collaborative realtime audio video events arose from and extended what Sandin calls a "Jazz tradition" updated to become "live, realtime, performance using advanced electronic tools". <sup>121</sup> This Jazz tradition bears particular relevance in Chicago because of Chicago's history in the development of Free Jazz and free improvisation.

A thorough historical analysis of the histories of experimental and improvisational Free Jazz music in Chicago is far beyond the scope of this study. Still, noteworthy developments in the history of Jazz in Chicago during the 1950's and 1960's included Sun Ra's founding of his Interstellar Arkestra, a massive experimental group of Jazz musicians who playfully mixed AfroFuturism, Science Fiction and Fantasy references in their large scale performances. In his "Free Jazz and the Avant-Garde" Jeff Pressing has called Sun Ra an early voice of Free Jazz and free improvisation who used "eccentric 'intergalactic' awareness (he claimed to have been born on the planet Saturn)... and a pioneering use of electronics." <sup>122</sup> Pressing also relates Sun Ra's performances during his Chicago years to "elaborate dance, theatrical and magical presentations which put him in the vanguard of performance art and at the same time hearkened to folk rituals of an earlier era" <sup>123</sup> This is simply one example of the Jazz tradition that Sandin, Morton and Snyder are referencing by invoking comparisons between their realtime audio video events and Jazz in Chicago, a city which remains an international center of experimental Free Jazz and improvisation.

121 Ibid.

122 Jeff Pressing, "Free Jazz and the Avant-Garde", 2001, Department of Psychology. University of Melbourne, p. 7 123 Ibid.



# RYRAL at EVE II

Tom DeFanti, Dan Sandin and an uncredited dancer performing RYRAL at EVE II

Diane Kirkpatrick is one of the few people to have written on the collaborative work of Phil Morton. Kirkpatrick emphasized collaboration in her exhibition catalogue for the exhibition Chicago: The City and Its Artists 1945-1978 which she curated at the University of Michigan in 1978. <sup>124</sup> She details the social aspects of the Media Art Histories of the collaborative realtime audio video performances of Morton, Sandin, DeFanti and Snyder.

<sup>124</sup> Diane Kirkpatrick, Chicago: The City and Its Artists 1945-1978, 1978, University of Michigan, p. 40 – 41

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Her discussion of these origins documents the roles played by each artist in the development of their collaborative projects. As Kirkpatrick recounts, individual artists from the Chicago video community presented projects that were carefully pre-planned in the first Electronic Visualization Event, however, after the event had formally ended the "DeFanti-Morton-Sandin-Snyder group", as Kirkpatrick refers to them, began to improvise. Their improvisation inspired them to continue to work together in this improvisational manner, jamming on their realtime audio video instruments.

They also continued to work in the pre-planned manner, especially in the production of their collaborative work RYRAL in the next Electronic Visualization Event that they organized in April 1976. The Second Electronic Visualization Event took place at The University of Illinois Chicago Circle Campus in 1976. RYRAL was the name given to a particular piece performed by the DeFanti-Morton-Sandin-Snyder group and exhibited by Kirkpatrick in her exhibition Chicago: The City and Its Artists 1945-1978. RYRAL can be considered to be both a distinct Media Art work that was performed as well as a form of documentation of this group's collaboration. RYRAL features DeFanti (creating computer animation with the GRaphics Symbiosis System or GRASS), Morton ("up in the kitchen keepin' track" <sup>125</sup> ), Dan Sandin (processing video with a Sandin Image Processor), Bob Snyder (performing experimental electronic music on an analog EMU synthesizer) and an uncredited dancer. As Morton wrote: "RYRAL infolds, live on-line." <sup>126</sup>. As RYRAL 'infolds' this groups of artists collaboratively creates a realtime audio and video synthesis of analog and digital computing and instrumentation.

Kirkpatrick identifies that the work made by this collaborative group was possible through the unique technosocial combinations of their backgrounds and abilities as well as the literal combination of DeFanti's Graphics Symbiosis System (GRASS) programming language and the Sandin

<sup>125</sup> Tom DeFanti, Phil Morton, Dan Sandin and Bob Snyder, RYRAL, 1976, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2009.02.09

<sup>126</sup> Phil Morton, 'GENERAL MOTORS – 1976', 1976, The Vasulka Archive,

http://www.vasulka.org/archive/Artists4/Morton,Phil/GenMotors.pdf, accessed 2008.06.18

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Image Processor. As Kirkpatrick states in her exhibition catalog: "Gradually they developed an interactive performance mode of working together which laid the foundations for the more comprehensive works of the present fourman team." <sup>127</sup> The foundations that Kirkpatrick refers to also helped to build the basis of the early Media Art community in Chicago and to shape the directions that following generations would take in what is now referred to as New Media Art. Inspired, motivated by and included in this process were artists who were also the first generation of students of these artisteducator. These students and collaborators included the other artists credited with participation in the Electronic Visualization Events between 1975 and 1978 such as Drew Browning, Larry Cuba, Barbara Latham, John Manning, Faramarz Rahbar, Ed Rankus, Michael Sterling, Barbara Sykes and Jane Veeder. Realtme audio video performances of this kind continue to be a form of New Media Art that is supported at The School of the Art Institute of Chicago in the Film, Video and New Media department and encouraged by the Electronic Visualization Lab at the University of Illinois at Chicago, the programs started by Morton, Sandin and DeFanti.

<sup>127</sup> Diane Kirkpatrick, Chicago: The City and Its Artists 1945-1978, 1978, University of Michigan, p. 40 – 41

# THE PHIL MORTON MEMORIAL RESEARCH ARCHIVE DOCUMENTS PROJECTS

The following section discusses Media Art projects in the Phil Morton Memorial Research Archive that were produced primarily as videotapes by Morton and collaborators. These projects are linear single channel video tapes rather than performances but often include documentation of realtime audio video performances or performative elements within them. These tapes follow chronologically after the development of the Sandin Image Processor, The Distribution Religion, the COPY-IT-RIGHT licensing model and the realtime audio video Electronic Visualization Events and performances. In my discussion of these works I attempt to follow Sean Cubitt's method of analyzing video works in my discussion of the collaborative works of Morton's from the Archive. As Cubitt mobilizes this method in his Videography: Video Media as Art and Culture (in his section on "Practice"), I will similarity begin my discussion of these projects through conceptually contextualizing, then describing elements and aspects of the projects (including form, structure, aesthetics, etc) and lastly conclude each of the following discussions by making claims for their connectivities and relationships and their Media Art historical relevance or importance. The projects I will discuss in the following section, using the method described, are General Motors by Morton from 1976 as well as Program #7 by Morton and Veeder from 1978. After discussing each of these projects, I will summarize and detail how these can be understood as further examples of Morton's resistance to copyright and the proto-Open Source approaches of these collaborations. Finally, I will describe the technical details and formats of these documents as they currently exist in the Archive and the immediate as well as long term preservation goals for these materials.

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Within these projects I locate the ethical technosocial positions expressed within the development of the preceding projects discussed in this study, namely the openness of the Sandin Image Processor, the Distribution Religion and COPY-IT-RGHT as proto-Open Source systems. I will comment on the ways in which these Media Art projects are positioned counterculturally as alternatives (i.e. in terms of their content and distribution as released via Morton's COPY-IT-RIGHT ethic) and how they function to express the collaborative spirit of experimentation and playfulness that was of such importance to this Chicago-based group. Furthermore, these projects will be contextualized as Media Art that, while in the form of single channel analog Video Art, anticipated many of the concerns of New Media Art while operating self-reflexively in their own time to generate mythopoetic meanings through cyberpsychedelic means. Furthermore, I intend to emphasize that these projects should be understood as open and ongoing projects rather than self-contained and singular pieces. These works were created and intended to be engaged with and exchanged as Media Art processes, artistic dialogues that continue and extend their ability to be used, reused and received as processes of constant becoming.



# **GENERAL MOTORS**

Phil Morton in General Motors with van (left) and Sandin Image Processor (right)

Morton was a self-expressed practitioner of "Conversational Video", <sup>128</sup> projects that are often in first person address and communicate as 'video letters' or correspondences between various parties. Morton's most well known and widely distributed videotape of this type is General Motors from 1976. General Motors runs over an hour in it's complete form but until recently (when it was released online by the Phil Morton Memorial Research Archive) was not easily available in it's entirety. A ten minute excerpt of General Motors was included on the Video Data Bank's Performance of Video-Imaging Tools section of their Surveying the First Decade: Video Art and Alternative Media in the U.S. anthology. The Video Data Bank has described General Motors as "a consumer's manifesto" that "addresses the popular notion that video could be used to reconfigure power relations, for example, between manufactuers and consumers." <sup>129</sup> Power, labor and class relations are played out in various ways over the course of the sixty two

<sup>128</sup> Claudia Cumbie-Jones, chidoc: a snapshot of Chicago's electronic art community, 1989, University of Alabama at Birmingham Masters Thesis

<sup>129</sup> Video Data Bank, 'Surveying the First Decade: Video Art and Alternative Media in the U.S.', 1995, Video Data Bank

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minute duration of General Motors. Throughout the tape, Morton articulates a position that Snyder has called his "Emersonian idea of technological self-relience". <sup>130</sup>

In the 1989 Snyder told Cumbie-Jones that Morton's "Emersonian idea of technological self-relience" <sup>131</sup> is key to understanding General Motors as well Morton's artistic and pedagogical ethic. This ethic, like COPY-IT-RIGHT, finds expression in the development, maintenance and creative use of homebrew systems and artist-built instruments such as the Sandin Image Processor. Morton intended for these systems to be built via a commitment to Do-It-Yourself (DIY) homebrew electronics as well as Do-It-Together (DIT) community building. Again stemming from a countercultural position and perspective, Morton's early adoption of what would now be called Do-It-Yourself and Do-It-Together approaches anticipates the importance that these approaches would have on youth culture and the arts in the following decades. Writing on the concepts of Do-It-Yourself and Do-It-Together in 2005, Anil Bawa Cavia connected Do-It-Yourself to Do-It-Together through histories of "networked youth culture" <sup>132</sup> and stressed that the Do-It-Together movement "finds it's roots in the Open Source movement's model of production". <sup>133</sup> As such, Cavia called Do-It-Together a "more relevant paradigm today" <sup>134</sup> than Do-It-Yourself. While Do-It-Yourself and Do-It-Together may be more recent concepts, Morton's projects can be understood as operating from these perspectives, as an outgrowth of the origins of the Do-It-Yourself and Do-It-Together commitments that are currently connected to the Open Source movement and networked youth culture.

General Motors engages concepts and myths of youth culture in many ways. Morton was thirty one years old when he completed General Motors,

<sup>130</sup> Claudia Cumbie-Jones, chidoc: a snapshot of Chicago's electronic art community, 1989, University of Alabama at Birmingham Masters Thesis

<sup>131</sup> Ibid.

<sup>132</sup> Anil Bawa Cavia, "DIY Culture", 2005, self-published,

http://www.quotesque.net/archives/2005/12/diy\_culture\_1.html, accessed 2008.11.05 133 lbid.

<sup>134</sup> Ibid.

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having just passed the horizon of being able to be trusted, as the oft repeated saying from the Free Speech Movement goes. This saying, "Never trust anyone over thirty." is attributed to Jack Weinberg from a 1965 interview. <sup>135</sup> During this time Weinberg was a leader of the group of students engaged in protests on the campus of the University of California, Berkeley. These protests are widely considered to have been pivotal moments in the countercultural political and student protest movements of the 1960's in the United States. Margot Adler documented her involvement in the Free Speech Movement in her essay "My Life in the FSM Memories of a Freshman" writing that: "At the University, we had demanded our rights as citizens, argued for self- directed education, and helped to usher in a whole decade of experimentation. We'd done something to transform the world around us, and we were forever marked by the belief that change was possible." <sup>136</sup>

This countercultural climate of radical change made possible through personal transformation, educational reform and collective experimentation was the context from which Morton and his General Motors video tape came from and speaks back to. As Kate Horsfield, who was in Morton's first generation of graduate students and then became the Executive Director of the Video Data Bank, has said, the arrival of video technologies confirmed "that, finally, the tools had arrived that would help us create a new consciousness for everybody. It was not just political; it was also spiritual." <sup>137</sup> At a time when a new generation dedicated to making what Horsfield calls "dramatic social change" <sup>138</sup> was entering young adulthood technologies became available such as Sony's PortaPack, the first portable video camera and tape system, and the Sandin Image Processor. These systems signaled to young artists that another world was possible through the development, use and expansion of these small scale technologies for transformation. Morton,

<sup>135</sup> Margot Adler, "My Life in the FSM Memories of a Freshman", 2002, in The Free Speech Movement: Reflections on Berkeley in the 1960s, Edited by Robert Cohen and Reginald E. Zelnik, University of California Press

<sup>136</sup> Ibid.

<sup>137</sup> criticalartware, 'Kate Horsfield interviewed by criticalartware', 2002, http://criticalartware.net, accessed 2009.01.02

<sup>138</sup> Ibid.

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as an artist-educator during this time period, engaged enthusiastically with and also reflected critically on these ideas and influences as aspects of his culture and the culture of his students. These cultural materials reoccur in all of his collaborative video projects but are first articulated at length and in variations during throughout General Motors.

General Motors begins with the COPY-IT-RIGHT logo that Morton used, an emblematic image of his finger print with an "X" crossed through it and the words "COPY-IT-RIGHT" written below, as filtered through the Sandin Image Processor. The next frames of the video include the color bars and tone of a video test signal with audio feedback and shots of Morton's highly customized Chevrolet van following the test signal. General Motors was produced by Morton after he had purchased a new 1974 Chevrolet van. The project contains audio and video recordings Morton made of his interactions with the Ferrel-Hicks Chevrolet automotive dealership, their service repair department and General Motors Corporation based in nearby Detroit, Michigan. Morton recorded phone calls and made audio and video documentation of the technical troubles and resulting bureaucratic complications that arose with the purchase of his new vehicle. These recordings and documents are most often image processed with the Sandin Image Processor and mixed with re-enactments and travelogue footage of his travels across the United States. Morton himself also appears, directly addressing the camera, in an early version of the diaristic style that would become a hallmark of Video Art. Morton alternates between versions of himself, often playing a character he created called CROSSEYE. As Morton himself wrote "Chronologically, the videotape takes off as a private communique (point-to-point) actually sent to General Motors Corporation regarding consumer-use problems in the transportation business of peopleand-machines communicating." 139

In General Motors Morton introduces the character of CROSSEYE who

<sup>139</sup> Phil Morton, 'GENERAL MOTORS - 1976', 1976, The Vasulka Archive,

http://www.vasulka.org/archive/Artists4/Morton,Phil/GenMotors.pdf, accessed 2008.06.18

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is self-reflexively played by Morton. CROSSEYE is an amateur who is shown as being superior to the professionals that surround him in their world of conventionally controlled and rule-bound society. Gene Youngblood explained in an analysis of General Motors that the amateur character of CROSSEYE has "more integrity and is more committed than the professionals in whose world he is trapped." <sup>140</sup> Rather than position the amateur as trapped, as Youngblood did, Morton empowers CROSSEYE in General Motors. CROSSEYE and his collaborators, friends, folk and community transform themselves and their world through these small scale psychedelic technologies that function as convivial tools. The Sandin Image Processor and General Motors itself are designed as artist-built instruments for realtime processing, synthesis, simulation and self-education through deep feedback patterns. At just over twenty three minutes into the video, Morton explicitly refers to the tape that he is making as a "process" rather than as a product, to make explicit the fact that his work is process-oriented and transformational. This process orientation also relates back to the discussion of COPY-IT-RIGHT as a form of resistance to copyright because process based art is often intentionally less easily commodified due to being a process rather than a salable product.

A few seconds later in the video Morton displays a copy of Tools For Conviviality by Ivan Illich published in 1973. Tools For Conviviality and other books make appearances in General Motors as signposts that should guide an interpretive reading of this project. Austrian author and technosocial critic Ivan Illich offers a wide-ranging and comprehensive critique of Capitalism and the industrial logic of technological development in his book Tools For Conviviality. As with other scholars referenced previously in this study, Illich investigated how technologies are used to exploit their users and suggested solutions to these imbalanced power relations in the form of radical rethinking about the forms and uses of tools and technologies. Importantly, Illich did not advocate for an anti-technological position but

<sup>140</sup> Gene Youngblood, MORTON-VEEDER INTERVIEW, 1980, unpublished

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rather for the "convivial reconstruction" <sup>141</sup> of tools and our relation to these technological systems by way of a "disruption of the present monopoly of industry, but not the abolition of all industrial production." <sup>142</sup> This is an important point in the historical perspective of this study because this position illustrates the influence Illich had on Morton, Sandin and those in their collaborative group. In the United States, during the late 1960's and early 1970's, those who were self-identified as countercultural often took up anti-technological positions whereas Morton, Sandin, DeFanti, Nelson and the others of their community did not dismiss the technological as a category of countercultural work. Illich also articulated that education and community building would be necessary to sustain a convivially reconstructed society in "which society protects the power of individuals and of communities to choose their own styles of life through effective, small-scale renewal." <sup>143</sup> Those positions similarly relate to the ways in which Morton, Sandin, DeFanti, Snyder, Veeder and their collaborators were artist-educators, organizers and founders of institutions and academic programs.

Morton's General Motors engages in a similar set of critiques to those which Illich offers in Tools For Conviviality, albeit in more rambling, humorous, excessive and experimental ways. Morton argues for technologies of, by and for the people in his critique of the General Motors corporation and the local Ferrel Hicks General Motors dealership. Early into the video, after having detailed various technical problems the accompanied the purchase of his new vehicle the CROSSEYE character played by Morton sits shirtless, wearing a cowboy hat and smoking. He angrily shouts into the camera:

"...the problem with your joint that is supposed to maintain and produce for the people! ...It's a problem that you represent with your joint! ...Now, I'm

<sup>141</sup> Ivan Illich, Tools For Conviviality, 1973, Harper and Row 142 Ibid.

<sup>143</sup> Ibid.

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just the people. I'm just the people like the owner of Ferrel Hicks, Mechanic 22, the Service Advisors, the President of GM! Now, I as a people, I am producing and maintaining my thing!" <sup>144</sup>

This section is then followed by a cast of characters that re-enact the moments the viewer has just experienced. A number of people appear at this point, playing CROSSEYE repeating "Now, I as a people, I am producing and maintaining my thing!" 145 while Morton can be heard off camera coaching them to play him. This sequence, highly Image Processed and editted, demonstrates the collective voice that Morton desires to speak with while also complicating the visual language of the Media Art that he had created thus far. The complications come in the form of his off camera coaching of the re-enactments during which those who play Morton attempt to mimic his earlier emotional delivery, which the viewer has just seen and perhaps taken seriously, believing the sincerity of. Despite being mannered by the performance of CROSSEYE, viewers of General Motors have been led to believe in the importance of the issues presented and then encounter this re-enactment sequence which if not undermining that belief certainly works to complicate the relationship of the content and structure of the project. Forms of complex self-reflexivity such as these became hallmarks of the Postmodern period of Contemporary Art making, a period that theorist Fredrick Jameson found significantly rendered in the collaborative work of Morton's students. <sup>146</sup>

Over footage from the documentation of the Electronic Visualization Events discussed earlier in this study, Morton states that he represents "a community of folks in this here United States that is deeply concerned with

<sup>144</sup> Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04

<sup>145</sup> Ibid.

<sup>146</sup> In 1991 Frederick Jameson wrote on the collaborative work of Morton's students and members of this early Media Art community in Chicago in his influencial book Postmodernism, or, the cultural logic of late capitalism. Edward Rankus, Barbara Latham and John Manning collaboratively created a Video Artwork called AlienNATION in 1976. Jameson found AlienNATION to be particularly articulate as an expression of the Postmodern condition and references this videotape in detail.

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the transportation, communication, the telecommunication and the teleportation systems of this United States of America!" <sup>147</sup> Morton goes on to say, in his effected accent, vernacular and mannered performance as CROSSEYE that he and these "folks out here, we understand that there is a deep, deep and dire predicament of men learning how to live with machines". <sup>148</sup> This is another reference to not only the field of Cybernetics, which has already been established to have been a major influence to Morton and this Chicago-based group of collaborators. This moment in General Motors is also another reference back to the cultural critiques offered by Illich. On another layer, Morton's forms of speech, his terminologies and vernacular, also function to create the character of CROSSEYE as a playful persona who speaks from the impassioned position of the amateur (as Youngblood observes) embedded in a cyberpsychedelic Emersonian folk tradition (as Snyder explains).

In his analysis of General Motors, Youngblood has compared Morton to Stan Brakhage, the well known American Experimental Film Artist. Not coincidentally, Brakhage began teaching at the School of the Art Institute of Chicago in the Film Department in 1969 and taught there during the same period that Morton was founding the Video Area and the Video Data Bank. Youngblood compares their work in terms of a "mythopoetic project: for both the home movie is a means of visualizing the imagination of the amateur as mythic hero." <sup>149</sup> Youngblood goes on to contrast Morton and Brakhage's projects on the basis of the fact that unlike Brakhage, Morton resists the "classical posture of the artist-visionary" <sup>150</sup> with his seemingly casual characterization and electonic visualization of himself as CROSSEYE, an amateur and "hero of resocialization" <sup>151</sup> articulating the "larger

<sup>147</sup> Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04

<sup>148</sup> Ibid.

<sup>149</sup> Gene Youngblood, "ART AND ONTOLOGY: Electronic Visualization in Chicago", 1986, p. 9, an edited version of which appeared in Lorne Falk and Barbara Fischer, The Event Horizon: Essays on Hope, Sexuality, Social Space, and Media(tion) in Art, 1987, Walter Phillips Gallery 150 lbid.

<sup>151</sup> Ibid., p. 7

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philosophical and political implications of the Chicago ethic" <sup>152</sup> that had been collectively established but "not immediately realized until Phil Morton began to articulate them." <sup>153</sup> As Youngblood reiterates, Morton's work was "exemplary and prescriptive" <sup>154</sup> forming and informing a community that would organize in Chicago around the principles Morton forwarded in his artistic and educational projects.



The "PCV Valve Bolt" problem as interpreted by Morton in General Motors

As General Motors continues, Morton lists details of specific technical problems with the truck while intercutting computer animations made with GRASS that are similarly image processed with the Sandin Image Processor as cyberpsychedelic illustrations of the specific technical problems Morton

152 Ibid. 153 Ibid. 154 Ibid.

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has encountered since purchasing his truck from Ferrel-Hicks Chevrolet. These GRASS computer animations become abstract representations of problems such as the "Vent Window Latch" breaking, "Vent Window Support" falling off, the "Hood Misalignment" of the truck or "PCV Valve Bolt" that was missing when Morton originally purchased the van. <sup>155</sup>

A less image processed, and thereby less cyberpsychedelic approach to computer animation with the same GRASS system can be found in the work of Larry Cuba which was produced in the same period of the 1970's in Chicago with the same technologies and community of 'folk' that Morton refers to earlier in General Motors. Cuba's computer animation film "3/78 (Objects and Transformations)" was completed in 1978 using DeFanti's GRASS system at the University of Illinois at Chicago. As Cuba describes the work, it is composed of "Sixteen 'objects', each consisting of one hundred points of light" <sup>156</sup> which "perform a series of precisely choreographed rhythmic transformations" <sup>157</sup> over the course of 6 minutes. Cuba has been safely included in the canon of Computer Animated Film and Film Art that connects to New Media Art by way of early uses of digital and analog computers to produce Media Art.

Is it possible that the precision and containment of Cuba's use of GRASS helps to make his safe inclusion in Media Art Histories more possible? And by contrast, is it possible that the proto-digital remix aesthetic and cyberpsychedelic mashups of Media Art genres that Morton mobilized in General Motors has been more difficult to contain? Christine Tamblyn identified this feature of General Motors in her 1976 review of the tape in The NEW ART EXAMINER. <sup>158</sup> Tamblyn wrote that General Motors lies outside the already identifiable categories and characteristics of the mid to

<sup>155</sup> Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04

<sup>156</sup> Gene Youngblood, 'CALCULATED MOVEMENTS: An Interview with Larry Cuba', 1986, Video and the Arts Magazine, Winter 1986

<sup>157</sup> Ibid.

<sup>158</sup> Christine Tamblyn, 'Review of General Motors', 1976, The NEW ART EXAMINER

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late 1970's period of Media Art. She stated that General Motors "attempts to transcend the established social boundaries of art" <sup>159</sup>and that it involved a form of "direct, almost pragmatic communication" <sup>160</sup> while using "the complete vocabulary of formal devices available in video from synthesis to self-reflexiveness". <sup>161</sup> Perhaps this expansize mix of hybridized styles and technologies is another form of radicality (such as COPY-IT-RIGHT) which has until now contributed to Morton's exclusion from almost all Video Art or Media Art historical accounts. Morton not only resisted copyright in his projects, he also aesthetically resisted normative or easily identifiable categories and formalism, instead favored a sprawling cyberpsychedelic roadtrip across American mythologies. Morton acknowledged and discussed his project in these terms, writing poetically that General Motors:

"time-shifts through sliding perspectives realized while traveling geographic United States of America, and inventorying videographic Videospace. Sightings and soundings received In a mobile Videospace van" <sup>162</sup>

After almost twenty five minutes Morton states that as the end of the videotape is approaching he wants to make sure that General Motors Corporation understands that he and his project are to be taken seriously because he has heard feedback from his friends that General Motors Corporation "still ain't gonna believe it man". <sup>163</sup> He tells General Motors Corporation that as confirmation of the seriousness of his project he has been invited by the United States Information Agency to be part of the United States entry in the International Olympics for Video Art and that he will be exhibiting this videotape. Morton concludes, Image Processing himself while whispering and sounding as if he is high on psychoactive drugs, saying that

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Phil Morton, 'GENERAL MOTORS – 1976', 1976, The Vasulka Archive,

http://www.vasulka.org/archive/Artists4/Morton,Phil/GenMotors.pdf, accessed 2008.06.18 163 Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive,

http://copyitright.wordpress.com, accessed 2008.07.04

he is about to release this videotape to "other world governments". <sup>164</sup> As Morton explains in a low voice:

"You hear stories about what other world governments do with this here kinda information... I don't know if the stories are true or not, all I know is this story is real true. And it's not my concern what other folks do with my information... because mine's true man... and it's available to the people on this planet where ever they are... Ten four." <sup>165</sup>

In this conclusion Morton self-reflexively raises the issues of truth, believability, freedom and access to information while standing in front of the same Sandin Image Processor that he is using to Image Process the tape that the viewer is watching as a cyberpsychedelic technology of transformation.

This ending was however a false ending as the video restarts with sampled footage from General Motors Corporation Chevy Dealers promotional films and commercials. These found footage appropriations flow into Image Processing of an American flag with an experimental electronic pop song about freedom being sung. Then the video takes off on the road again to New Mexico, "Colorful Colorado" and further 'out there' <sup>166</sup> into a cyberpsychedelic road trip across American consciousness. The Colorful Colorado sequence of General Motors is actually a reencapsulation of the collaborative videotape entitled Colorful Colorado by Morton, Stew Pentagrew and Ginny Pettigrew from 1974. The Colorful Colorado project is included (sampled) almost in it's entirety within General Motors enhanced (remixed or versioned) with what Morton referred to as "additional digital computer graphics punctuating the entity." <sup>167</sup>

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.

<sup>166</sup> The American English slang expression 'out there' is meant to refer to being both in an expanded state of consciousness (i.e. under the influence of psychoactive drugs) as well as being in a physically distant location.

<sup>167</sup> Phil Morton, 'GENERAL MOTORS - 1976', 1976, The Vasulka Archive,

http://www.vasulka.org/archive/Artists4/Morton,Phil/GenMotors.pdf, accessed 2008.06.18

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Eventually General Motors returns from the American West, traveling back to Chicago where Morton takes the viewer to the Circle Graphics Habitat at the University of Illinois at Chicago Circle Campus joining DeFanti and Sandin in the Chemistry Department. This section, begins with DeFanti addressing Morton who is behind the camera as CROSSEYE. DeFanti says he has been reading the paper that he, Sandin and Ted Nelson wrote for the 1974 SIGGRAPH conference, "Computer Graphics as a Way of Life." What follows is the video presentation portion of that paper as shot by Morton.



DeFanti from the "Computer Graphics as a Way of Life" sequence of General Motors

Jake Elliott, speaking on "Dirty New Media: Art, Activism and Computer Counter Cultures" <sup>168</sup> connects this section of General Motors to

<sup>168</sup> Jake Elliott, "Dirty New Media: Art, Activism and Computer Counter Cultures", 2008, HOPE, the Hackers on Planet Earth conference DVD, 2600 – The Hacker Quarterly

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current New Media Art theorypractices. Elliott introduces the topic by referring to instruments such as the Sandin Image Processor as an "artist made tool for reprocessing reality" that can "function as artworks in themselves". <sup>169</sup> In Elliott's presentation, he displays the Image Processed section of General Motors that is sampled from Sandin, DeFanti and Nelson's videotape presentation for the 1974 SIGGRAPH conference, the video that was accompanied by the paper "Computer Graphics as a Way of Life." This section features what DeFanti calls "a cooks tour" <sup>170</sup> of the Circle Graphics Habitat with DeFanti operating the PDP-11 and Vector General computers running the GRASS system and Sandin operating the Sandin Image Processor. DeFanti, Sandin and Morton, in creating this video, attempted to communicate the "interactivity of the system" as well as "how much fun" <sup>171</sup> they had in the Lab by demonstrating the ways in which graphics rendered in realtime could be coded and interactively controlled. Nelson is not present in the videotape and Morton is behind the camera while DeFanti and Sandin are onscreen. DeFanti operates the digital computers, running and modifying the GRASS system with, as Elliott describes, "the code superimposed over the output of the code". <sup>172</sup> This superimposition of source code over graphical output of the program is technically accomplished by the connection of the GRASS system to the Sandin Image Processor. Conceptually this overlay of source code ontop of the rendered program output suggests an anticipation of current New Media Art theorypractices in the New Media Art subgenre known as Live Coding. Elliott draws this connection by comparing the sequence just described with an excerpt of video from a Live Coding workshop using a system called Fluxus from the Kitchen Budapest from 2007.

The Fluxus application has been developed by Dave Griffiths since

<sup>169</sup> Ibid.

<sup>170</sup> Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive,

http://copyitright.wordpress.com, accessed accessed 2008.07.04

<sup>171</sup> Ibid.

<sup>172</sup> Jake Elliott, "Dirty New Media: Art, Activism and Computer Counter Cultures", 2008, HOPE, the Hackers on Planet Earth conference DVD, 2600 – The Hacker Quarterly
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2005 for a range of uses that specifically includes Live Coding. Griffith is an artist-programmer who is associated with the Live Coding collective TOPLAP. <sup>173</sup> Fluxus, like General Motors, is also distributed as a noncommercial project. Fluxus is Free and Open Source software released under the previously explained General Public License. Elliott continues in his discussion of this software application by detailing the standards for Live Coding as proposed by groups such as TOPLAP. As Elliott explains, in order to be recognized as Live Coding a realtime performance should involve writing all of the source code for the performance while performing. This source code (that is producing any audio and video in the performance) must be visible to the audience. Elliott observes that in this situation the visual condition is such that the source code is literally foregrounded in front of the graphics that the are being rendered. This visual condition, which is necessarily involved in Live Coding and present in the "Computer Graphics as a Way of Life" section of General Motors, inverts the usual relationship of source code to computer graphics. Source code is usually hidden underneath or behind the surface of computer graphics but in the situations outlined above these codes and their programming are (at least visually) at the forefront.

Elliott identifies an "ethics of Open Source" <sup>174</sup> operating in New Media Art such as Live Coding, an ethical engagement that he links back to the work of DeFanti, Sandin and Morton as illustrated in the "Computer Graphics as a Way of Life" sequence from General Motors. Elliott's identification of an ethics of Open Source in New Media Art is similar to Florian Cramer's observations on the popularity of Open Source within these communities. Quoting from Matthew Fuller's approach to Software Studies, Elliott argues in his work for a "more expansive and poetic understanding"

<sup>173</sup> The TOPLAP collective was founded in 2004 by artists primarily based in the United Kingdom and has quickly grown to be a loose international network of artists committed to the promotion and performance of "the writing and modifying of rules while they are followed" http://www.toplap.org, accessed 2008.08.06

<sup>174</sup> Jake Elliott, "Dirty New Media: Art, Activism and Computer Counter Cultures", 2008, HOPE, the Hackers on Planet Earth conference DVD, 2600 – The Hacker Quarterly

<sup>175</sup> of what constitutes software. Elliott places Media Art historical examples such as GRASS and the Sandin Image Processor into the Software Art category with contemporary examples such as Fluxus. Elliott considers all of these examples to be software applications and Software Art that are not simply utilitarian tools but that are rather artistically expressive and ideologically open.

The "Computer Graphics as a Way of Life" sequence of General Motors concludes with Sandin presenting the Sandin Image Processor saying that "you don't have to pre-plan everything" which "makes possible the performance" <sup>176</sup> of these systems and media. Then Morton cuts to edited documentation of the RYRAL "entity" <sup>177</sup> (as Morton refers to the performance) from the Second Electronic Visualization Event with Sandin, Morton, DeFanti, and Snyder. When the performance of RYRAL concludes, with the collaborators getting up from their instruments and the audience applauding, General Motors comes to an end. General Motors concludes in a moment of collaboration, with Sandin, DeFanti and Snyder together onscreen and Morton offscreen "up in the kitchen, upstairs, taking care of stuff there." <sup>178</sup> This is the moment that General Motors had moved towards over the course of an hour, from the diaristic first person address of Video Art, the performances and re-enactments of the CROSSEYE character, Image Processed roadtrips out into the American West, through Live Coding with GRASS and into the collaborative performance media space of Morton's Chicago-based community.

<sup>175</sup> Ibid.

<sup>176</sup> Phil Morton, General Motors, 1976, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04 177 Ibid.

<sup>178</sup> Ibid.

# VIDEO TAPES AS "PROGRAMS"

A series of collaborative videotape projects follows chronologically for Morton after General Motors. Morton began creating a series of projects that were titled "Programs". These Programs would importantly include collaborations between Jane Veeder and Morton. Naming these videotape projects 'programs' is highly significant because many of these programs literally contain computer programming, are generated through the use of digital and analog computers and can be understood as software in and of themselves (as I have proposed previously and as Elliott has stated in his work) as they are executable forms of art, applications for technosocial and personal transformation. Morton is often seen patch programing the Sandin Image Processor (an analog computer) and Veeder is seen writing and running computer graphics programs using Zgrass and Bally BASIC on the Bally Arcade Video Game System also known as the Bally Home Library Computer, one of the first affordable home computers and video game platforms to be released in the United States. Zgrass followed DeFanti's GRASS system and was developed by DeFanti, Jamie Fenton and Nola Donato in 1977 and 1978. <sup>179</sup> The literal programs are run on top of each other as overlapping video layers (similar to the early discussion of the Computer Graphics as a Way of Life sequence in General Motors) in these video tape programs by Morton and Veeder. This series of video programs is highly personal, playful and self-reflexive as a psychedelic cybernetic communication and distribution system.

<sup>179</sup> Tom DeFanti, Jay Fenton and Nola Donato, BASIC Zgrass - A Sophisticated Graphics Language for the Baliy Home Library Computer, 1978, ACM



## Jane Veeder and Phil Morton

Program # 7 was produced by Morton and Veeder during the late 1970's. During the same time Morton and Veeder created a new organization related to the Video Area at The School of the Art Institute of Chicago. They described this organization, called the Electronic Visualization Center as "a television research satellite to The School of the Art Institute of Chicago". <sup>180</sup> Veeder and Morton traveled the continental United States in a mobile Media Art lab built into the customized General Motors van that was the subject of much of Morton's General Motors videotape. Together they engaged in "Videotape presentations, live Video and Computer Graphics performances, workshops, and/or any useful format of collaboration" <sup>181</sup> sharing these programs under the COPY-IT-RIGHT license. Veeder has said of the Electronic Visualization Center that it was imaged to be parallel to and inspired by the Electronic Visualization Lab that Sandin and DeFanti had created. Veeder explains that the organization basically functioned as an

<sup>180</sup> Phil Morton and Jane Veeder, Machine Language Puzzler, 1979, The Electronic Visualization Center

<sup>181</sup> Phil Morton and Jane Veeder, The Electronic Visualization Center Announcement, 1978, The Vasulka Archive, http://www.vasulka.org/archive/Artists4/Morton,Phil/AlCannouncement.pdf, accessed 2009.01.09

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official front end for their collaborations which took them on tours across the United States to present as visiting artist, lecture on their research and give workshops at "media centers all over the country showing independent video" <sup>182</sup> and schools such as Sacramento State University in California and in Santa Fe, New Mexico.

Gene Youngblood explains Morton and Veeder's artistic process in terms of originating from the set of concerns that are present in General Motors. Youngblood calls General Motors the "first tape" <sup>183</sup> in the series of Programs that would follow. He states that every videotape thereafter features Morton's customized General Motors van, travel across the United States and that Morton and Veeder's collaborations are "all 'road movies' to the American Badlands." <sup>184</sup>As such Youngblood argues that in this manner Morton's body of collaborative work "becomes a series; a history develops" <sup>185</sup> and that they become "myth-producing in that sense." <sup>186</sup> As Youngblood accounts, General Motors focuses at first (but not entirely as Youngblood suggested) on Morton's van and then every subsequent video features vans (although these vans are not all the same van from General Motors as Youngblood reported) along with the mythopoetic characters of Morton and Veeder who are making a series of programs, cyberpsychedelic road movies as they travel out into the American West on their long hunts through summer, acquiring content to process in winter, to sustain themselves and live off of back in Chicago.

- 185 Ibid.
- 186 Ibid.

<sup>182</sup> criticalartware, 'Jane Veeder interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

<sup>183</sup> Gene Youngblood, MORTON-VEEDER INTERVIEW, 1980, unpublished

<sup>184</sup> Ibid.

# PROGRAM # 7



Video stills from Program # 7 by Morton and Veeder

Program #7 was produced by Morton and Veeder in 1978. This program begins with a "Lifestyle" report on the evening news covering the fact that Morton and Veeder (who news anchor refers to as "some Video Artists... visiting from the Midwest" <sup>187</sup>) had traveled to California to discuss "the future of communication". <sup>188</sup> This is intercut with a title sequence for the Program and then Image Processed footage of Jamie Fenton playing a driving simulation video game and crashing, Image Processed footage of actual travel through American West as shot through the windows of Morton's van, computer generated intertitles and abstract patterning created with the Zgrass and the Bally BASIC system running on The Bally Arcade Video Game System. Within this first minute, Morton and Veeder introduce many of the elements that repeat throughout in various instantiations during Program #7.

After the first minute Program #7 effectively restarts with a new title sequence and the first of many repetitions, sampling from the elements already introduced and reintroducing them in various instantiations. The

<sup>187</sup> Phil Morton and Jane Veeder, Program #7, 1978, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04 188 Ibid.

restarting of Program #7 was also foreshadowed by the symbolic death of Jamie Fenton playing the driving simulation video game during the first seconds of this videotape. When the restart occurs, the viewer sees a more complete title sequence introduced by the word "START" repeating on the screen. Following the "START" screen, we see and hear Fenton again at the controls of an Image Processed video game.



Image Processed footage of Fenton playing a driving simulation game in Program #7

Jamie Fenton (known at the time of the production of Program #7 as Jay Fenton) developed the ROM based operating system for the Bally Arcade Video Game System in 1977. At this time, Fenton also developed Bally BASIC, an interpreter for the widely used BASIC computer programming language. As previously stated, Fenton was also a developer of the Zgrass language for realtime computer animation which was a collaborative effort between DeFanti, Fenton and Donato during 1977 and 1978. Fenton was involved in early video game development and she contributed significantly to the field of arcade and home video games as well as going on the be a co-founder of MacroMind in 1985. She developed the authoring software MacroMind VideoWorks in 1985 which would become MacroMedia Director in 1987. The

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Director software application enabled countless artists to create what was known in the 1990's as "CD-Rom Art" or more generally "Multimedia", a precursor to current forms of Interactive Art and New Media Art. This form of New Media Art making flourished during the early and mid 1990's alongside the widespread popularization and commodification of the internet through the World Wide Web via Web Browser applications. During this period of the 1990's artists worked with interactivity online via the Web and offline via multimedia authoring tools such as Director for distribution on CD-ROM.

Many artists creating CD-ROM-based artworks at that time developed what Media Archeologist Erkki Huhtamo called "the archeological approach in media art". <sup>189</sup> Huhtamo identified this tendency in a number of artworks produced with the Director authoring software, listing in particular the work of Morton's former student Christine Tamblyn and her She Loves It, She Loves It Not: Women and Technology from 1993. In 1996, Huhtamo curated an exhibition of "CD-ROM Art" that included Tamblyn's project. Huhtamo wrote in his introduction to the exhibition that CD-ROM technology had by the time of his writing become a ubiguitous standard feature of personal computing and that artists where dealing with this technology in innovative ways and asking critical questions about the issues of distribution and access, given that the CD-ROM was designed to be an easily distributed and duplicated material form.<sup>190</sup> Huhtamo also underscored the Media Art historical connection of this activity, writing that CD-ROM Art shared "similarities with the pioneering times of video art in the 1960's and 1970's." <sup>191</sup> One literal point of connection is Tamblyn herself who had been educated by Morton. Another significant but little documented connection is Fenton herself who had also been a part of the Chicago-based collaborative group of artist-educator-innovators discussed in this study. Tamblyn worked with the tools (Director) that Fenton developed and both had come out of the Chicago group working with Morton.

<sup>189</sup> Erkki Huhtamo, Resurrecting the Technological Past: An Introduction to the Archeology of Media Art, 1995, InterCommunication No.14

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.



"HOME COMPUTER VIDEO SYSTEMS" intertitle from Program #7

Morton and Veeder's Programs anticipated the development of the affordable and accessiblely designed personal computing that Nelson advocated for or the multimedia authoring tools that Fenton would go on to develop. Their ability to envision and anticipate these systems and the development of digital video in the 1990's or it's distribution online in the 2000's arises from their engagement in conversational Media Art projects that put them in direct communication with those who would go on to develop these tools and systems. Their foresight also results from their optimistic early adoption of these systems and the influence they had on their students and collaborators, encouraging and as Youngblood asserts, articulating, for the first time, the philosophical and political urgencies of their ethical engagements with Media Art, such as Morton's COPY-IT-RIGHT ethic.

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Video stills from the restarting sequence of Program #7

Returning to the restarting sequence of Program #7, a seemingly contradictory occurrence of the terms "COPYRIGHT" and "COPY<IT>RIGHT" appear in this restarted second title sequence. Morton and Veeder may be

said to have been sending conflicting signals with the inclusion of both a claim for copyright over their project and their articulation and propagation of Morton's COPY-IT-RIGHT ethic, however, the occurrence of the terms "COPYRIGHT" and "COPY<IT>RIGHT" together in the same program also points to the ways in which Morton and Veeder positions (as explained earlier in this study) operating along a continuum. Morton's COPY<IT>RIGHT was also, in and of itself, an experimental systems, implemented by Morton at various times in various ways.

A frame by frame analysis of this restart sequence shows that after Fenton crashes again in the driving game a Bally BASIC or Zgrass program is invoked and runs. This program outputs the following text:

1. COPYRIGHT [C] 1978 2. MORTON & VEEDER 3. 4. ELECTRONIC 5. VISUALIZATION 6. CENTER 7. 8. "REVISED FOR TV" 9. <-<-<-<-<-<-<-<-<-<-<- PROGRAM # 7 ->->->-> 10. LIST 20. BC=0;FC=7;NT=5 30. PRINT " COPY<IT> RIGHT" 40. GOTO 30 COPY<IT>RIGHT COPY<IT>RIGHT

COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT COPY<IT>RIGHT <sup>192</sup>

The "COPY<IT>RIGHT" text literally takes over the screen pushing the source code and thereby the previous text off the screen. COPY-IT-RIGHT could perhaps be understood as pushing copyright away and replacing copyright. Another, more direct reading takes into account that Morton was apparently untroubled by boundary crossing transgressions of this type. As Veeder recounts, COPY-IT-RIGHT as an approach, breaches boundaries between a range of meanings from the proto-Open Source meaning (that I privilege in this study) to a Pro-Piracy position that recognizes and willfully violates copyright. Program #7 is itself repleate with violations of copyright by Morton and Veeder, including the aforementioned sequences sampled from broadcast television, as well as moments such as the source code documented above, that function as a literally open sourced and freely distributed materials.

<sup>192</sup> The program reproduced above has been altered in the lines of arrows that include the title of the work in order to preserve the aesthetic appearance of this section of code. The alteration made was the elimination of characters in order to correctly justify the symbols. In the original code, twenty six arrow symbols frame the top and bottom of the "PROGRAM # 7" title.



United States animated map game from Program #7 by Morton and Veeder

Program #7 continues running digital program output and source code through the analog Image Processor, repeating sequences of Image Processing video game play intercut with footage shot in the American West, intentionally mixing layers of simulation and reprocessed realities while car crashes in the digital world of the video game contrast traveling shots of desert scenery as seen through the window of the van that Morton and Veeder direct. Image Processed digital materials from the Bally system continue to appear presenting messages and illustrations. Shots follow of Veeder and Morton with their equipment exploring the desert landscapes of the American West lead to an animated map of America with Morton and Veeder's voices (and perhaps Fenton's as well) overlaid in realtime during the running of the Zgrass program that was authored to generate the map. Multiple audio track of voices laugh and joke over the computer animated

map, as Morton and Veeder narrate their travels out West, location by location, as if their journey was a video game. The animation details the various points where they stopped during their travels to give presentations, screenings and workshops. At the end of this sequence, they return to Chicago on the map jubilantly shouting "Back in Chicago! Win! We're here!". <sup>193</sup> This animated United States map sequence presents Morton and Veeder playing a kind of game with video that represents a hypothetical video game of their own lives that they themselves have authored on the Bally system as processed by the analog Image Processor.

California State University Sacramento is one of the points on this map that Morton and Veeder name in their game. In the next sequence of Program #7, the news report generated by a local broadcast television station that documented their visit is sampled and reprocessed. In this sequence, Morton, Veeder and Sandin are shown, positioned in front of the Sandin Image Processor that they had brought with them in their van, a van which they had effectively converted into a mobile Media Art lab. I will return to the importance of their being positioned again in front of the Image Processor system that they are using to synthesize and process themselves with in a later section of this study. At this point, I simply wish to highlight that they are in fact again seen positioned in front of the systems that they are using to process themselves in deeply cybernetic and psychedelic feedback systems of personal and technosocial transformation.

<sup>193</sup> Phil Morton and Jane Veeder, Program #7, 1978, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04



Jane Goldman, Phil Morton and Jane Veeder (left to right) from Program #7

Jane Goldman, the news reporter who has gone on location to California State University, reproduces their message of personal and cultural transformations through technologies saying "Someday the television you're watching may be... more than a form of entertainment. It could just be a communications device... as important to you as your telephone." <sup>194</sup> Then the reporter stumbles through naming Morton and Veeder and the segment must be repeated, must start over just as Program #7 had restarted multiple times. Soon after Sandin is shown speaking about rich feedback and developing dynamically empowered (rather than passively consumerist) relationships with the systems such as the Image Processor. Footage that appears to be from Wanda Wega Waters, a video

<sup>194</sup> Ibid.

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project by Sandin, <sup>195</sup> is then similarly appropriated, sampled and included in Program #7 followed by a voice over by Goldman. She states that "If you didn't understand all that, don't worry. Someday you'll be able to play it back until you do. And if you don't like it, someday you'll write your own program." <sup>196</sup> Goldman clearly iunderstood the message that Morton, Veeder and Sandin had delivered in their presentation California State University. This message of transformation remains a very literal anticipation of New Media Art principles such as the programability, variability, reuse and remix aspects of New Media Art. The message that Morton, Veeder and Sandin communicated has literally come to pass.

Ironically, just after this voice over in which Goldman effectively and correctly rearticulates the foresight of the Chicago-based collaborators, the broadcast returns to the in studio host who smiles dismissively and sarcastically states that "We now return the sets to you viewers". <sup>197</sup> With this comment, the host is paraphrasing lines from the opening sequence of the television series The Outer Limits. The Outer Limits originally ran for two television seasons from 1963 to 1965. The Outer Limits was a Science Fiction/Fantasy series similar to and influenced by The Twilight Zone, another well known American Science Fiction/Fantasy television program. At the close of episodes of The Outer Limits a male voice over would would say: "We now return control of your television set to you, until next week at this same time when the Control voice will take you to The Outer Limits." This closing narration of all episodes of the program became a popular culture expression in the United States during the mid 1960's. More than ten years later in the late 1970's when Program #7 was produced, the ironic sarcasm of the host underscores his misunderstanding of what the news

<sup>195</sup> The Video Data Bank describes Sandin's 1979 videotape Wanda Wega Waters as "a highly colored abstraction in motion, a meditation on the intersection of nature and technology." In Wanda Wega Waters Sandin uses the Sandin Image Processor to visually process the surface of Lake Wandawega Wisconsin, moving the image through further and further electronic manipulations so that the image becomes increasingly abstracted while the audio remains uneffected.

<sup>196</sup> Phil Morton and Jane Veeder, Program #7, 1978, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04

<sup>197</sup> Ibid.

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reporter before him clearly understood. His simple joke reiterates the gap between those who (like Morton, Veeder, Sandin and the reporter who covered their appearance at California State University) understood what media would become thirty years later and those who did not. The host's joke relies on the idea that normative television media is under the control of the viewers whereas it is now clear from a current perspective that passively received broadcasts (such as television) offer far less interactive participation and communicative possibilities than networked New Media.

Gene Youngblood was particularly interested in these issues and continues to be at the time of this writing. Youngblood has written on the ways in which the professional television reporters and hosts in Program #7 appear as incompetent in relation to the artists who Youngblood positions as nonprofessionals or amateurs. <sup>198</sup> When using the word 'amateur' Youngblood is referring to the Latin root of the word 'amateur' meaning 'lover'. <sup>199</sup> Morton and Veeder are amateurs in the sense of being amorous about their Media Art and collaboratively engaged in a passionate pursuit of noncommercial approaches to Media Art. They are lovers, passionately engaged in their Media Art as a way of life. As Sandin said about the "Computer Graphics as a Way of Life" presentation, <sup>200</sup> they literally meant that these transformative tools were to be lived cyberpsychadelic systems, not as metaphors.

After this sequence in Program #7 Morton and Veeder cut directly back to the Image Processed video game play by Fenton. This editing choice bares particular importance because in retrospect the rise of Video Game Culture in the 1980's would signal the beginning of a new shift in popular media towards deeper and more involved forms of interactivity. These new

<sup>198</sup> Gene Youngblood, "ART AND ONTOLOGY: Electronic Visualization in Chicago", 1986, p. 9, an edited version of which appeared in Lorne Falk and Barbara Fischer, The Event Horizon: Essays on Hope, Sexuality, Social Space, and Media(tion) in Art, 1987, Walter Phillips Gallery 199 Ibid.

<sup>200</sup> criticalartware, 'Dan Sandin interviewed by criticalartware', 2003, http://criticalartware.net, accessed 2008.08.05

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forms of interactivity would be positioned by cultural critics, media advocates and artists alike as representing a break from the passivity of viewing televisual and cinematic media formations. Cultural and media theorists of this shift such as Marsha Kinder (who wrote her book Playing with Power in Movies, Television, and Video Games in 1991) or more recently Pat Harrigan and Noah Wardrip-Fruin (whose books First Person and Second Person collect various perspectives on these issues) have traced and discussed these cultural and media-based technological transitions in detail. As with references to the histories of Jazz traditions in Chicago, an indepth analysis of this aspect of Cultural and Media theory in relation to the Media Art Histories of my particular study is, beyond the scope of this text, however, the point of connection needs to be made in order to again underscore the ways in which Morton and his collaborators anticipated much of what would occur in the following decades. During those decades to follow, Veeder herself would specifically continue to work with in the fields of Computer Graphics, programming and Video Game technologies as an artist and as an educator. 201

The next sequence of Program #7 is heavily composed, multilayered and Image Processed material of Morton and Veeder electronically visualizing themselves in front of the van in which they traveled across the United States with their Sandin Image Processor, video cameras and audio equipment. Again, Morton and Veeder are seen physically in front of the van, just as Morton had imaged himself in front of his customized van in his General Motors project. Earlier in Program #7, Sandin, Morton and Veeder can all be seen imaged in front of the Image Processor which they used. Also, it is important to remember that General Motors features a significant number of shots in which Morton is in front of his Image Processor, with a camera pointed at him, performing direct address to the camera and the Image Processor as that camera's signal is being Image Processed by

<sup>201</sup> For further information on Veeder's personal and professional career in Computer Graphics and Video Games see the interview conducted with Veeder by criticalartware in 2003 as located in the Appendix, Original Materials, Interviews section of this research study.

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Morton himself. The way in which these artists consistently imaged themselves in front of their cyberpsychedelic convivial tools for transformation recalls the image of the Cowboy Nomad as analyzed by Fred Turner in his book From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism from 2006. <sup>202</sup>

In his book From Counterculture to Cyberculture, Turner traces the movement of countercultural ideologies and collaborative approaches from the late 1960's into transitions towards Neoliberal positions and the so-called "New Economy" <sup>203</sup> based on technologically positivist corporate uses of digital network technologies in the late 1990's. Turner's research investigates these histories primarily through the lens of Stewart Brand and his collaborative projects, especially The Whole Earth Catalog. Turner is careful to establish that he does not intend to author a biography of Brand but rather that his discussion of Brand should function as way of framing the broader historical issues his study seeks to undertake. As stated in my introduction, I have attempted to take this same approach, having been influenced and inspired by Turner's historical research as well as seeing his account as being deeply related to the period and people included in my research.

As previously noted in my discussion of Ted Nelson and his Computer Lib/Dream Machines, Nelson was deeply influenced by and self-admittedly reproduced many of the forms of Brand's Whole Earth Catalog in his own work. Less well known or documented is the influence that The Whole Earth Catalog had on Morton and his collaborators. While not naming The Whole Earth Catalog or Stewart Brand, Morton and his collaborators were, as this study seeks to establish, explicitly interested in and committed to constantly commingling the concepts of Cybernetics, Psychedelics and countercultural positions on issues such as the socioeconomic and political

<sup>202</sup> Fred Turner, From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism, 2006, The University of Chicago Press203 Ibid. p. 232

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power relations refied through and embedded in 'the technological' via their proto-New Media Art projects. Brand and The Whole Earth Catalog had established this matrix of meanings in the years that preceded Morton's collaborative projects.

Brand launched The Whole Earth Catalog in 1968. The Catalog was published by the The Portola Institute until 1972 but many related publications were released in subsequent years and the project continued in various forms into the late 1990's. The original Whole Earth Catalog is currently archived and preserved online by Samuel B. Davis and his New Whole Earth LLC. As can be seen in the online archive, Brand's initial conceptual framework for the Catalog was organized into seven categories: Understanding Whole Systems, Shelter and Land Use, Industry and Craft, Communications, Community, Nomadics and Learning. Interconnections existed between these categories and together these areas of interest formed a meshwork or network of meaning that was, in the word's of the New Whole Earth archive, "groundbreaking, enlightening, and spawned a group of later publications." <sup>204</sup>

As Turner indicates in his text, this network of meaning presented by the Catalog was intended as a networked communication system that would image and produce specific kinds of technologically empowered countercultural identities that could "be lived". <sup>205</sup> Turner describes this goal of the Catalog, writing that the Catalog's form and conceptual framework "worked to shape an imagined reader who was a visionary, with a view of the planet's condition, and a local actor, with the ability to shape the larger world by shaping his local surroundings." <sup>206</sup> Turner continues in this description detailing how this prototypical person imaged and imagined by the Catalog would travel nomadically across technological (American)

<sup>204</sup> Samuel B. Davis, Whole Earth Catalog Stay Hungry Stay Foolish, 2009, New Whole Earth, LLC, http://www.wholeearth.com/index.php, accessed 2009.01.10

<sup>205</sup> Fred Turner, From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism, 2006, p. 86 206 Ibid.

<sup>92</sup> 

landscapes gathering metaphorical "fruits and replanting them...<sup>207</sup>



The Cowboy Nomad from the July 1969 supplement to Whole Earth Catalog

Turner then illustrates his point with a specific example drawn from the July 1969 Difficult But Possible Supplement to Whole Earth Catalog. This example presents the cultural identity of the Nomad Cowboy, the first in a series of identity formations that Turner presents as subjectivities that the Catalog was designed to produce. Turner quotes from a contribution to the Catalog, sent in from the Ant Farm collective, who introduced the term Cowboy Nomad, writing that "...THERE ARE COWBOY NOMADS TODAY, LIVING IN ANOTHER LIFE STYLE, AND WAITING FOR ELECTRONIC MEDIA,

207 Ibid.

THAT EVERYONE KNOWS IS DOING IT, TO BLOW THE MINDS OF THE MIDDLE CLASS AMERICAN SUBURBANITE. WHILE THEY WAIT THE COWBOY NOMADS (OUTLAWS) SMOKE LOCO WEED AROUND ELECTRIC CAMPFIRES." <sup>208</sup>

Turner explains that the Cowboy Nomad was a fusion of the conceptual frameworks that were operative in the Catalog, combining influences from the Media theorist Marshall McLuhan to the countercultural hero and aurthor Ken Kesey through an appropriation of American historical imagination and mythology in the form of figure of the American cowboy. Turner states that the Cowboy Nomad 'roams' across American landscape taking "his electronic (and psychedelic) technology with him" <sup>209</sup> just as Morton and Veeder would begin doing in the years that followed the publication of The Whole Earth Catalog. Turner posits that the Cowboy Hunter as an identity is always mythically and heroically male and that "there are no women in sight". Turner's assertion is contradicted by the very source that Turner takes his example from. As can be seen in the photo that was sent in to the Catalog with the letter from which the quotes above are taken, the image that depicts the subjectivity of the Cowboy Nomad is both male and female. As Morton and Veeder would similarly enact in their projects, this man and woman are imaged in front of the their (audio-video) technologies and figuratively cabled together.

Turner recounts the ways in which the idea of the Nomad Hunter reoccurs in subsequently different forms in various editions and publications of The Whole Earth Catalog. Turner recounts how the idea of the Cowboy Nomad became the Long Hunter in 1970. Gurney Norman introduced the idea of the Long Hunter in the Catalog. Norman's concept of the Long Hunters is of a shamanic individual who travels and teaches, who is "willing to range beyond the settled places in search of education and adventure" <sup>210</sup> As Turner writes in his analysis the Long Hunter must "reject middle-class

<sup>208</sup> Fred Turner, From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism, 2006, p. 87 209 Ibid.

<sup>210</sup> Ibid.

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consumer culture" in order to make the long hunt out into the mythologized American frontier. Morton certainly traversed a vector-view of this kind in his own life, rejecting consumer culture through his resistance to copyright and his advocation for his COPY-IT-RIGHT ethic in his individual and collaborative projects.

Following his discussion of the Cowboy Nomad and the Long Hunter, Turner quotes Buckminster Fuller's concept of an "outlaw area," <sup>211</sup> as "a place to experiment outside the strictures of everyday law." <sup>212</sup> Both the Cowboy Nomad and the Long Hunter are on trips to and adventures in the 'outlaw areas', places that function symbolically, as states of consciousness or physically as distant locations along a trajectory into the American West. This range of possibilities, that the 'outlaw area' could be simultaneously literal and metaphorical relies on the fact that the 'outlaw area' was, in Turner's words, "as much an idea as an actual landscape." <sup>213</sup> Turner notes that during this time period of the late 1960's and early 1970's this idea "had come to life in other areas of American society", <sup>214</sup> specifically in the United State government's space program.

In 1969, The National Aeronautics and Space Administration (NASA) approved the plans for the Pioneer 10 spacecraft. Pioneer 10 is an unmanned spacecraft launched from Earth in 1972 on a trajectory that leads outside of the solar system. Pioneer 10 was also the first spacecraft to explicitly carry a message designed for communication with extraterrestrial life. The message Pioneer 10 carries takes the form of a plaque engraved with an image that itself carries encoded within it important information about human life and the temporal and spatial location of the planet Earth. The image was designed by the late Dr. Carl Sagan and drawn by his then wife Linda Salzman Sagan. The image includes a feature that connects this artwork directly with the previous discussion of the Cowboy Nomad as well

211 Ibid., p. 88 212 Ibid. 213 Ibid. 214 Ibid.

as the discussions of Morton and Veeder's imaging of themselves in front of their transformative technologies. That feature is an illustration of a man and a woman standing in front of a drawing of The Pioneer 10 spacecraft, the craft on which this image literally appears. This image is the first artwork to be physically sent to such a distance from Earth with the intended purpose of communication with extraterrestrial lifeforms and was officially sent from the United States government.



The Pioneer 10 plaque by Dr. Carl Sagan and Linda Salzman Sagan

The Whole Earth Catalog in the late 1960's and early 1970's and Pioneer 10 mission in 1972 both provide examples of an imaging of the self,

a technosocial construction of idealized identities that Morton and Veeder would play with and reflect on in their collaborative programs. These two examples, from the countercultural influence of the Catalog to the mainstream, popularly mediated and publicly funded Pioneer 10 mission, both reflect the cultural context (of conceptions of the technological) in which Morton and Veeder's activities took place. Morton and Veeder's projects were literal attempts to visualize, enact and thereby create new worlds and new versions of themselves. Morton explained this to Youngblood by saying that they were transmitting themselves into "different worlds – perceptual, conceptual, physical, survival"<sup>215</sup> in order to "process those worlds electronically." <sup>216</sup> These transmissions took place during their summers when these Cowboy Nomads traveled with their transformational technologies as Long Hunters of data in the American West. Morton explains that after the travel: "You come home and edit the data you've collected on your trip and you realize certain things, you clarify the data" <sup>217</sup> by which Morton means both the literal audio and video data as well as the experiential data, the lived experiences.

In the same interview as quoted above, Veeder reflected on the imaging aspect of this process, saying that their projects include simulations of themselves and their desires. She told Youngblood: "We work hard out there every summer collecting documentation with which to simulate our desired future. And we do it electronically." <sup>218</sup> Morton continued this line of thinking saying that their project could be understood as "an imaginary model of us electronically visualizing ourselves so much more powerfully, a more powerful spell." <sup>219</sup> Morton's reference to spellcasting in the context of computing and electronic media points towards the transformational

<sup>215</sup> Gene Youngblood, "ART AND ONTOLOGY: Electronic Visualization in Chicago", 1986, p. 9, an edited version of which appeared in Lorne Falk and Barbara Fischer, The Event Horizon: Essays on Hope, Sexuality, Social Space, and Media(tion) in Art, 1987, Walter Phillips Gallery 216 Ibid.

<sup>216</sup> IDIA.

<sup>217</sup> Gene Youngblood, MORTON-VEEDER INTERVIEW, 1980, unpublished

<sup>218</sup> Gene Youngblood, "ART AND ONTOLOGY: Electronic Visualization in Chicago", 1986, p. 9, an edited version of which appeared in Lorne Falk and Barbara Fischer, The Event Horizon: Essays on Hope, Sexuality, Social Space, and Media(tion) in Art, 1987, Walter Phillips Gallery 219 Gene Youngblood, MORTON-VEEDER INTERVIEW, 1980, unpublished

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understanding of technology that was so critical to Morton and his collaborators. At a certain point in the interview Youngblood refers to their collaborative video projects as 'pieces' and Morton corrects his use of the term 'piece' saying: 'We don't make pieces... We make communiques and responses and missiles." <sup>220</sup> The missiles metaphor is the most uncommonly aggressive in Morton's message, whereas the other references to the conversational basis of their projects are the recurring metaphors for Morton in his explanations of his projects. Despite their literal existence as physical videotapes, their collaborative projects are not to be understood as singular, fixed art objects but rather as engaged in and resulting from ongoing conversational cyberpsychedelic processes with transformational technologies. Imagining and imaging of future worlds and subjectivities can cast powerful spells in these programs.

Program #7 concludes with Morton and Veeder again running Zgrass programs on the Bally Arcade Video Game System and running the graphical computer animations through the patch-programmed Image Processor. Morton can be heard discussing in voice over what is being programmed with these systems. Multiple channels of audio are layered on top of each other with Morton in each channel describing the process he is engaged in, lastly saying: "And now it starts over again... looks pretty good... We'll let it build up again and see where we get to." <sup>221</sup> as the Image Processing and Zgrass computer graphics animations continue for another minute in silence. And then the tape simply ends, reverting back to color bars. Program #7 ends in expectation, restarting in anticipation of where 'we' will 'get to' with self-reflexive (digital and analog) computer programing of proto-New Media Art projects, open sourced as ongoing processes in conversation with multiple Media Art Histories and possible futures of transformational technologies.

<sup>220</sup> Ibid.

<sup>221</sup> Phil Morton and Jane Veeder, Program #7, 1978, The Phil Morton Memorial Research Archive, http://copyitright.wordpress.com, accessed 2008.07.04

# CONCLUSION

# MAJOR POINTS

In conclusion, Phil Morton developed proto-Open Source approaches with his COPY-IT-RIGHT ethic and proto-New Media Art projects with his collaborative mix of analog and digital computing, Image Processing, Computer Animation and various sub-genres of Video Art (prior to these categorical distinctions being clearly made by those in the fields of Art History, Theory and Criticism). Before definitions for the terms Open Source, Free Culture or New Media Art were used, circulated or understood, Morton playfully experimented with remixological processes and projects that sprawled across these boundaries and borders. Morton's projects were not only transgressive in these terms, but also because they resisted commodification, copyright and Intellectual Property. Morton and his individual and collaborative works function in this study as articulations of an ethic of openness shared by the Chicago-based group of collaborators of which Morton was a key member.

# RESULTS

As has been established in this study, this group of collaborators and Morton's work with and within this group in particular, have been underrepresented until this point. The reasons for this situation have been outlined above and include the sociopolitical positions taken by Morton and his collaborators in their to critiques of technological power, hierarchies, exploitative Capitalist labor conditions and consumerism. Their cyberpsychedelic sensibilities and cut-up aesthetics also set them apart from certain kinds of critical reception and appreciation as Tamblyn has written in her Media Art Historical account of the period. Their ways of working outside of frameworks of profit also resulted in a certain lack of historizication and potential canonization as their works were not readily accessible through normative commodified channels of distribution, exhibition or collection in the traditional art world. Morton, the most vocal of the group articulating these positions, championed these ideas and approaches so much so that he become too anti-institutional, too committed to alternative forms to be fully included in historical accounts until now.

The situation described above is certainly the case in the local context of The School of the Art Institute of Chicago. In an interview recorded during Siggraph's 1982 Art Show, Morton laughs as he tells John Mabey that, by the time of the interview, both he and Sonia Landy Sheridan (who had founded the Generative Systems Program) had been "encouraged to go elsewhere" <sup>222</sup> by the administration of The School of the Art Institute of Chicago. The Video Area that Morton had founded would continue under the direction of his former student Barbara Latham after his departure. The Video Data Bank that Morton had founded as a small collection of shared and shareable resources had already been transformed into the more stable, institutionally recognized and internationally successful organization that it is today. At the point at which he was asked to leave The School of the Art Institute of Chicago,

<sup>222</sup> John Mabey, Phil Morton Interview, 1982, SIGGRAPH 1982 Artshow

Morton was a tenured Professor but ever the Cowboy Nomad, he set out on another Long Hunt into the American West and (at least figuratively) never returned. Morton literally distanced himself from both the professional academic and experimental Media Art worlds that he had been so key in creating. He went 'back to the land' <sup>223</sup> and literally became a hunter who survived and provided for his new immediate family by hunting and fishing in the preserved wilderness of West Yellowstone Montana.

<sup>223</sup> The phrase 'back to the land' refers to the 'back to the land' movement of the New Communalists. For further discussions of the New Communalists please refer to Fred Turner's discussion of this American social movement in his From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism.

# INTERPRETATIONS

These biographical details are included in my conclusion in order to help explain another way in which Morton's specific case has come to be excluded from Media Art historical accounts and constitutes an alternative Media Art History. In this research study, I am not arguing for the inclusion of the early Media Art moment in Chicago in Media Art Histories from a new revisionist perspective that would rely on a master narrative of Phil Morton's personal history. Furthermore, I do not argue that the alternative Media Art Histories of open collaboration and exchange in Chicago during the decade of the 1970's to the 1980's should be understood as a new discrete point of origin for either Video Art or New Media Art. Rather, what I am presenting is that this period of Media Art Histories saw a heightened level of anticipatory and innovative Media Art activities and proto-Open Source projects because a community of Media Artists openly discussed and shared their works under Morton's COPY-IT-RIGHT ethic, an ethical position that presented models of direct participation and transformation through cyberpsychedelic technologies. This period and those who shaped it through their individual and collaborative projects should be recognized for being a significantly interwoven network that technosocially supported and (directly and indirectly) influenced many of key cultural developments of the time and that would follow in the field of Media Art Histories, New Media Art and Free and Open Source Software.

# REMAINING WORK TO BE DONE

Over 500 physical video tapes from the era of interest to my research (the early 1970's and 1980's) are in the Phil Morton Memorial Research Archive and only a fraction have been digitized and cataloged. The Archive consists of mostly 3/4 inch tape but also open reel and VHS. Additional videotapes from the 1990's and associated paper files, notes, documentation of process, slides and Polaroid photos are also in the Archive. As Christiane Paul has stated, those who become responsible for New Media Art works and projects, in archives and collections, need to determine the appropriate preservation strategies in order to maintain the intentions of the artists and their works. <sup>224</sup> As Paul states, from the perspective of the preservationist, archivist, conservationist or curator, "the artists' intent is what is valued most" <sup>225</sup> and this intent is what is hopefully preserved through the archiving of the work.

Perhaps the same should be true for those working in Media Art Histories. Ideally, the logic of the preservation strategies utilized in regards to particular Media Art works and projects should first and foremost reflect and maintain the artists' intent. The question then arises of how to ascertain the artists' intent. Paul notes that interviews are often primary research materials that can function as viable sources of information in determining the intent of artists, especially those who are deceased. This research study into the Media Art Histories of open collaboration and exchange in Chicago relies on such interviews in order to establish the arguments in this thesis and to guide the direction of the Phil Morton Memorial Archive.

As Paul emphasizes, these are issues of cultural heritage and thereby involve expectations about the role of historians and the affects of 'history'. One such affect that Paul relates to the process of Media Art Histories is the

<sup>224</sup> Christiane Paul, "Media Art Histories lecture", 2007, Danube University Krems 225 Ibid.

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preservation and conservation of paintings such as Michelangelo's painting of the Sistine Chapel ceiling finished in 1512. This traditional art historical example provides a reference point to Media Art Histories in Paul's observations because of public reaction to the restoration effort that was finished in 1999. As Paul recounts the newly revealed and brightened colors of the restored painted surface erased the "the patina of age and aging" <sup>226</sup> that had previously been an important aspect of the work. Paul makes an argument that cultural heritage issues such as these in combination with resulting public reception will increasingly become necessary considerations in the field of Media Art Histories.

The affects of what Paul refers to above as 'the patina of age and aging' can very easily become visibly and technologically present in the preservation and archiving of Media Art. In the documents from the Phil Morton Memorial Archive included in this study, noise and glitches become apparent due to video artifacts such as signal loss from older video formats resulting in dropout, playback problems resulting from damage done to the video control track on master tapes; time base errors; copies with generational loss or from head clogging on older playback decks that skew tape playback. These technical difficulties are literally documented and recorded during the process of migrating the Phil Morton materials from analog video formats such as open reel, Umatic 3/4 inch and VHS to digital formats such as MiniDV and the H.264 MP4 and Flash video files compressed for web-based distribution. The COPY-IT-RIGHT ethic is understood in this process to be the primary reason for making these copies and distributing them freely online. Morton's artistic intent is thereby preserved despite the resulting loss in fidelity of the video signal, in that his COPY-IT-RIGHT ethic calls for such open models of distribution and exchange. More work remains to be done, however, in the improvement of migrated copies of these documents and in the further migration of the collection. Careful consideration will have to be given, not simply to the

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economics of such preservation efforts (in light of the costly act of properly conserving and correcting now obsolete videotape formats) but also to the cultural heritage issues put forward by Paul in terms of the presentation of this works so that they can continue to communicate their age and timeliness.

In her essay The Myth of Immateriality: Presenting and Preserving New Media, Paul identifies and reiterates the following characteristics of New Media Art, that it is: "process-oriented, time-based, dynamic, and real-time; participatory, collaborative, and performative; modular, variable, generative and customizable." <sup>227</sup> Paul adds to these characteristics that New Media Art tends "to be more context dependent than many other art forms". <sup>228</sup> Furthermore, she states that "Interaction and participation are key elements in transforming new media works into 'open systems'." <sup>229</sup> This study has attempted to establish that Morton's collaborative work shares these qualities and therefore can be defined as New Media Art using Paul's criteria. Her discussion of openness continues as she details the ways in which varying levels of openness are possible and how such openness can increase "in projects where artists have established a framework that allows participants to create a contribution to the system". <sup>230</sup>

Morton's COPY-IT-RIGHT is exactly one such New Media Art framework within which the Sandin Image Processor, The Distribution Religion and the collaborative projects of Morton, Veeder, Sandin, DeFanti and their various collaborators also functioned as open frameworks. As Paul continues to explain in her work, this form of openness is most often found in Open Source software development and its intersections with artistic contexts. For this reason, my research has attempted to establish and draw relations

<sup>227</sup> Christiane Paul, "The Myth of Immateriality: Presenting and Preserving New Media", p. 253, Oliver Grau (Editor), Media Art Histories, 2006, The MIT Press
228 Ibid.
229 Ibid. p. 254
230 Ibid.

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between various aspects of Open Source software development, Free Culture and resistances to Intellectual Property regimes with regards to Morton's collaborative projects and his COPY-IT-RIGHT ethic. Paul is also clear to state that with examples such as Ben Fry and Casey Reas' Processing project, <sup>231</sup> and as I argue, Morton's COPY-IT-RIGHT, the intersections of Open Source and New Media Art provide not only the context for understanding these projects, but also the literal forms of engagement and ways to participate within these systems, frameworks and projects, in order to extend them and thereby make them even more extensible.

Paul renders another important aspect of New Media Art in her analysis when she addresses the presentation of New Media Art. She encourages consideration of the fact that New Media Art presentation "involves the creation of platforms of exchange, between the artwork and audience or the public space of a gallery and the public space of a network". <sup>232</sup> As with the former example of open frameworks, Morton's COPY-IT-RIGHT also meets this criterion of Paul's for consideration of New Media Art. COPY-IT-RIGHT was a literal, social and ideological platform of free and open exchange. Through this platform, Media Art works were distributed actively and created dynamically during the period of study of my research, the early 1970s until the early 1980s in Chicago. Paul makes her point directly in the following sentence articulating how these theorypractices of openness, collaboration, the creation of platforms of exchange and New Media Art meet and allow for the development of alternative positions: "Digital technologies and networks have opened up new spaces for autonomous producers and DIY culture - through the process of copying, sharing, and remixing..."<sup>233</sup> I would add to this statement that digital technologies and networks did not in and of themselves offer these new possibilities but were made possible by their analog ancestors,

231 Ibid. 232 Ibid. 233 Ibid. p. 255

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especially in the example of Morton's COPY-IT-RIGHT approach. The process of copying, sharing, and remixing detailed by Paul above is precisely the point of Morton's COPY-IT-RIGHT and as detailed in this research study originates from the counter-cultural perspectives of Morton and his collaborators and prefigures current digital systems while anticipating many of the contemporary issues attendant to New Media Art and Media Art Histories.

So then, this study attempts to position Morton's collaborative work as New Media Art by the criteria established above by those working in the field of Media Art Histories. Likewise, this study makes arguments for these recovered New Media Art and Video Art histories to be constituted and included within Media Art Histories. As I hope to have made clear, with this research study I intend to build upon the Media Art Histories work of those that have proceeded me, those from whom I have been influenced, drawn inspiration from and studied under.

In Edward A. Shanken's "Historicizing Art and Technology: Forging a Method, Firing a Canon", Shanken discusses Media Art Histories in relation to cannon formation and traditional Art History as a discourse. Shanken details his own experiences with the process of historicizing the intersections of Art, Science and Technology and his encounters with the problems of postmodernism, historiography and methodologies in the field. Shanken explains his difficult process of developing these histories (in the shadow of or against the grain of grand narratives) through a narrowing of necessarily narrowed perspectives on the part of those writing Media Art Histories while wrestling with issues of inclusion and exclusion, openness and fixivity, while retracing paths to our current Media Art moments in retrospect. Shanken self-reflexively writes that the "canon is neither monolithic nor set in stone." <sup>234</sup> Furthermore, his essay is a call to action, in part, for "a critical reconsideration and recontextualization of artists,

<sup>234</sup> Edward A. Shanken, "Historicizing Art and Technology: Forging a Method, Firing a Canon", 2006, p. 56, Oliver Grau (Editor), Media Art Histories, 2006, The MIT Press

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artworks, art-making practices, and historical narratives that previously have been excluded, marginalized, or not understood to their fullest potential." <sup>235</sup> This research study of Morton's COPY-IT-RIGHT approach is an attempt to engage those issues and to take up Shanken's call for critical reconsiderations and recontextualizations.

I believe that the development and vitality of Media Art Histories as a field, as an ongoing cultural project and active discourse, requires such critical reconsiderations and recontextualizations. My hope is that this research and these hybrid research methodologies contribute to the field, not simply through the reconsidered inclusion of the collaborative work of Morton and his communities, in the interrelated and deeply connected Media Art Histories of New Media Art and Video Art; but also in an ongoing process of uncovering and recognizing multiple alternative Media Art Histories. These multiplicities constitute alternate and concurrent versions, parallel paths including experimental, contestational, hybrid, illusive, outlandish and difficult to categorize projects and approaches.

This is the plurality of Media Art Histories, a plurality signaled linguistically through the naming of the field as a plural 'histories' rather than a singular 'history'. Referring to the field with this name, in plural, recognizes the problematics and urgencies of both making and unpacking 'histories' of (in this case) open collaboration and exchange. The most important work that remains to be done, in my opinion, is in recognizing, maintaining and in fact encouraging these pluralities of multiple and nonmutually exclusive Media Art Histories to be opened, exchanged and extended, thereby becoming increasingly extensible.

<sup>235</sup> Ibid. p. 55
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# GLOSSARY

AfroFuturism - "Speculative fiction that treats African-American themes and addresses African-American concerns in the context of 20th century technoculture—and, more generally, African-American signification that appropriates images of technology and a prosthetically enhanced future might, for want of a better term, be called Afrofuturism." from: Black to the Future - Mark Dery (1995)

Analog - "An analog signal is any continuously variable signal; it differs from a digital signal in that small fluctuations in the signal are meaningful." from: Capturing Unstable Media - V2\_ (2003)

artistic research and development (aRt&D) - "Research and development that involves interdisciplinary and multidisciplinary collaboration and the merging of artistic concepts and technology, involving artists as "creative researchers"." from: Capturing Unstable Media - V2\_ (2003)

authorship - "New media art has pioneered the way for a new form of authorship based around collaboration and the concept of a negotiated space. Art projects that are technology-dependent require intense collaboration between artists, scientists and technologists (Diamond, 2003, p.8). New media art is dependent upon collaboration that is over a network or in person to create new media projects (Lev Manovich, 2005)." from New Media Art - M/Cyclopedia of New Media - Marnie-Anne Snow, Amy Robinson, Heike Herrling and Caroline Jende (2005)

circuit - "A circuit (electrical or electronical) is a closed path which can be followed by an electric current or a configuration of electrically or electromagnetically connected components or devices. See also: circuit diagram, circuit scheme" from: Capturing Unstable Media - V2\_ (2003) Circuit diagram - "A diagram showing the interconnections in a circuit. See also: circuit" from: Capturing Unstable Media - V2\_ (2003)

Code - "Instructions written in a language a computer can understand and execute. Examples include Java and JavaScript. See also Source code, Object code, Machine code." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

Compatibility - "The ability of one system to work with the standards of other systems. For example, Macintosh operating systems can read Windows formatted disks, but most versions of the Windows operating system cannot read a Macintosh formatted disk." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

component - "A component is a well-defined, distinct and strategic part or aspect of an occurrence but is not considered an autonomous work or activity in itself. It is usually restricted in time and space. Includes: digital component, physical component, conceptual component, content component, technical component." from: Capturing Unstable Media - V2\_ (2003)

computer - "A computer is a programmable electronic machine or device used to perform high-speed mathematical or logical operations and to process information according to a well-defined procedure. See also: computer hardware" from: Capturing Unstable Media - V2\_ (2003)

computing device - "Any machine or component that attaches to, or can be integrated in, a computer in a functional way. See also: computer hardware Includes: CPU, storage device, input/output device, handheld device" from: Capturing Unstable Media - V2\_ (2003)

conceptual model - "A model that defines the types of entities or objects that are of interest in a system or domain, and the relationships between them." from: Capturing Unstable Media - V2\_ (2003)

configuration - "A specific grouping of components – mainly hardware and software set up for a specific goal. A configuration usually includes a specific systems design, operating system, network setup and has a client and/or server function, and is designed to accommodate an application (occurrence). Can be a part of a systems design. See also: application, hardware, network, user interface, systems design, configuration instructions" from: Capturing Unstable Media - V2\_ (2003)

configuration instructions - "Instructions for setting up a specific configuration. Or: installation manual that describes the procedure to start up a specific software application. See also: configuration" from: Capturing Unstable Media - V2\_ (2003)

conservation - "The treatment, preventive care, and research directed toward the long-term safekeeping of cultural and natural heritage." from: Capturing Unstable Media - V2\_ (2003)

Control track - "A synchronizing signal on the edge of the videotape which provides a reference for tracking control and tape speed. Control tracks which are heavy dropouts or which are improperly recorded may cause tracking errors or picture jumps." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

Compiled - "Said of source code that has passed through an interpreter to render it readable by computers instead of humans. For example, Java source code is compiled into an applet, but HTML code is interpreted directly by the browser without being compiled. See also Object code, Machine code." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

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Copyleft - "Copyleft is phrase first used by artist Ray Johnson to describe the way he mixed images together from various media sources and then made them available by ephemeral means such as mail art or as gifts. The phrase has since been used by Free Software developers to name their variant use of copyright law." from: A Guide To Open Content Licences - Lawrence Liang (2004)

Copyright - "A set of laws, originally designed to protect publishing monopolies, which give those who purchase or otherwise obtain a license from authors to have rights over their work's publication." from: A Guide To Open Content Licences - Lawrence Liang (2004)

Cybernetics – The original and now classical definition of Cybernetics is the study of the control and communication in the animal and the machine as initially proposed by Norbert Wiener.

cyberpsychedelic - I use the term cyberpsychedelic to refer to the combinatory effects of mixing Cybernetics and Psychedelics as cultural influences, technologies and aesthetic principles

database - "A database is an information set with a regular structure that allows automated searches and updates." from: Capturing Unstable Media -V2\_ (2003)

"A structured collection of information, usually stored on a computer. The database of interest to this study contains contact details for past and potential visitors to contemporary art events. It may be created by collecting information from actual visitors or acquiring it through joint or cross promotions, or by purchasing a list from elsewhere (mail houses, other galleries). Visitor databases should contain full contact details (including email addresses) and some profile elements (interest in contemporary and Indigenous art, craft and new media art). See pages 9 and 29, Database management." from: The great indoors: developing audiences for

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contemporary art and craft in Australia - Woolcott Research Pty Ltd, Positive Solutions and Judith James Consultancy (2003)

Derivative Work - "A derivative work is something that uses as an element in its composition a part or even the whole of another work. Sample-based music is often derivative for instance. The theory of derivation requires that there be a fixed and unmoving point of origination. A theory of culture which sees it as a matter of flows, change and emergent collaboration would claim that all work is derivative." from: A Guide To Open Content Licences -Lawrence Liang (2004)

development - "Making use of the knowledge and understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes, and processes. It excludes quality control, routine product testing, and production. See also: research, research and development" from: Capturing Unstable Media - V2\_ (2003)

diagram - "A plan, sketch, drawing, or outline designed to demonstrate or explain how something works or to clarify the relationship between the parts of a whole." from: Capturing Unstable Media - V2\_ (2003)

Digital - "Digital signals can only assume a limited number of clearly distinct values. Computers are digital, and use only two values (O and 1)." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

Digital Art - "Digital Art is art created on a computer in digital (binary) form. The term is usually reserved for art that has been substantially modified by the computer; text data and raw audio and video recordings are not usually considered digital art in themselves, but can be part of a larger project, since the computer is merely the storage medium or tool which is used to create

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the work. Digital art can be purely computer-generated, or taken from another source. The availability and popularity of photograph manipulation software has spawned a vast and creative library of highly modified images, many bearing little or no hint of the original image." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Digital video - "A catchall term for a variety of video formats developed in the 1990s, all based on encoding video signals as 1s and 0s rather than analog signals. Although compressed digital video may have a lower image quality than analog video, it can be edited using nonlinear editors, stored on computer hard drives, streamed over the Internet, and incorporated into interactive presentations." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

document - "A well-defined piece of information about an object or activity, mostly existing in physical or/and digital form." from: Capturing Unstable Media - V2\_ (2003)

documentation - "Material that clarifies, gives instructions or provides evidence of an activity, object or actor. Also refers to the creation or acquisition of such material." from: Capturing Unstable Media - V2\_ (2003)

Dropout - "Brief signal loss caused by a tape head clog, defect in the tape, debris, or other feature that causes an increase in the head-to-tape spacing. A dropout can also be caused by missing magnetic material. A video dropout generally appears as a white spot or streak on the video monitor. When several video dropouts occur per frame, the TV monitor will appear snowy. The frequent appearance of dropouts on playback is an indication that the tape or recorder is contaminated with debris and/or that the tape binder is deteriorating." from: Video Preservation: Glossary of Terms -Rebecca Bachman (1996)

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Electronic Art - "Electronic Art makes use of electronic media or, more broadly, refers to technology and/or electronic media. It is related to information art, media art, video art, interactive art, internet art, and electronic music, among others.

The term electronic art is almost, but not entirely, synonymous to computer art and digital art. The latter two terms, and especially the term computer-generated art, are mostly used for visual artworks generated by computers. Electronic art has a much broader connotation, referring to artworks that include any type of electronic component - also works in music, dance, architecture and performance. It is an interdisciplinary field; artists often collaborate with scientists and engineers when creating their works." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Fair Use - "Fair use rights are those which allow you, if you are for instance writing an academic paper or a review of a book or website to quote that material." from: A Guide To Open Content Licences - Lawrence Liang (2004)

FLOSS – The abbreviation FLOSS stands for Free Libre and Open Source Software.

FOSS - The abbreviation FOSS stands for Free and Open Source Software.

Free Culture – Free Culture is a sociopolitical and philosophical position and movement indebted to Creative Commons founder Lawrence Lessig but which takes resistance to copyright further than Creative Commons and supports a wider range of resistances to copyright and Intellectual Property laws.

Free Software - "Free software A software license developed by computer scientist Richard Stallman that permits other users to use, copy, modify, and distribute the source code, with or without a fee. Free software is often developed with an open source model and/or released under a copyleft license." from: Permanence Through Change: The Variable Media Approach -Variable Media Network (2007)

General Public License (GPL) - "The GPL was created by Richard Stallman in 1983 and adopted by free software developers. This licence unambiguously guarantees the right to use a computer program free from any restriction (the program may be used for any purpose), the right to study (we can learn how the programme works), the right to copy, modify and distribute copies free of charge or commercially." from: Creative Commons in context - Nicolas Malevé (2006)

Generational loss - "Degradation caused by tape copying." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

Glitch - "A form of low frequency interference, appearing as a narrow horizontal bar moving vertically through the picture." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

GNU GPL - "The GNU GPL (online at http://www.fsf.org/copyleft/gpl/html) is a license for software which guarantees continuing rights to these freedoms: 'The freedom to run the program, for any purpose (freedom 0).The freedom to study how the program works, and adapt it to your needs (freedom 1). Access to the source code is a precondition for this. The freedom to redistribute copies so you can help your neighbor (freedom 2). Freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3). Access to the source code is a precondition for this.' This definition of freedom is taken from the Free Software Foundation website: http://www.fsf.org/" from: A Guide To Open Content Licences - Lawrence Liang (2004)

Head clogging - "The accumulation of debris on one or more heads usually

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causing poor picture clarity during playback. Clogging of the playback head with debris causes dropouts." from: Video Preservation: Glossary of Terms -Rebecca Bachman (1996)

Installed - "According to the Variable Media Network, the term "installed" implies that its physical installation is more complex than simply hanging it on a nail. Examples of artworks with this behaviour are works that scale to fill a given space or make use of unusual placement such as the exterior of a building or a public plaza. For such works, the variable media questionnaire tracks issues of site-specific placement as well as scale, public access, and lighting." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Intellectual Property – Intellectual Property refers to the concept that artistic and/or commercial creations can and should be legally interpreted and protected as private property. Intellectual Property laws include legislation covering the legal definitions of copyright, trademark and patent law.

License - "A document which sets the terms of use of a piece of software or other item of culture. A user is licensed to use the material in certain ways. This booklet lists licenses which set out to maximize the usefulness of such material." from: A Guide To Open Content Licences - Lawrence Liang (2004)

media - "Objects on which data can be stored. These include hard disks, floppy disks, CD-ROM's and tapes. The form and technology used to communicate information. Multimedia presentations, for example, combine sound pictures and videos (moving images), all of which are different types of media." from: Capturing Unstable Media - V2\_ (2003)

Media Art - "Media art is a generic term in contemporary art, used for describing art which is to a significant extent related to or created in a technological medium. Media art refers to disciplines such as video art,

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electronic art, internet art and to works related to telecommunications and mass media, including television, radio and telephone. Intermedia and mixed media are similar artistic concepts." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Master - "In video, the so-called master tape is the firstgeneration tape after editing. Performance registrations are usually not edited, so that the actual recording is the 'master' (the original tape used to record the content). In the case of an analog recording system, this will yield the best image quality. The master usually remains in possession of the artist, while museums and other institutes have copies – submasters – which, however, are often regarded as master tapes. Submasters are subsequently used to make copies for the purposes of viewing and documentation." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

Migration - "To migrate an artwork involves upgrading equipment and source material. To migrate the video monitors of Nam June Paik's TV Garden, for example, would be to replace them with up-to-date models as TV sets change with industry trends. The major disadvantage of migration is that the appearance of the original artwork may change substantially when the technology undergoes an evolutionary jump, as when cathode-ray tubes give way to flat screens." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

MiniDV - "A popular digital video format developed in the 1990s for handheld video cameras sold in the consumer market." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

Mistracking - "The phenomenon that occurs when the path followed by the read head of the recorder does not correspond to the location of the

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recorded track on the magnetic tape. Mistracking can occur in both longitudinal and helical scan recording systems. The read head must capture a given percentage of the track in order to produce a playback signal. If the head is too far off the track, record information will not be played back." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

mythopoetic – The term mythopoetic refers to a myth-producing quality of that which this adjective modifies.

New Media - "New media are the means by which art, science, politics, economics, and other forms of culture are reinvented and manipulated as information. In contrast to broadcast media, new media such as the Web, email, text messaging, and peer-to-peer networks encourage many-to-many communication and a "do it yourself" approach to innovation." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

New Media Art - "New media art is generally a collaborative practice where artists engage with performance, digital technologies and cross-disciplinary artforms to produce a range of performance, installation and screen-based artworks. It can also explore the creative synthesis of art and emerging science and technology fields." from: The great indoors: developing audiences for contemporary art and craft in Australia - Woolcott Research Pty Ltd, Positive Solutions and Judith James Consultancy (2003)

Neoliberalism - "A general characteristic of neoliberalism is the desire to intensify and expand the market, by increasing the number, frequency, repeatability, and formalisation of transactions. The ultimate (unreachable) goal of neoliberalism is a universe where every action of every being is a market transaction, conducted in competition with every other being and influencing every other transaction, with transactions occurring in an infinitely short time, and repeated at an infinitely fast rate." from: Neoliberalism: origins, theory, definition - Paul Treanor (2005)

Noise - "Any unwanted signal present in the total signal." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

Open Content - "Here this is used as a generic term. Content is any material, data, files, images, texts, which are not part of software or other digital systems but which are handled by them. "Open" content is any such content which is made available by means of one of the kinds of licenses described in this booklet. One of the licenses described here, "Open Content" (see page 86) which has now been subsumed by the Creative Commons project also used this term." from: A Guide To Open Content Licences - Lawrence Liang (2004)

Open Source - "A technique for writing software in which original authors make source code freely available for modification and improvement by any programmer who wishes to collaborate on the project. The most well-known example of open source software is the Linux operating system. See also Copyleft and Free software." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

The term "Open Source" was first coined in 1998 by the Open Source Initative, an intiative founded by Eric S. Raymond.

patch-programming – A technique for programming that involves physically (such as in the case of analog systems such as the Sandin Image Processor) or virtually (as in the case of digital systems such as PureData and GEM) cabling together or patching signals into programatic patterns that can be executed or run on the given computer system

preservation - "Refers to actions taken to prevent further changes or deterioration in objects, sites, or structures." from: Capturing Unstable Media

- V2\_ (2003)

project - "A project corresponds with the entire, distinct process of a welldefined activity. Examples could be a research project, a festival, an artistic project with all its manifestations over the years." from: Capturing Unstable Media - V2\_ (2003)

Proprietary - "Something that is owned by a company and which is so formatted that it does not allow access to its source code." from: A Guide To Open Content Licences - Lawrence Liang (2004)

Public Domain - "Something in the public domain is available for anyone to use regardless of copyright." from: A Guide To Open Content Licences -Lawrence Liang (2004)

Royalties - "A proportion of the profit assigned to an author after publishers, distributors and other have taken their (usually larger) percentages." from: A Guide To Open Content Licences - Lawrence Liang (2004)

Realtime - "Said of a continuous signal received or processed at the same rate as it is produced. Streaming and Web camera feeds can be real time signals." from: Permanence Through Change: The Variable Media Approach -Variable Media Network (2007)

"Occurring immediately. The term is used to describe a number of different computer features. For example, real-time operating systems are systems that respond to input immediately. They are used for such tasks as navigation, in which the computer must react to a steady flow of new information without interruption. Most general-purpose operating systems are not real-time because they can take a few seconds, or even minutes, to react.

Real time can also refer to events simulated by a computer at the same speed that they would occur in real life. In graphics animation, for example, a

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real-time program would display objects moving across the screen at the same speed that they would actually move." from: Capturing Unstable Media - V2\_ (2003)

remixological - "Remixology is the science of continuation and the art of drastic remaking, total remaking, remodelling." - from: More Brilliant than the Sun: Adventures in Sonic Fiction - Kodwo Eshun (1999)

research and development (R&D) - "Basic and applied research, used in order to support the development of projects, standards or guidelines and of new and improved products and processes. See also: research, research and development period, aRt&D" from: Capturing Unstable Media - V2\_ (2003)

Sampling - "An analog signal cannot simply be converted into a digital signal. The former is continuous, the latter discontinuous. Therefore, the analog signal with the highest frequency (the sampling rate) is measured and converted into a discontinuous digital signal. This is digitization. The higher the sampling rate, the better the conversion, because high sampling rates reduce the loss of information. Every analog signal can be digitized, and converted back. But the original analog signal cannot be identified by examining the resulting digital signal." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

self-selection – Self-selection is a principle often found in open, decentralized or non-hierarchical groups in which participants choose their level of involvements and responsibilities.

self-organization – The principle of self-organization recognizes that groups may wish to collaborate together through emergent forms of organization rather than through being externally organized and governed.

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single channel (video) – the term "single channel" is used to describe Video Art that is intended to be viewed onscreen from a single playback source as opposed to Video Installation Art which can incorporate multiple sources ("channels") of video and may be screened or projected on multiple screens or surfaces

Skew - "A bending of picture at top or bottom of television screen caused by the changing of the video track angles on the tape from the time of recording to the time of playback. This can occur as a result of poor tension regulation by the VCR or by ambient conditions which affect the tape." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

software - "The 'software' component refers to a digital, programmed part of an occurrence. Computer instructions or data. Software is often divided into two categories:

Systems software: Includes the operating system and all the utilities that enable the computer to function.

Applications software: Includes programs that do real work for users. For example, word processors, spreadsheets, and database management systems fall under the category of applications software" from: Capturing Unstable Media - V2\_ (2003)

Software Art - "A genre of digital art that emphasizes the creation of original or revelatory software applications—such as alternative Web browsing, image manipulation, or video-editing tools—rather than any single image or output produced with such a tool. Software art is typically compiled, but often freely distributed over the Web." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

Source Code - "Source code is what a programmer works on in a programming language before it is compiled (turned into machine code). For FLOSS it is essential therefore that the source code be accessible to allow

others to work on and improve it." from: A Guide To Open Content Licences -Lawrence Liang (2004)

technoromanticism – Technoromanticism is a term used by Richard Coyne in his 1999 book Technoromanticism: Digital Narrative, Holism, and the Romance of the Real to emphasize how current cultural understandings of digital technologies connect to and reactivate aspects of Romanticism.

technosocial - The term "technosoical" arises from the field of Science, Technology, and Society Studies (STS) in discussions of the social construction of technology as related to the histories and sociologies of the Sciences.

technotopia – a technological or highly technologized utopia.

theorypractice – The use of the term "theorypractice" refers to the position that theory and practice (especially in the field of Contemporary Art making in the twenty first century) are so deeply interrelated as to be considered one concept.

Time base error - "A variation in the synchronizing signals. When time base errors are large enough, they may cause skewing or flagging distortion of the video picture." from: Video Preservation: Glossary of Terms - Rebecca Bachman (1996)

U-matic - "A video format developed in the late 1960s consisting of <sup>3</sup>/<sub>4</sub>-inch magnetic tape in a cassette; the precursor to Beta." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

Unstable Media Art - "In the Capturing Unstable Media research project, the term "unstable media art" is used as a synonym for electronic art (art which

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makes use of electronic media or, more broadly, refers to technology and/or electronic media). The term is historically related to V2\_'s involvement in issues of instability related to technology and art." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

VCR - "Video Cassette Recorder," a playback deck designed to record and play consumer-grade, <sup>1</sup>/<sub>2</sub>-inch videotapes in various standards." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

VHS - "Vertical Helical Scan," a consumer-grade video format developed in the late 1970s, consisting of ½-inch magnetic tape in a cassette." from: Permanence Through Change: The Variable Media Approach - Variable Media Network (2007)

Variable Media - "The Variable Media Network defines the term "variable media" very broadly in order to incorporate a wide range of artworks from installation based works, through performance and conceptual art, film and video, photography, and new media - even painting and sculpture in some cases. More than an aggregate of mediums, however, variable media more specifically refers to works of art which, in order to survive beyond anecdote or document, can be migrated to new materials, mediums and equipment, and/or otherwise updated and adapted to changing environments." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Video Art - "Video Art as opposed to film and theatrical cinema, is a subset of artistic works which relies on moving pictures and is comprised of video and/or audio data. The precise medium of storing this data is variable and at the discretion of the artist; the medium of storage is usually magnetic video tape although the data may also be stored as a computer file (or files) on a hard disk, CD-ROM, DVD or on film." from: Online Preservation Resource: OASIS Archive - Netherlands Media Art Institute (2007)

Video installation: Multimedia - "An installation in which at least one of the media used is video." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

Video installation: Multichannel - "Video installation consisting of several carriers and (monitor)screens whose images are connected." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

Video installation: Single-channel - "An installation in the narrow sense, consisting of a single videotape that must be shown in a space that is controlled by the artist." from: Preservation of Dutch Video Art Collections: Glossary of terms - Gaby Wijers, Evert Rodrigo, Ramon Coelho (2003)

### APPENDIX

ORIGINAL MATERIALS

TIMELINE (Original research unless otherwise noted by source.)

# 1942

Dan Sandin born

Gene Youngblood born on May 30, 1942

### 1945

Phil Morton born

## 1944

Jane Veeder born

# 1951

Christine Tamblyn born on July 12, 1951

1969 - 1970

Sandin and his students use video as a real-time performer at the University of Illinois at Chicago 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. - Diane Kirkpatrick

# 1969

Phil Morton joins the Faculty at The School of the Art Institute of

Chicago

Dan Sandin joins the Faculty at University of Illinois at Chicago, then referred to as the University of Illinois at Chicago Circle Campus (the University of Illinois at Chicago).

Nam June Paik and Shuya Abe develop the Paik-Abe Video Synthesizer – Valsulka Archive

1970 - 1972

Phil Morton founds the Video Data Bank

1970

Phil Morton founds the Video Area at The School of the Art Institute of Chicago

Expanded Cinema by Gene Youngblood published

Sonia Landy Sheridan founds the Generative Systems Program at The School of the Art Institute of Chicago

1971 - 1972

Sandin develops first Image Processor. - Diane Kirkpatrick

1971 – 1973

Phil Morton and Dan Sandin develop The Distribution Religion

1971

Woody and Steina Vasulka establish The Kitchen, an electronic arts performance center in New York City - Vasulka Archive

# 1972, October

Sandin and Morton set up an interactive video environment at St. Olaf College in Northfield, Minnesota. It incorporates an image Processor and prerecorded tapes. - Diane Kirkpatrick

# 1973, January 26

"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. - Diane Kirkpatrick

# 1973

Tom DeFanti joins the Faculty at the University of Illinois at Chicago, bringing with him his GRASS system - Diane Kirkpatrick

Circle Graphics Habitat established at the University of Illinois at Chicago by Dan Sandin and Tom DeFanti. Circle Graphics Habitat was renamed the Electronic Visualization Laboratory (Electronics Visualization Lab), a vibrant academic program combining Art and Science still in existence (2008).

# SIGGRAPH established

1973 - 1976

Ted Nelson works as "Lecturer and media maker, various departments and auspices, University of Illinois at Chicago Circle." 1973 - 1975

Circle Graphics Habitat developed. - Diane Kirkpatrick

1974

Ted Nelson self-publishes Computer Lib/Dream Machines

Jane Veeder enters The School of the Art Institute of Chicago as a graduate student

Bob Snyder joins the faculty at The School of the Art Institute of Chicago

1974, July

Dan Sandin, Tom DeFanti and Ted Nelson showed the first computergraphics videotape presented at a SIGGRAPH conference accompanied by a paper entitled "Computer Graphics as a Way of Life." at the first SIGGRAPH conference in Boulder, Colorado

1975, April

The First Interactive Electronic Visualization Event (EVE), the University of Illinois at Chicago, Rotunda SES East. Snyder joined Sand in, Morton, and DeFanti for the joint performance of Peano Boogie, providing sound on a Fender Rhodes Acoustic piano. - Diane Kirkpatrick 1976

General Motors by Phil Morton and Friends including Dan Sandin and Tom DeFanti Kate Horsfield and Lynn Blumenthal take over operations of the Video Data Bank, moving the collection out of the Video Area and creating the organization as it is known today, a leading international collection of Video Art and Artists Interviews (2009).

Bob Snyder become head of the Sound Area, which would later become the Sound Department at The School of the Art Institute of Chicago

Phil Morton and Jane Veeder meet in the Spring in Chicago's Pilsen neighborhood

# 1976, April

The Second Electronic Visualization Event, the University of Illinois at Chicago, Rotunda SES CB. Snyder brought EMU sound synthesizer from The School of the Art Institute of Chicago to provide sound for Ryril, the major interactive performance piece by Sandin, Morton, DeFanti, and Snyder. -Diane Kirkpatrick

Documentation of EVE II by Phil Morton, Bob Snyder and Guenther Tetz produced

# 1977

The Bally Arcade Video Game System (aka Bally Home Library Computer, Bally Professional Arcade or Astrocade) introduced by Midway, the videogame division of Bally

Bally BASIC (ROM based Operating System for Bally Astrocade) developed, project managed by Jamie Fenton 1978

Program #7 by Phil Morton and Jane Veeder produced

Program #9 by Phil Morton and Jane Veeder produced

3/78 (Objects and Transformations) by Larry Cuba produced using DeFanti's GRASS system at the University of Illinois at Chicago

Diane Kirkpatrick curates the exhibition Chicago: The City and Its Artists 1945-1978 at the University of Michigan. The exhibition catalog includes an article on the collaborative work of Tom DeFanti, Phil Morton, Dan Sandin and Bob Snyder

1978 - 1979

Phil Morton and Jane Veeder found the Electronic Visualization Center: "a television research: satellite orbiting the Art Institute Corporation -Chicago"

### 1980

Sonia Landy Sheridan resigns from The School of the Art Institute of Chicago, signaling the end of the Generative Systems Program at The School of the Art Institute of Chicago

Barbara Latham becomes the head of the Video Area

Christine Tamblyn receives her BFA degree from The School of the Art Institute of Chicago

Fall 1980

Gene Youngblood teaches as a Visiting Professor in the Art History Department at The School of the Art Institute of Chicago

Christine Tamblyn teaches as a part-time instructor in the Video Department and the Performance Department at The School of the Art Institute of Chicago

### October 1980

Gene Youngblood interviews Phil Morton and Jane Veeder in Chicago

### 1981

The School of the Art Institute of Chicago Memo by Phil Morton produced

### 1983

Computer Art as a Way of Life by Gene Youngblood published

Christine Tamblyn leaves Chicago, relocating to New York City

### 1984

"The Digital Art: Computer art as a way of life - Jane Veeder" by Gene Youngblood published in the Ars Electronica 1984, Festival Catalog

### 1984

Barbara Latham dies from Leukemia

MacroMind corporation formed by Jamie Fenton, Marc Canter and Mark

Pierce

1985

MacroMind VideoWorks developed by MacroMind for the Macintosh

1987

MacroMind Director released. Director is the updated version of the previous application VideoWorks. Director becomes the software of choice for New Media Artists during the period of the mid to late 1990s when Interactive Multimedia projects are produced and released primarily on CD-ROM and then the World Wide Web

# 1990

Computer Art as Conceptual Art by Christine Tamblyn published by Art Journal, College Art Association

# 1991

Image Processing in Chicago Video Art, 1970-1980 by Christine Tamblyn published by Leonardo, MIT Press

# 1992

Mosaic, the first Web Browser, developed at the National Center for Supercomputing Applications (NCSA) at the University of Illinois in Champaign Urbana

1993 April 22

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Mosaic software is publicly released. The public release of Mosaic marks the beginning of the World Wide Web (WWW) as known today (2008).

1998

Christine Tamblyn dies of breast cancer on January 1, 1998

2001 August

The Film, Video and New Media Department (FVNM) officially begins offering courses at The School of the Art Institute of Chicago. FVNM was formerly by the previously separate Film Department and Video Department after a process of lengthy discussions to merge their separate curriculum and develop new initiates. This committee based process of discussion began in the academic year of Fall 2000/Spring 2001.

2002

criticalartware interviews Kate Horsfield

2003

Phil Morton dies from cancer

2003.04.09

criticalartware interviews Dan Sandin

2003.09.29

criticalartware interviews Jane Veeder

2005

criticalartware digitizes The Distribution Religion

2007

jonCates initiates the Phil Morton Memorial Research Archive in The Film, Video and New Media department at School of the Art Institute of Chicago

2007 February 15

The Film, Video and New Media Department presented "COPY-IT-RIGHT! Selections from The Phil Morton Memorial Research Archive" at The Gene Siskel Film Center as a part of the Conversations At The Edge screening series. The program included excerpts from Morton's "General Motors" and the complete works of "Program # 9 (Amateur TV)" by Morton and Veeder and "The School of the Art Institute of Chicago Memo".

### INTERVIEWS

# KATE HORSFIELD INTERVIEWED BY CRITICALARTWARE (2002) DAN SANDIN INTERVIEWED BY CRITICALARTWARE (2003) JANE VEEDER INTERVIEWED BY CRITICALARTWARE (2003)

# KATE HORSFIELD INTERVIEWED BY CRITICALARTWARE (2002)

Kate Horsfield of the Video Data Bank The School of the Art Institute of Chicago http://www.vdb.org

interviewed by criticalartware

criticalartware: How did your involvement with Video Art begin?

Kate Horsfield: I don't really have glamorous answers to all of this. The truth was that in the fall of 1973, my friend Lyn Blumenthal, who was a taxi driver at the time, finally accumulated enough money to buy a half inch open reel PortaPack. I remember, we went to Lincoln Park and we were hanging out trying to do interviews with guys laying on the park benches, and somehow it didn't seem very gratifying to us. We really didn't know what we were doing. In the spring of 1974, Artemisia Gallery had just formed in Chicago and they had invited Marsha Tucker, who at that time, had just quit her job as curator at the Whitney Museum and was about to found the New Museum in New York. She was in town and she was giving a lecture about women's work, different, new work that was being done, mostly painting. So we went and asked if we could do an interview with her or if we could tape what she was talking about. She said sure and we did it. It was really interesting because this was the era of Feminism. Lyn and I had a kind of intuitive interest in knowing what women were doing as artists. So, Marsha gave many examples of work that a lot of people weren't familiar with, all done by youngish women. At the end of the taping she wanted us to bring it to New York so she
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could look at it before we played it for other people. We were very excited and a month or so later we went to New York to show her what we had shot. She thought it was interesting and suggested we shoot Joan Mitchell, who had a show up at the Whitney. We thought "Oh that is so groovy, we'll do it." We didn't realize that a trap had been set. Joan Mitchell was a very fierce woman. She was a 50's abstract expressionist. She had to fight her way up through a forest of men. She wasn't taken seriously and she was one tough cookie. And we were these little kids who had no idea what we were doing. I was 30 years old and Lyn was 26, so we didn't have a clue. Of course Marsha never said that Joan Mitchell was a very severe alcoholic. She just told us to call late in the day because she doesn't get up early. So we called her late in the day and we made a appointment for a week or so later at 11:30 at night. So we arrived at her house around 11:30 and knocked on her door and she opened it and said, "what do you want?" And we were like "Um, well, we're here to do the interview with you." She said "I never made an appointment with you to do an interview." Then an odd thing happened because there was a woman upstairs who was yelling in the background "Joan I remember when you made this appointment!" So, Joan said "Alright, come on up." And we went up and we were terrified. Lyn had prepared to do the interview and I was going to do the camera work. And she took one look at Joan Mitchell and said to me, "You do the interview, she likes you better." I said "I cant do it. I didn't prepare to do it." She said " She likes you because you are deaf and her mother was deaf." So, somehow at the last minute all the questions were thrown to me and I had to figure out how to manage the situation in a very short time. So that's how we started.

#### criticalartware: What were your initial concerns?

Kate Horsfield: We were really just interested in what women thought about their own work and how they managed to keep doing their work with the odds so much against them. We only interested in women artists in the beginning.That's all we did. Right after we started, in spring of '74, we

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decided to apply to graduate school a The School of the Art Institute of Chicago. Both of us were rejected, Lyn was rejected from sculpture and I was rejected from painting which created a dilemma. At the time the school had a brand new video department. It was only two years old and the man who was the head of the department was very much a radical so we appealed to him. We said, "We want to do video." And he said ok and accepted us into his department. It was kind of like a Trojan Horse in a sence, because we weren't really thinking about being video artists. We were the two weirdoes of the department because we weren't into tools, we weren't interested in technology, we weren't interested in video art. We were just interested in doing our interviews.

criticalartware: Can you describe the community at the time ?

Kate Horsfield: The department at The School of the Art Institute of Chicago was a leading department in terms of tool building, not only because Dan Sandin was in Chicago, but there was a very close relationship between Sandin and Phil Morton. There were a lot of exchanges between students at UIC and The School of the Art Institute of Chicago, it was like a small community with everybody working together.

criticalartware: Did it take long, while entering the program, to find a way for you and Lyn to work in a way that broke down the initial barriers or did they remain?

Kate Horsfield: It was an interesting department; it was very small. Everything was new, I mean in the world of video. You could count it, maybe 100 people tops in the 70's, maybe that's too many, and that's a national number. It was an unformed area; everything was new. There was no script to follow like there was in film production or in painting. So, it was very loose and very connected to the ideas of the counter culture. We were all interested in alternate mind spaces. Whether it was Gene Youngblood or Buckminster Fuller or whatever, we were interested in creating a new way to look at the world and that included a spiritual perspective.

criticalartware: That ties into some of the concerns that Radical Software had about cybernetics and the remapping of consciousness.

Kate Horsfield: Absolutely, those things went totally together. criticalartware: For the first time you had ways of looking at yourself that were unpredictable, and you hadn't had that before.

Kate Horsfield: Totally, the hardware, the PortaPacks were, basically, used to create a record of the counter culture. Don't forget that this was an era when there was a whole generation that thought it was going to make dramatic social change. The appearance of the PortaPack in the middle of this was confirmation that, finally, the tools had arrived that would help us create a new consciousness for everybody. It was not just political; it was also spiritual. I think what was really interesting for me, was the tiny community that was involved with video. There was something enormously gratifying about being a part of such a very small group of people, all of who, were a part of creating something new.

criticalartware: How was work distributed or seen? How did the early festivals begin?

Kate Horsfield: The only way you were able to see anybody's work wasn't through festivals. There weren't any festivals then, it was through what everybody called "bicycling." Somebody would send Phil Morton a tape and he would invite everybody over to his house to look at it.

criticalartware: How did funding change the situation?

Kate Horsfield: The first big funding shift for video that had a huge impact

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was in 1970, when the New York State Council for the Arts somehow got a windfall of some huge amount of money that they didn't know what to do with. So, they started funding video as an artform. That was a very significant event because, A. it validated it as an artform and B. it encouraged artists to keep doing it because there was money available for production. I think that was one of the most important events in the 70's. Then things started to pick up, once NYSCA did it, then the National Endowment for the Arts did it and then other state councils did it. It was an era of building blocks. All the little pieces started to fall together to make it possible for people to continue to do their own work in video.

criticalartware: How did the Video Data Bank begin?

Kate Horsfield: In order to tell the story, we have to back up and tell you what the Video Data Band actually was. It already existed and I think it probably started in 1972. When visiting artists or thinkers came through the school recorded interviews with them. And so, all of the tapes were being kept in a small collection called: the Video Data Bank. What that was at the time was a wooden box, built out of plywood between video and the performance space. Inside it, it had red carpet, a pillow, a playback deck, a monitor, a light and a lock on the door. The Video Data Bank was a funny little entity because it was used for all kinds of things, I won't go into detail. Students would also go in there to view tapes. My date of employment was September 1st, 1976. The collection was sitting in a stack, we had a little room that was 9'x12' located in the new library. We walked in a looked at it and thought, "Uh, where are we going to work?" We looked around and there were tapes on the floor. Nobody had thought about where we were going to sit or how we would make a telephone call. So, we went to the librarian and told her that we needed a workspace. She said that they didn't have one, the only thing they had was a closet that we could work in. It was a room for some kind of film editing machine and it was literally 2'x2'. We said, "ok, we'll take it," and we got them to put a telephone in there. Only one of us could sit in the office at a

time. That's how we started. We had, maybe, 200 tapes that were on 3/4" and we started from that point.

criticalartware: What are the issued that currently concern you, relative to archives and emerging technologies

Kate Horsfield: There is a really interesting junction, right now, between preservation and putting things on the web. If you look at Woody and Steina's web site, <http://www.artscilab.org/> it is awesome in terms of the preservation component and also the access component. Taking this 35 year history and making it accessible to a new generation via the web is really awesome. There are certain parts of that which are our goal for now. It is easy to preserve the work of famous artists because someone will always put up the money for that. When you get into the second/ third/ fourth tear, its not so easy. Everybody is worried about the work produced in the 80's. We somehow know that we'll get the money for the work done in the 70's. Will we get it for the 80's? I'm not sure, so, we have to do that. We have all this web based stuff that is surrounding and spreading across the world that has created a new model of presentation with no cost what so ever. While we are all so busy setting up our web streaming servers to offer something for nothing, in the art world they are trying desperately to try to hold on to a commodity system. Hollywood is trying desperately to hold back the technology so that people will not be downloading films. It's a very interesting struggle that's not surrounding just video but all of technology. Technology can now deliver anything for free; but do we want it to and how are we going to manage it? It is really fascinating, and it all started in the 70's. It started because, at that point, artists wanted to get out of the commodity system. There were a whole group of people who thought, "I don't want to make paintings because paintings end up above rich people's dining room tables, and that's not how I want to spend my life." And so, that was the whole inception behind making video or performances to start with. The circle has completed itself, but not totally, I am sure it will shift back again.

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criticalartware: What precedents were set by the Video Art movement?

Kate Horsfield: Video had a promise connected to it, it was a promise of looking at the world through a different perspective that was absolutely antitelevision. It was where people could discuss complex issues of identity and race and economics or experiment with radical visual forms, like Woody and Steina have. The radicality was at the center of it, weather it was political radicality or creating something extreme in terms of this visualization. In the 80's video tried to behave nicely so that it could be more popular, particularly among television viewers. That was a stepping stone into wanting an acceptability, where even video artists were trying to get rid of this radical history. There has always been this struggle. I think the most interesting thing about video is that it has always lived on a peripheral edge. It has always been an orphan. Periodically it is accepted by someone but later rejected because it is not quite right. A lot of interesting things can happen when you are right there on the edge, when you haven't been totally absorbed by anybody. Right now we are in an era where they are trying to dress it up and make it an art world forum. Who knows what will be next? We have no clue.

criticalartware: Can you discuss your role in terms of historicization?

Kate Horsfield: I talked about how galleries in 1995 were sort of reinventing video and stripping off the history. This was the reason I got involved with Surveying the First Decade. It was revenge, really. Maybe they can claim that there is no history, but there is a very rich history. So, I spent 5 years working on that project with Maria Troy, Deirdre Boyle and Chris Hill. It's a 17 hour VHS project that shows exactly what the history was, including all of the radicality of it. What is interesting about that, is that it has been a huge sales item. It wasn't the sales that I cared about. What I wanted was for every educator who was working with a younger generation of video artists to show them what the history was, to not let it totally disappear. As long as that project is circulating, it won't.

criticalartware: How will the Video Data Bank change with developing technologies?

Kate Horsfield: I see streaming as kind of an electronic equivalent of the Video Data Bank. It gives us an opportunity to use both the interviews and artist work. Since we make money off distributing artists' work and our interviews. We can only use parts of it. The reason for doing it is because we want to stay abreast of technology in the sense that we are hoping in 5 years all of our clients will be downloading files and we won't be shipping. The whole system of bicycling tapes will have gone through a whole process and will end up as an electronic click. We are hoping that is going to happen. Video streaming is extremely interesting to me. In a way, I wish I had more time to work on it myself and to have more staff on it because it is amazing what can be done. I think the DSL thing didn't turn out to be what everyone thought it was going to be. That was going to be our new audience, people who were surfing at home looking for interesting/ strange things to look at. This is another revolution that's not going to pan out exactly how we expected. Probably the same people who will use our streaming will be the same people who buy our stuff. It's really fun to experiment with because the possibilities are so extraordinary.

criticalartware: How do you see these current possibilities relating to theinitial promise of video?

Kate Horsfield: Its interesting when you read all of the historical documents, to see how many people understood digital technology in the 70's. There were a lot of them; they could see it coming. And I think that is the final step and I am happy to still be here working on this. When you heard them conceptualize it in the 70's you would think that it was totally visionary stuff that would never happen. When you see it rolling up as a possibility you can't

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help but be excited by seeing the different ways of plugging into it and making it happen. That's where we are at this moment, you know, with the dot dot dot. What will happen next?

Kate Horsfield

interviewed by criticalartware coreDevelopers: jonCates and Blithe Riley @ the Video Data Bank @ The School of the Art Institute of Chicago http://www.vdb.org CHI IL .US 2002.06.26

video edit by: jon.satrom ++ jonCates interview transcript by: jon.satrom http://www.criticalartware.net

this criticalartware interview is a shared cultural resource released under Creative Commons Attribution-NonCommercial-ShareAlike version 2.0 http://creativecommons.org/licenses/by-nc-sa/2.0/ DAN SANDIN INTERVIEWED BY CRITICALARTWARE (2003)

Dan Sandin of the Electronic Visualization Lab @ the University of Illinois at Chicago http://www.Electronics Visualization Lab.uic.edu/

since the late 1960's Dan Sandin has developed artware systems integrating digitial and analog computers, customized circuits, home{brewed|built}-hardware, video games + virtualReality.

Sandin, a professor @ the University of Illinois at Chicago, founded the Electronic Visualization Lab (Electronics Visualization Lab), created the Sandin Image Processor (Image Processor), developed the CAVE virtual reality (VR) system + various other [artware systems/technologies/projects/pieces]. Dan Sandin's Image Processor (built from 1971 - 1973) offered artists unprecedented abilities to [create/control/affect/transform] video + audio data, enabling live audio-video performances that literally set the stage for current praxis. open sourcing the plans for the Image Processor as an [artware/system/toolset] Dan Sandin + Phil Morton created The Distribution Religion. as a predecessor to the open source movement, this approach allowed artists to engage with these systems + continues to [interest/inspire] [artisits/developers]. honoring The Distribution Religion, the innovative hystory of the Image Processor + addressing the vibrant potential of these systems criticalartware archived The Distribution Religion, converted the documents to a single PDF file + now releases these plans to the {critical} artware} community.

criticalartware interviews Dan Sandin, [discussing/illuminating] the community + development of the early moments of video art in Chicago, artware, performing live audio-video, virtual reality, open source movements, righteous NTSC outputs, the video revolution + the changes ++ similarities that [bridge/differentiate] then && now. criticalartware freely offers this interview as {text|audio|video} data to be downloaded via the interweb +

exchanged as shared cultural resources. (bensyverson, jon.satrom ++ jonCates)

Dan Sandin Electronic Visualization Lab University of Illinois at Chicago

interviewed by criticalartware 2003.04.09

1969.BAK

Dan Sandin: So I've been asked to talk about the kind of history of the analog image processor and how it began, but i want to kinda backup one step and talk about an event i did in 1969 with Myron Krueger who wrote Artificial Reality and Jerry Erdman. It was a computer controlled environment where there were pressure pads in the floor that sensed the positions of people, there was a PDP-12, which was a computer, a laboratory instrument computer, designed to monitor and control laboratory instruments, hence it had all this analog IO ([input/output]). That analog IO was used to sense the positions of people and control light displays that were based on phosphors which were charged up and sent around the room in tubes. And also to control a Moog Model 2 synthesizer to control the sound environment.

## EARLY VIDEO ART COMMUNITY

Dan Sandin: It's a little hard to say but certainly a number like 20 or so would miss people. Now at the time, in the early 70s, there really was a video revolution going on and alot of people doing video art and video politics. Alot of that had to do with the realization that T.V. was the dominant communication media of the time, and even more so today. Having access to the means of production for a variety of goals was revolutionary. There were video groups that were interested primarily in community organization and political speech. There were other groups like the one here at the UIC and The School of the Art Institute of Chicago who were interested in personally expressive art or personal transformation through technology, which was really our idea of it. This was a nation wide community. Chicago was perhaps uniquely technical in the sense that we were very interested in developing these tools for the abstraction of video and doing nonstandard special effects on them.

# SHARING ++ ORGANIZING

Dan Sandin: We used to show up at this bar and play tapes. Each of the organizations would organize several video events of various kinds per year. You put 3 or 4 organizations together and that ends up a video event a month to go to and see tapes and meet your friends. It was a very cooperative group, a very sharing group. It kind of had to be because although the equipment in a sense was personally affordable, it was like the cost of automobile for an editing tape recording, and a portapak was like \$1000.00. I think back then Volkswagens cost \$1200.00 or something like that. You indeed could afford one of the instruments but if you wanted to have a critical mass of instruments, sharing was the operative mechanism so you could do the complete production process.

# SANDIN IMAGE PROCESSOR

Dan Sandin: I had been working in this kind of technological art area, so my visual background was in photography; my academic background was in physics. I used to do lots of false color photography, photography that was based on color processing techniques that produced false colors and light modulators like bent pieces of plexiglass, like lightshow in reverse. The same technology is used in lightshows of the same period. It occurred to me, after my experience with the Moog Model 2, which is a modular patch

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programmable analog sound synthesizer, it occurred to me in a discussion i had with Ross Dobson, we were hanging around and said 'What would it mean to do the equivalent of a Moog Model 2'?A little bit of thinking made us realize that gains would be like fading in and out, multiplication would be like keying and addition would be like mixing sounds together is like superimposition. So that if one simply took a Moog Model 2 and increased its bandwidth to handle video signals, you would have a very significant processing instrument. Now at the time, the video revolution hadn't happened yet, so i viewed this as largely a still image processing instrument because i could take pictures with my 35mm camera and i could scan them in a slide scanner effectively and then process those images and then rephotograph the results. That was the context for the original idea.

I left the University of Wisconsin and moved here to the University of Illinois. This was 1969; i was hired to bring computers into the art curriculum of the University of Illinois at Chicago in 1969. Of course there are still people debating whether or not that should be done. After i got here i got interested in video. Part of what interested me was a film called "On/Off" which was called a video film in that it was essentially photographed off of a T.V. screen where the T.V. was being modified in various ways. That struck me. It was a very kinetic and wonderful kind of experience. When the Rover 2 happened with video it occurred to me i wouldn't have to do this in a T.V. studio or with stills. I could do it with moving images. An individual or a small institution or a group of people could actually own the tools of production, which wasn't the case before. So then i decided to build the Image Processor as a realtime video processing instrument.

The Moog Model 2 had the control signals were 0 to 10 volts and they were separate form the audio signals which were more or less standard 1 volt line levels. In the analog Image Processor control signals and video signals were intercompatible so that any T.V. signal could become a control signal.

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I basically built the first version and Phil Morton, in fact had been aware of this as i was building the first version, as it became done he said i want to build a copy. I said you definitely have permission to build a copy, but i actually don't know if you can build a copy. I didn't want t be insulting, but i didnt really know what it took, because you're so immersed in this stuff, in designing and building it, its hard to figure out what resources are actually necessary to do a copy. We talked about it a little bit and he built the first copy. As part of that process of building the first copy we did a documentation that was sufficient so that other people could copy it. It took a year's worth of Friday afternoons where I'd show up at Phil's house and we'd work on his Image Processor for awhile and he'd produce part of the documentation and I'd work on it. We developed a format and a way of doing it. I wont say it was intensive work every Friday afternoon but it took a year of getting together and fiddling at it. By the end of that we actually accomplished a document which enabled a large number of people. In a period of a few years, 20 or so copies of the Image Processor were built. Almost all of them by individuals or small arts institutions. Really not by electronic circuit nerds, in general, but by people who wanted to have access to the power of the tools and were willing to learn what they had to learn to do it. Part of the structure was the first thing they did was to build their test instruments from heath kits.

I arranged for a printed circuit card company to keep the masters and people could order the printed circuit cards from them. What i sent out was a list of all the components and where to get them. And you could literally xerox these things and send them off to Newark and Allied and get the components and then start building.

I literally had images of what i wanted to do with the Image Processor I had these things and they were based on educating myself in these photographic process of optical processing stuff and in my own experience. I worked with a company called Lighting Systems Design, LSD. And it had cards with the

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letters LSD glowed in black light. And we did light shows and i did it for several years. It was great. I really enjoyed it. There are these kinds of lifestyle issues of being able to involve yourself in your art at all sorts of levels. Tom and I did the first technical presentation at the first Siggraph. It was called "Computer Graphics as a Way of Life". We really meant it that way. We felt that these were tools that could transform your life. You could use it in education. You could use it in the expression of your art. You could use it in the creation of tools. It was a technology that could effect an enormous range of activities. And that's of course true.

We used to talk about doing the video was a personally transforming process and the video tape was the exhaust. In a sense, I'm still interested in doing that. So you have these visions and you have to extend the tools to execute these visions. And so you do. You do and then the tools extended themselves as only a step in the process. And then of course the process of producing the next vision informs you about doing the tools. And so the practitionertoolmaker is an important aspect of the game versus a specialist who makes tools and then a user community who has a relatively peripheral influence on those tools. And one of the things that is really wrong with the essentially computer community is that the development of software primarily is for processes that can make alot of money. And artists by and large have bought into the idea of using these tools. So they are only using tools and modalities that were designed for an environment to make lots of money. So the purpose of these tools and the way they're structured are quite different. Not that you can't do interesting things with them and there hasn't been great art made with them and stuff, but from my own personal point of view that strikes me as like a serious problem. The artists, in order to really be advanced, have to be technically competent enough to be able to expand, subvert, change and create their own tools. Of course, that is going on. I mean, that's not gone. There are still a significant thread of that and a significant thread in Chicago here that i see pop up every once in awhile. And the open source movement... you go to art conferences that are kind of art

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cross tech conferences, like Version>03 that i was just at in Chicago, and the artists and the technologists have a continuing discussion about open source and ways to kind of change that structure from the artists as consumers of stuff that was meant for other purposes to artists as participants and creators in the technological form itself.

### LEARNING ++ BUILDING

Dan Sandin: At that time, everybody had to be their own video technician because it wasn't specialized. All of the video community probably had a deeper understanding of video than the modern video student does, partially because of the necessity of it. So i would say the entire community was technically savvy. As i mentioned, most of the people that built this weren't really part of lets say the hobbyist electronics community. But were really people who were interested in video and art and learned the electronics or had friends who were crossovers in some sense and worked together. So in some sense, it is very much like the open source development that we have today in software. I mean, i made these plans available and for five bucks i would send somebody a copy and five bucks roughly covered xeroxing and mailing costs. There were a bunch of new modules developed by people at other sites. Dick Sipple in Cleveland did a wonderful job of building their copy, physically put together much better than mine, and also added several important modules. And there were a number of people around the country that developed new modules and improvements on modules. They would send me the plans in more or less the same format. And i would kind of add it into the stack and send them out. I remember i sent out something with the original thing saying that you know i suppose that if somebody made alot of money with this i might want some of it back. And then that didn't feel quite so comfortable. So later on i changed it to i want a good video tape from every Image Processor that gets copied. That was even too much for people. Not so much that they were unwilling to do it, but they took it to seriously! I just wanted a video tape from them, but they thought it had to be a magnum

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opus. I even dropped that. But the important part was it kind of propelled itself. I was not put into managing a company or personally helping every Image Processor builder. The fact that people had already built Image Processors could help other people build Image Processors kept me from immediately being put in a maintenance mode or a management mode. So it was very successful.

I was in a unique position in that i was a professor. As far as i was concerned, i was paid by the state to create and disseminate information so i did. That was fine with me. I didn't feel i needed economic support back. Other people did strategies like trying to start a company and try and sell these things. Not so much with the motivation of making money, although they would like to support themselves, not like the dot com or anything, where they expected to get rich over it, but as a way to make these things available to people. Bill Etra and Steve Rutt did the Rutt-Etra Synthesizer, which was an analog synthesizer very similar to the Image Processor in it's electronic structure, although it was scan processor. It primarily operated with the geometry of the image and my instrument was a video signal processor, essentially a grey value or color processor and primarily played with the grey value domain and not the geometry of the image. The two together made great instruments. He decided the best way to distribute was to make this company and sell these things. And so we had this ongoing contest as to who would be the most successful at distributing stuff. I won by i think 2 instruments or something like that. And he actually worked alot harder at it than i did.

## **REALTIME FUNCTIONS**

Dan Sandin: The idea of actually copying the instrument strikes me as insane. I mean, its a 25, what was it... 1970s... 30 year old creature, 30 year old electronic design, so nobody should be copying that stuff. There are enough pieces around so that museums should just take the original ones and put them together. There are a number of functioning Image Processors still out there and people are still using them. What i would think you would do now is do it in software. In other words you would take some of these high speed processing cards that are associated with modern personal computers and program it. To me, that would be the rational thing to do.

One of the things about the Image Processor that makes it appealing is that modern digital tools are really much clumsier than the Image Processor was. Much less tactile. Much less spatial. There you could do 3 or 4 things at once and on a modern computer you would have to do 25 mouse actions to make 1 change. It's absurd. The human interface in that kind of creature and the ability to learn it like an instrument where it's physical distribution of space allows you to do things before you... muscle memory does them before you think of them. You just envision the conclusion and your hands do it. Its like, that's what happens when you play a musical instrument and that kind of relationship with the Image Processor was indeed very possible. And there were virtuosos, people who could do completely amazing things.

So the way you developed a piece was through a process of improvisation and rehearsal. I used to make this joke that... there were always these people talking about video art and i remember giving my tapes to some curator and they left the door and i said "you know, that person has seen less video art than Phil Morton rehearses for 1 piece." and so it was very much that kind of process of producing. It was very very rich in feedback and very rich in kind of self education. You would just kinda put yourself into this instrument and mess around and you would discover stuff and you would learn how to get back there and then you would learn how to sequence those amazing places into some kind of structure.

Video editing was actually a substantial problem at the time and most pieces that i did and Phil Morton did in an important sense were not edited. They

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were, to a large extent, live performances maybe chunked together in an edit of some sort. You couldn't... there was no way you could get 2 timebase correctors and 2 tape recorders into the same room. So mixing was out of the question. Now cuts, that was possible. Mixing could be done live with the Image Processor but could not be done in post-production.

# DIGITAL SYSTEMS

Dan Sandin: I'm not really very familiar with it. I mean, I've seen a couple of video performances where people seem to be able to make these things work. I am familiar with the kind of tools that are available in post-production and they're of course the kind i described but then again you are in a post-production phase. So that's not disabling, the fact that you can get to the same place and exactly the same effect at exactly time that you typed in has got real advantages. And doesn't require, in a sense, the kind of musical... its more like composing than it is like playing an instrument. There are real advantages to that kind of approach.

There are live performance instruments. I've seen a couple and they kind of seem to work well. But, based on the email lists that i chat with about this stuff, i think that they are not really at the state of evolution that the analog stuff was in the seventies. And they would like to be. And could be. I think it's certainly possible now to create an instrument that is vastly more powerful and just as interactive and live as the analog Image Processor With digital tools. You just aren't going to do it by stringing a bunch of tools together that were designed for other purposes. It would have to be like a system level ground up design.

## VIRTUAL REALITY

Dan Sandin: One of the things that's nice about VR, is that it doesn't have a WIMP interface. "Windows, Mice and Pointers" for those who haven't heard

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the term before. Not at all pejorative. I'm using more and more video materials, video acquired materials, in my work because the technology is able to be able handle those better and better. Essentially displaying... to do what i want to do i have to display like 2000 by 500 texture maps at a 30 frames a second and that stretches the Onyx system. However, Linux boxes can probably do it. Just haven't gotten the software yet to work on them.

But at some point, i have some affection to go back and do it. I would do a spatially oriented interface. I would use a bunch of musical instrument style midi controls for it and assign functions and you know where they are and you've got lots of knobs and buttons and keys and body sensors and a whole range of input stuff that is very different than what was designed to be the computer model of the office.

### **REALTIME HYSTORIES**

Dan Sandin: One of the things that i think may not be clearly understood, but you can see from 1 of those tapes, is that there is video and computer graphics that Tom DeFanti and i put together very clearly in the early 70's. Tom DeFanti came in 1973 with an instrument called the GRASS system, which stands for Graphic Symbiosis System. It was a realtime computer graphics system based on calligraphic displays. These are displays that instead of creating a raster in a T.V. format but with higher scan rates; it actually drew things on a phosphor screen and then would redraw them on a phosphor screen. Hence the term calligraphic. It was a realtime instrument. You would draw it once and it would fade away. It was as easy to change every frame, as it was to draw a frame. So it structurally was a realtime medium. The device that did it, the equivalent of the graphics card, was actually an analog computer, the Cadillac of its time. It was equally as good as these Onyxes were 10 years ago. We would actually point the TV camera towards these display screen and then perform on that instrument in realtime, as a combination. So computer graphics and video had actually

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been together thoroughly in my work for a long time.

The switch over from... there were a bunch of them. First of all there were calligraphic displays and then they became technically too hard to maintain and then the raster graphics came in as the model. But the raster graphics has this problem of stopping computer kinetics, motion, computer graphics and everything became computer animation because memories weren't big enough and computers weren't fast enough to create any of this stuff in realtime. Computer graphics stopped moving. I stopped being interested. But there was one segment of the community where things still moved and that was video games. Now there were little space roaches moving around on the screen, not the whole screen, little pieces of the screen could move around because computers were up to that. Tom and I worked with video game manufacturers and essentially designed equipment for artists that were based on the video game technology of the time. I designed these computers to have righteous NTSC video output so that these could be recorded and these were meant for cable TV markets or maybe small TV stations. It was never a great economic success but it was, like the analog Image Processor it had a large community of very committed users that produced alot of great work with these instruments.

Then in about 1987 or so, when the personal IRIS came out, the kind of geometry engine machine that was designed to do realtime computer graphics again, i remember looking at the screen and saying "Oh my god, this stuff moves. I could be interested in this again." i started looking at that in a serious way. I had diverted into animation and the video game stuff and into a couple of other 3D mediums like PHSColograms and stuff. Basically i was out of the motion graphics business because animation was too much like work. But then this stuff moved so i started to focus that energy. In 1990 basically i kinda decided that virtual reality was really the interesting thing to do. And i went around and talked to the various Virtual Reality inventors and creators. Then Tom and I sat around deciding how to do it different. And we

did. A few years later the CAVE popped out which became one of the dominant forms of Virtual Reality.

### NAMING.SYS

Dan Sandin: Coming to the name we had other things like Pocket Cathedral, Interactive Mosque and Video Shrine. All these names were part of this process... and the it kinda feels like a cave and all of that stuff...

Yggdrasil is the tree of life in Norse mythology. Everybody calls it "YG". The creator Dave Pape thinks it should be called "ygg". He never intended it to be an acronym, YG. It's supposed to be "Ygg". But he did a system before that called XP so that it was very hard for the community to switch over to "Ygg". That's entirely Dave's. Dave was a graduate student here and YG, excuse me "Ygg", is his thesis. There is a very significant community of people operating with "Ygg" around the world. It is a scripting language. You have to understand the idea of a scene graph and understand hierarchical relationships. You can write your own nodes and extend the capabilities.

## ARTWORLDS ++ ARTWARES

Dan Sandin: Distributing this technology before the art establishment is ready to deal with it is a constant problem. Although now the art establishment can deal with the kind of work we were doing in the 70's completely competently. It really took them 20 or 30 years to figure out that it's relevant. It certainly is the case that the stuff that i did 20 to 30 years ago is shown in museums today much much more frequently than the work I've done in the last decade. By the time the museums were ready to deal with it, i was on to other things. In Europe and Japan there is a much better understanding of media arts as central to art production in now the 21rst century. They have real museums. The Ars Electronica center is a real live multi-floor museum that was captured by some very visionary people. It was

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going to be a modern art museum but it became a media oriented museum and it's really out there. And there's a couple of others in Germany and there's the ICC in Tokyo. These things have like permanent installations. They have traveling shows. The United States has been particularly retrograde and continues to be kind of backwards on this stuff. It just means that the United States is going to lose it's preeminence in the artworld that it has been able to maintain for the last number of years by having been forward looking at the beginning of the century. And now it isn't.

But there are always opportunities. Siggraph was and is a continuing opportunity. ISEA is a good opportunity. There are these episodic shows. And now LA County Museum and a couple of other museums are doing a show a year in this area. They tend to still play it pretty safe and are connecting up with the older versions of this stuff. But there is progress on it. By and large the artworld is irrelevant to these kinds of technologies I'm talking about, to these kinds of communications. It has chosen to be irrelevant and is staying irrelevant and is just no longer a significant player in the game. It could be again but you look at things like video tape... they really have not been able to deal with video tape. In the 70's most of the Video Art was on video tape. What has survived is installations. And that makes sense. The museum actually has a place there. It has a physical place you can setup these things. People come in and look at them. They are meant to kind of walk by and stare at as long as you want. It kind of fits what the museum can do. You can imagine that museums have things that are like the print room that have some of the museums, like the Walker, have excellent archives of tapes. If there is a tape, they own it, you want to see you can show up and look at it. And that's great. And that's an important role. But of course, all of this stuff should be on the web. People should be able to view it at various quality levels and either pay for or not depending on what models you want to try distribution on. So some of this stuff should be on this website that is next to me. Maybe there is a picture of the Image Processor over here maybe and I don't know, maybe a picture of the GRASS machine here. Who knows...

Dan Sandin interviewed by criticalartware coreDevelopers: bensyverson, jon.satrom ++ jonCates @ the Electronic Visualization Lab @ the University of Illinois at Chicago http://www.Electronics Visualization Lab.uic.edu/ CHI IL .US 2003.04.09

video edit by criticalartware coreDevelopers: bensyverson, jon.satrom ++ jonCates

http://www.criticalartware.net

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Multiple histories are great; the problem you have is when there's no history.

•••

You know, there were no programs at that time, so everybody thought: well to do anything with computers, you learn to program. And that's what all of us started doing.

...

You are at one with not only the technological environment but the culture, at least at that moment.

• • •

I love that space of 'OK, where are we? And how does gravity work? What's the physics of the situation.' And this is what everybody was doing in the beginning. 'What is this? Oh, look! Somebody did this!' That opens a whole new way of thinking about this.

...

Multiple histories are great; the problem you have is when there's no history. The discourse on, what do you want to call it, electronic art, digital art, didn't really start until 1990. Before that it was art history majors who had done their thesis on an abstract expressionist painter, deciding that their niche was going to be writing about video art. And then they thought they had a handle on video and then it started going digital. So that got really confusing. You would get these articles that were reportage, they weren't any kind of real analysis or critical insight because they just weren't makers themselves. Dan

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Sandin said, 'Computer art is unusual because you can't understand it just by looking at it.'

One of the only lone voices during this time was Gene Youngblood, who was very enthusiastic - some people thought he was overly-enthusiastic and not critical enough. But the valuable thing that Gene was doing was connecting it to things. He was connecting it to economics, to political dynamics. And so it wasn't just this weird novelty - it wasn't this new form of painting. It was something that meant something in terms of the culture. At some point, the culture had absorbed enough about digital technology, to where they had enough of that stuff you didn't get just by looking at it, to understand it. They were in a position to apprehend what was going on. In the beginning they were just looking at it, and there wasn't much there.

I went on a campaign in the early '80s when I finally sort of dropped away video, and by '82, I produced my first completely digital animated work. I did a lecture at the Museum of Modern Art in New York in '86, where I said that interactivity was idiomatic to the digital medium, and that it was really the only way in which anybody was going to understand a digital work of art; that they had to engage it somehow. I was very plugged into the idea of interactive micro-worlds.

So I was interested in the idea of interactive micro-worlds where you would create an environment that was interactive. A viewer was turned into a player. They would interact with the work, and thereby come to know the territory of the work. The two main interactive installations I did, 'Visgame' in '85, 'Warp it Out' in '82, provided you with this environment - a simple menu and you would create something out of the possibilities that were there. It was the idea of subcreation. An artist would create an environment and a player would subcreate within it, and comprehend something about it.

So about 1990, you've got people who have had some experience in this, and

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they could talk about it with some legibility. Much of the history of the early video experimentation is completely gone. It's just gone. And the early computer art is just not there. People would write articles about you work in video game magazines. The flipside of this was that it was this incredible kind of novelty; anytime you did an event, the television news people would come, and the headline was 'Artists do television!' or 'These people are making art with computers!' Imagine...

So it was this incredibly exotic thing and you would rate just below a hideous automobile accident. People would come and we would talk about how to set things up in events and installations so that the television news camera lights wouldn't completely fade out the scene. We developed a thing where when we would set stuff up we would always have a line level feed for audio and video out. We'd say to the camera guy, 'OK, here you can just plug this into your camera, you don't need to point your camera at the monitor, you can just take this.' There was one camera broadcast camera guy who didn't know that he had line in to his color camera. Artists are alert, you would figure this out, so we'd be there ready with a line level feed for them.

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You know, at that time the thing about video, that decade of video, during the '70s, almost into the early '80s (but really the '70s) was a time when the avantgarde, whoever those were at the time, had a decade with video before anybody else nailed down how to make it proprietary, how to make it cheaply manufacturable, how to interface it - and by video I mean portable, not the big drive-it-around studio equipment. So there was really a lot of time to work on things, to really investigate, to explore. What is the grammar? The vocabulary? The syntax of this new area? They had a really meaningful period of time to map that out. Today, it lasts about 15 minutes. The corporate world has learned very well how to deal with this. You don't wait

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until you've got it perfect - you get it out there. Apple showed everybody this. You distribute the hell out of it in a simplified form, and then you see what people do with it. And then you nail it down and make it proprietary.

There was a whole network of people all over - and it was during this decade or a little bit more where video was firmly in the hands of the avantgarde. Technologically, people doing independent video had a territory as their content that the mainstream broadcast video realm was precluded from grasping because they were stuck in studios. So the whole rest of the world belonged to everybody who was doing any form of independent or artistic video. You felt like you were on new planet that was uninhabited. Because the previous inhabitants were stuck in studios. They hadn't gotten out.

In 1978 Barbara London came from the Museum of Modern Art; she made this safari to the interior, to see what was happening with Chicago video, and acquired a number of pieces and my tape, 'Montana', which is about a two and a half minute ZGRASS animation piece. It's somewhere in the vault of the Museum of Modern Art. Chicago had a sort of appropriately constructivist approach to video. I remember sitting in critiques where people say, 'Well, if you haven't really built your video camera, are you really a valid video artist?' There were people who got to that extreme.

I went to Chicago to go to graduate school, and was admitted to the ceramics/sculpture program. I'd always done photography, and my father was a photographer, and so that's probably my first media type of experience. You can see that in the early video work that I did. I have a good lens in my brain. As soon as I got there, I started taking filmmaking classes. Robert Fulton was a visiting filmmaker and he was taking the place of the person who was the permanent faculty member there, who was very orthodox filmmaker. Very narrow. Robert Fulton was very expansive. He was open to films about anything, so that was really great. At the end of that year I moved, and I met a neighbor of mine, named Phil Morton, who was the head

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of the video area at The School of the Art Institute of Chicago. And I never met him - being at school I never ran into him. I became interested in what he was doing. We basically fell in love and then went off for our first of a number of summers doing video traveling in his van out to the mountain west. I was from the west, so that worked for me.

I started moving into video - that year I did a video piece that was was on open reel black and white, where you had to mark the tape and then back it up and then do these running edits on the fly. So that was my beginning. So it was kind of a photography, filmmaking video. Doing film I had bought a little regular 8 black and white camera, got myself a light meter, a little editing - I was ready to go. And I was kind of the filmic equivalent of video at that time. Very basic, very simple. Then I took my first video class and thought, 'Well, you can know more, earlier, so I'll switch to this.' Plus, the hard ass guy had come back into running the film department. I knew it wasn't going to work, so i was grateful for the terrific start I got with film in terms of moving imagery and starting to think about all of that and then sailed off into video.

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I'm impressed that any information even remains of that. Basically, the Electronic Visualization Center - and Phil decided he wanted to create this after Tom and Dan had created the Electronic Visualization Laboratory (the Electronics Visualization Lab, which still survives in a very different form than it was then). That was before CIRCLE was a research university. And I said, 'Well, they've got the Electronics Visualization Lab, where going to be the EVC? Why don't we come up with a different name?' No, it had to be the EVC. So basically, the EVC was just really a front for Phil and I doing whatever we were going to do. I think we got one grant. Phil was really good at making people feel like what they were doing was really important, and so he would give things good names. We did a number of events; I did an event at the editing center, which was the state of two way, it was on two way television based on all this research I'd been doing.

We had an account in The School of the Art Institute of Chicago that some of our donations and grants came into. Never amounted to very much, but it made us look kind of official. So that was it; it was a front, really. It was Phil and I, doing our things, and I think the tour that we did in '79, where we rented the GMC motor home, we did a week long workshop at Sacramento State, and we did visiting artist gigs and workshops. At that time, largely supported by those big funders - the Rockefeller Foundation and the Ford Foundation - there were media centers all over the country showing independent video, and they were sort of the early venue for digital work for Image Processing stuff and then digital work as it first came out. We did something in California, we did something in Santa Fe, New Mexico, various places; so I think that was an Electronic Visualization Center tour.

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It's a little hard with Phil just dying recently. Meeting Phil changed my life forever. He opened up a door to artistic activity that completely changed my life. I had the brains and energy to go 'Ah! This is a great door! I'm going through this! I am not looking back...' There was a whole batch of us that did that. Some came in a little later when it was ZGRASS, some came in with the Image Processor, but the people who went, 'I see the door, I am going through it,' their lives were changed forever. Because of that terrific early start, they've been able to have wonderful paths.

He was wired in a very special fashion that made him more creative than 99 percent of the population. There were times where he was too creative, for people just to handle. He was that kind of a person that could come at something diagonally, and just screw up everybody's thinking. They thought, 'We're doing this!' And then Phil would come in and then they'd go, 'Oh no, maybe that's - what am I doing?' So he was really good that way. But as I said

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before, some people really made that transition into the digital realm into symbolic means of control compared to tactile control languages. Phil didn't really make the digital gap. I thought he did the most beautiful image processing work of anyone that I had seen. But he just didn't sync with digital realms of control. He couldn't get beyond the fact that an error could be fatal, that an error could lose a file. He thought that was cruel. There was something about it that just didn't resonate with him. So he kind of backed off and stayed with the analog, and then just became really lens oriented after being really with his IP work. Very much about visual design. Not animation particularly, but about abstract and designed visuals, and then ended up being devoted to a fairly clean version of video, aiming his camera at the world. Gene Youngblood called him the poet hero of Chicago video, and I think he really was.

Phil Morton started the video area. I think in the early '70s he was originally hired there to teach painting and drawing. He found a portable video setup, one of the first ones ,Äì probably around 1970-71, something like that ,Äì he found it in a closet. Somebody from the Art Education program had gotten it on a grant. So his first video course was called something like, 'See yourself on television.' People would enroll for the course and he would set up the equipment, and they would record it and students could do anything in front of the camera that they wanted to do. They didn't touch the equipment, but they got to be on camera and then see themselves recorded. That was the class. Then he was sponsored to start an area ,Äì not a full department because, you know, new departments are threatening to existing departments. He was sponsored by Dean Roger Gillmore to get started this little area in video. And they started with black and white open reel video, and little portapacks. I think around '72, Dan Sandin and Tom DaFonte were both at CIRCLE. I think Tom arrived in '72. Dan ,Äì you undoubtedly know his background. from fine arts photography and then moving into video. I met Phil in the spring of 1976 and they already had one of their Electronic Visualization events; they got together and Phil had done 'General Motors'

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the year before. So they'd all been doing things for a few years, maybe three, four years, because Dan designed and built his Image Processor. But if you know Dan he is profoundly dyslexic. As he in his own words said, 'Give me a piece of paper paper and a pencil and I'll make a mess.' Phil undertook to build the first copy of the Image Processor and document it as he did so. Thats how the first generation of documentation for the IP was created. Phil was very meticulous and good at that kind of stuff.

I have one picture I want to show you that shows Dan and Phil together and Phil is dressed up as a cowboy and Dan has some kind of a pirate hat on. They both have long hair. They were not easily acceptable personalities because they had the independence of being academics. That was different than a lot of people. It's more hierarchical, automatically, but there is a context. You can do things, there are venues. There is a build in legibility for people doing artistic things there. In Chicago there was just nothing on the course created ,Äì what was it called? It was video something or other. It was a monthly gathering. She had a little office and she got equipment; it was her version of the Electronic Visualization Center. She was one of the top value television people. She created this little bubble. Everybody was creating bubbles, calling them something and trying to get grants. Then after that was the Center for New Television. In New York it's just a different setup. These three or four guys who had their rent payed through their academic roles so they could do just about anything they wanted to do, including mounting massive personal charisma campaigns.

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Phil was really famous at the time for copying everybody's work ,Äì he was always famous for copying people's tapes. There was that early counterculture [sense], and it's strong in the digital realm as well, that counterculture sense that information should be free. Now it's actually gaining momentum. Look at the open source software development

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movement. Look at Linux (a lot of people find fault in Linux but nevertheless), it's certainly got a lot farther than people thought at the time, and I am sure there are many that are threatened by it. Phil had an expression that was, 'Copy it right.' The idea was to make a faithful copy ,Äì take care of it, show it to people ,Äì and that justified making a copy of anything.

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The whole thing with the IP with people getting the plans, making copies, was also inherited when we all got into the Balley Arcade, and to a certain extent the ZGRASS machine. It was all one community with different special interests, there was the independent video...

TVTV, Äì Top Value Television, which is a loose coalition who all did independent video. They had a number of representatives in Chicago, and at the other end of the scale there were people doing image processing, abstract work with ZGRASS or the Image Processor. We had the image to journalist spectrum. Except Bob Snyder doing emu work; that was hybrid analog/digital instrument. Tom, and people he knew like Jay Fenton (later one of the founders of Macromedia)...we started knowing people who worked in video games. Jay Fenton was a video game programmer and worked for DNA, Dave Nutting Associates, which was a little company which did one of the first graphics board for Balley Midway Games (Atari did their graphics), Äi it was in the early mid 70s. Atari did their's, Balley Midway did their's, and it was DNA that did the one for Midway. We started knowing those people. Once they had this video game board, they thought maybe they could introduce a home machine. They had this brilliant strategy where they would give people a little game machine and you would use little tape cartridges. People would buy the unit, but then would start programming. That was the idea at that time. The first Apple machines that were sold in the early 80s had, on the fifth page of their documentation, explained parsing. Parsing is a fairly technical programming term, and they really thought people were going to

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learn to program in order to do their laundry list, record their memoirs...I don't know. There were no programs at that time. So everybody thought that to do anything with computers you learned to program. And thats what all of us started doing. Jay Fenton was hired to create a language interface to the Balley Arcade and to this game chipset that were used in the arcade games. It was called Tiny Basic, and it was basically a command language where you would say, "Box, x coordinate, y coordinate, this wide, this tall and this color." But you could say, "skip minus ones, skip minus tens," so you could do little loops. We all bought those and the first thing that anybody did to it was jeep a composite video out of that. All of a sudden we were doing video graphics and people were doing interactive things. Instead of learning the language of patch cables and knobs and dials, we started switching to a more symbolic language of programming. The were some of us, for instance myself, who really went for that. I have a pretty logical mind so that kind of interface was really terrific. Also the equipment was all owned and controlled by guys, though there were a few women that built lps. Mostly at that time, the gender-based power dynamic was that the guys had the hardware (there was Tom, Dan, Phil, Bob Snyder). There were a number of women who went, "Ah! There is this middle way, this engagement with this evolving medium, this seems to be an escalator thats going somewhere." For a while there was a hybrid thing, which you saw from some of my prints.