The Medium is the Medium: the Convergence of Video, Art and Television at WGBH (1969).

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Tufts University, 2001

SUBMITTED TO THE DEPARTMENT OF COMPARATIVE MEDIA STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN COMPARATIVE MEDIA STUDIES
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SEPTEMBER 2006

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"The Medium is the Medium: the Convergence of Video, Art and Television at WGBH (1969).

"The greatest service technology could do for art would be to enable the artist to reach a proliferating audience, perhaps through TV, or to create tools for some new monumental art that would bring art to as many men today as in the middle ages."[1]

Otto Piene

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AUGUST 2006

[1] Otto Piene, "Two Contributions to the Art and Science Muddle: A Report on a symposium on Art and Science held at the Massachusetts Institute of Technology, March 20-22, 1968," Artforum Vol. VII, Number 5, January 1969. p. 29.

INTRODUCTION

Video, *n.* "That which is displayed or to be displayed on a television screen or other cathode-ray tube; the signal corresponding to this."

Oxford English Dictionary, 2006.

On March 23rd 1969 Boston's public television station WGBH broadcast a program titled The Medium is the Medium. The program was a half-hour long compilation of short videos by six artists. The six pieces ranged from electronically manipulated imagery set to the music of the Beatles to an attempt at communication between four separate locations through audio-visual technology. As the narrator, David Oppenheim, the cultural executive producer for the Public Television Laboratory[2], intones at the beginning of the show, "what happens when artists explore television?" What happened was a program unlike anything seen before. The Medium is the Medium was the result of the pairing of artists with engineers. This pairing was the brainchild of the Rockefeller Foundation, which decided to bring these two together in what was the Artists-in-Television program. Founded in 1967 it gave seed grants to two public broadcasting stations, WGBH in Boston and KQED in San Francisco. These grants enabled the stations to begin residency programs matching artists with members of their production staffs. Several of the artists in the program had made films but most were coming to this type of time-based art work for the first time. The Artists-in Television

[2] The Public Broadcasting Laboratory was a live Sunday night magazine program created by the Ford Foundation in 1967. The Medium is the Medium was broadcast under its auspices.

program gave these artists the opportunity to expand their ideas into an art from involving television technologies. It offered those working in more traditional media the technology and expertise to try their hands at a nascent art form, video.

The show itself, comprising work completed at WGBH studios in the previous year, became a watershed moment in the history video art. It was the first nationally broadcast video art television program in the United States. As such it exposed this new art form to thousands and potentially millions[3] of people. The show also marked the beginning of a long slow evolution and acceptance of video as an artistic medium. Within two months of the shows broadcast, the exhibition "TV as a Creative Medium" opened at the Howard Wise Gallery in New York with work by three of the six artists. The following year Russell Connor of the Rose Museum at Brandeis University organized the first ever museum show containing video work, "Vision and Television." The Rockefeller Foundation, as well as the New York Council for the Arts (whose media division Russell Connor directed upon leaving the Rose Museum in 1970) began giving artists access to video equipment through individual artist grants. Within five years of the show video technology had become sufficiently dispersed to be categorized into distinct genres. In his essay "Video Art: Old Wine, New Bottle" from Artforum, June 1974, Allan Kaprow (one of the six artists in the WGBH program) identified those forms as "taped art performance, environmental open-circuit video, and documentary or political video."[4] In the short amount of time between the broadcasting of The Medium is the Medium and Kaprow's article, enough people had taken up video technology that it warranted

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[3] Viewership numbers are nearly impossible to know as WGBH did not track audiences at this time and public television stations were not included in Nielsen television surveys.
[4] Kaprow, June 1974.

distinctions. There was a clear progression from its early uses as an mélange of sculpture and electronics with no clear identity to a type of art that was much more codified. This marked a shift from television as a subject matter to television as the *medium.*[5] I argue that not only did this show take place at a critical moment in the use of video as an instrument for art making, it functioned as a catalyst for a conceptualization of what video art even was. There was a distinction between art that was on television and art that involved televisions. This would prove to be the crux of video art. Prior to its broadcast, "video art" (if this term could be used, as the work predated any formal configurations) consisted of closed circuit video installations like those of Les Levine or altered television sculptures created by Nam June Paik and Jud Yalkut. Video was still closely linked to the television. Since there was no outlet beyond the television (this wouldn't occur until use of the video tape recorder became widespread) these lines were drawn. The complication seems to stem from the fact that these works are termed "video art' historically, as they involved televisions and televisual technology. However, what Paik, Levine and Yalkut created could also be thought of as multi-media work. Once broadcast, however, a shift occurred. The program showed how video art could be abstract, narrative, documentary. and interactive. Video art could be sculptural but it also could be much more. Broadcasting broke the medium free from the constraints of television and sculpture.

The Medium is the Medium appeared at a key point in the evolution of video technology. By the time of its broadcast, consumer video technology had reached a point of stability. Consumer grade video tape recorders (VTRs) had entered the market in 1965

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[5] John S. Margolies, TV - The Next Medium," *Art in America*, September-October 1969. p. 55.

with a prohibitively expensive cost. This was due to the high cost of its electronic components and the still relatively circumscribed size of the market. By late 1968 and early 1969 there were at least five different video tape recording devices on the market with the Sony Videocorder being the most notable (although none of them were compatible with one another). Use was limited to a select few: electronic enthusiasts, wealthy consumers, sports fans and artists who were grant recipients. There was no way to edit the tapes and there was no viewing infrastructure in place.[6] While easy to use they were often very limited in what they offered to consumers. But for the artist with a technological bent the VTR offered up a whole new medium for art making. The VTR literally bridged the gap between the television and the viewer. It enabled one to interact with the television on a personal level. Although marketed to upper-middle class consumers as a device to "put yourself on television" what it really offered was personal empowerment. It put the means of cultural production into the hands of anyone who could afford it.

Fortunately, the last sixties was also a time when foundations began turning their attention towards television and technology. Two that were crucial in bringing artists and technology together were the Rockefeller and the Ford Foundation. Rockefeller's Artists in Television program gave artists access to the otherwise unattainable equipment. The Ford Foundation created the Public Broadcasting Laboratory as an alternative cultural affairs program aimed at the national audience. The Rockefeller goal was access for artists while the Ford Foundation sought to enlighten American society as a whole

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[6] The VTR was still at the stage where the electronics industry was trying to fine tune the technology while media companies were trying to squash it. See Brian Winston's Media Technology and Society for an analysis of this complication in the introduction of new media technologies.

through cultural enrichment. The Medium is the Medium was a merging of these two strategies.

The six artists in The Medium is the Medium came to the technology with varied degrees of experience. Some of them had a background in electronics such as Thomas Tadlock and Nam June Paik. Others had a history of making kinetic sculptures and multi-media pieces such as James Seawright, Aldo Tambellini and Otto Piene. The one exception was Allan Kaprow, the founder of the Happenings, whose work was more about human interactions that technological ones (though his work could arguably be described as "multi-media" in that it combined performance, sculpture, and sound).

My thesis is about the convergence of the numerous factors leading to the creation of this television program. At its core is the concept of convergence which is defined by the Oxford English Dictionary as a "Coming or drawing together; concurrence of operations, effects." By the late nineteen sixties people began thinking of new ways to interact with their environments. Television and its audience had hit a critical point in their evolution where a re-defining had to take place. Television networks had coalesced into hegemonic monolith. The television generation was coming of age. Artists were looking for new ways to make art outside of "accepted" media. And it wasn't just artists. The technicians and engineers were looking for new ways to make television interesting. Henry Jenkins, in his new book Convergence Culture: Where Old and New Media Collide, defines convergence as "the flow of content across multiple media platforms, the cooperation between multiple media industries."[7] The introduction of the video recorder put television production in the hands of a wider range of people who were not

[7] Henry Jenkins, Convergence Culture: Where Old and New Media Collide (New York, NYU Press, 2006).

necessarily aligned with the thinking of the networks. There was a reconceptualization of who could make content for television and what constituted appropriate programming and use of the medium. The key to the concept of convergence as I use it here is that these desires for change, be it through television or the art world, came from individuals who pulled together the threads of these disparate scenes. All of the people involved in this program from Fred Barzyk, the producer, to Dave Davis, at the Ford Foundation, to Nam June Paik saw the potential to create something new with this technology. The foundations gave the money, the educational stations gave the facilities and the artists brought along the drive to make art that challenged viewers.

The production of The Medium is the Medium brought together emerging technologies, artists and engineers, and the medium of broadcast television. Each of these was crucial to the codification of video as an art form. As I noted above, during this time period there was a shift from an object based art form centered on the television as sculptural element to one predicated upon a viewer – creator relationship. It is no surprise that the majority (if not all, since Allan Kaprow could arguable be thought of as a sculptor considering his early multi-media works) of the artists asked to participate in the program were sculptors - in that they worked spatially with three-dimensional constructions. All of them were pushing the boundaries of this medium through kinetic and electronic sculptures. But it was surprising that most of them never utilized video technology again.

One of the purposes of my thesis is to illustrate how this program functions as evidence of televisions role in the burgeoning video art movements. I feel that, historically, it deserves an equal place alongside the Howard Wise and Rose Museum

exhibitions that followed. The Medium is the Medium has always been mentioned as an example of the emergent video art scene yet it is consistently set in the shadows of the aforementioned exhibitions. It is recognized as a seminal moment but this is glossed over in favor of what followed it. How is it that the program is recognized as a "seminal" event and then ignored? Is this an example of an art historical bias against television? It is deemed worthy of mention due to the artists who participated but is never thought of as worthy of investigation for what it represented or what it accomplished? Is it a question of positioning? The Medium is the Medium went into the home. It wasn't centered in a gallery or museum space. As John Margolies notes "Art at the content level is something set apart from life; it is something that one foes to see at a museum of theater. That insidious little box with its super-real image, on the other hand is accepted into the home situation. It is just there, part of a person's life. It has none of the pretensions associated with the art experience."[8] The program and the early artists had more in common with the Dadaists and the Fluxus artists in that they were creating art out of something that *wasn't.* Art required the space denoting it as art. This was art transmitted into people's homes. And as such it was something else.

This point also complicated the language used to describe the early "video work. Was it television art, as some thought of it? Was it video in the context of the OED definition noted above, term inextricably linked to the television? Both were used to describe the work. Television art was both art on television (as the videos in the program were) and art that included television sets, such as Paik's early work. Work that is now termed single channel (it consists of a single videotape viewed on a single monitor or

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[8] John S. Margolies, "TV – The Next Medium," Art in America, Vol. 57, No 5, September-October 1969. p. 50.

projector) was only just emerging due to the recent invention of the video tape recorder. These taped works were also referred to as video. The six videos included here were thought of as both television art and video. The terms floated amongst various types of television related art works until video tape recording technology stabilized and work subsequently became stored on tape.[9]

For many artists in the late sixties and early seventies public broadcasting stations provided an opportunity for experimentation and exposure. But clearly it wasn't the type of exposure that validated one within the art world. By engaging with television as a medium (and not as an object) early video artists placed themselves outside of the proscribed arenas of the art world. As Howard Becker notes in his book Art Worlds making art requires a system in place to support both its making and its distribution. And this system simply didn't have the space for video art. By turning to television artists were dealing with a different system all together, that of mainstream media. Although being *public* television, admittedly a fringe aspect of that system, still it was television and not the art world. And this was crucial. With the act of broadcasting video art became something else. Broadcasting made it a televised moment and thus placed it within the domain of that medium despite the desires of those involved with its production. But this was what artists desired at the time; a new means of making art and a breakdown of traditional exhibition opportunities. It attested to a belief in the egalitarianism of making video art. As Oppenheim states in the program's introduction, it was a desire to create a "museum for millions."

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[9] Les Levine, who began making videotape art works in 1966, screened his videos in the Software show at the Jewish Museum in 1970. A write up in Artforum from November of that year referred to his pieces as "films." p. 41.

It is crucial as well to examine The Medium is the Medium in the context of the institutions that brought it together. I am not only talking about the funding institutions but also the technological and artistic ones. Early experimentation in sound and audio technologies played a large role in the formation of the work that was included. Two of the artists came to the program after studying with experimental musician John Cage while James Seawright was working in the Columbia/Princeton Electronic Music Center at the time. His work and thus that of the radio pioneers in Darmstadt, Germany had an enormous influence on both Nam June Paik and Allan Kaprow. The other artists emerged from the kinetic and light sculpture movements of the early to mid sixties. The history of the video tape recorder is also intricately intertwined with that of radio. Both of these technologies evolutions arose from a desire to, not only control or manage time, but to collapse it.

Early avant-garde radio and video share a common theme of assemblage alongside a negotiation of the concept of live-ness, instantaneity and simultaneity. The differences between the three are subtle yet crucial to looking at the way radio and television was negotiated by viewers. In the case of the former, early video collages and appropriation motifs were remnants of German radio artists of the Weimar period; work that was certainly known to both Paik and Cage from their time in Darmstadt. Both radio and television had to navigate far-reaching audiences strewn across multiple time zones while maintaining an impression or illusion of "live-ness." The invention of magnetic tape as a deferring mechanism enabled first radio and then television networks to

preserve what Jane Feuer called the "ideology of live-ness."[10] Feuer posits this in relation to television but I argue that it also evident with radio. This is the notion that "live-ness" (as it relates to a media technology) allows for a simulation of live-ness once tape recording is perfected. In both radio and video, artists played with this "live-ness" when they began exploring just what is live (therefore real), and what is recorded (therefore a construction). But it was never a clear cut distinction.

What made it more problematic was the new-ness of the machinery. The invention of magnetic recording, with its ease in creating high quality audio (followed by video), blurred the boundaries between live = real and recording = false or constructed. Until the invention of these machines everything was live. So the shift to the broadcast of the recorded moment called "live-ness" into question. Was live recording "real" because it was live? And just what did that mean once videotaping became available? The Medium is the Medium attempted to navigate both live-ness and artifice. The program played with this contradiction in that it resembled the standard mode of a television information program – ostensibly live – while it was clearly constructed. Given the newness of the technology this negotiation was something that the artists tried to work out. Paik, Tambellini and Kaprow all tried to display or induce a sense of live-ness with their videos. This complex dynamic would affect most early video art.

In chapter one, I look at the evolution of magnetic tape technology and its use, first by radio artists in Germany and subsequently by video artists. In fact, its success with the radio industry prompted engineers to shift towards the recording of video

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[10] Jane Feuer, "The Concept of Live Television: Ontology as Ideology." Regarding Television: Critical Approaches – An Anthology, ed. E. Ann Kaplan (Frederick, MD, University Publications of America, Inc. and the American Film Institute). p.13-14.

images. The Musique Concrete movement of the late nineteen forties was predicated upon the introduction of the audio tape recorder as was video's on the VTR.

The motivation to find a technology that would maintain the illusion of "live-ness" is crucial to understanding the shift that takes place once video art converges with television. "The Medium is the Medium," is an example of this desire (most notably with Allan Kaprow's *Hello*) to present a recorded moment as a live moment. This absolutely required the presence of a recording device that offered flawless playback, something unheard of until the late nineteen fifties. In addition to a brief technological history I will examine the shift in the Rockefeller and Ford Foundations funding strategies. Both of these foundations turned to funding media and media artists just as the VTR technology stabilized. The moment of convergence was dependent not only upon the forces of engineering pushing the technological envelope but required a change in the way that funding was dispersed. These two factors combined with a shift away from traditional mediums in the art world served to make this television program evidence of a dramatic sea change in culture.

The bulk of my thesis concerns the creation and analysis of this program. I examine the artists and their careers leading up to the show. As I mentioned earlier, each of these artists approached their engagement with the technology very differently. This is not surprising given their very different backgrounds and artistic proclivities. Chapter two examines each artist's professional history looking specifically at how they navigated technology. I do this in order to contextualize the work that was made for WGBH. For some of the artists the show would be a turning point or a coalescence of ideas. For others

it wouldn't even be included in monographs of their work. It will be a blip or aberration in their careers.

Ultimately I wish this thesis to be, at its simplest, an unpacking of a moment. As I said before The Medium is the Medium exists as merely a footnote or paragraph in the very few histories of video art written thus far.[11] It was a moment that led to other, bigger "events" thought to be more relevant to the history of this new art form. But something else was taking place here. This program provides a window into how artists dealt with a new technology. The access to television technology forced them to rethink the way that they made work. It also prophesized methodologies that would become rote with the mainstreaming of that technology. Each of the artists struggled to create something new and exciting with a technology that few had ever experienced. And they were also unable to touch it themselves. Despite the grandiose notions of the Rockefeller and Ford Foundations the artists were not allowed to use the technology. They had no other option but to collaborate with the engineers.

The Medium is the Medium belongs alongside the work of the collaborative art/engineer groups of the sixties. Like EAT, USCO and the Art and Technology groups, the Artist-in-Television program put these two disparate types of people together to make art. In that context this group deserves greater recognition for its success. The Medium is the Medium was truly a moment of convergence. There was nothing like it before or since.

CHAPTER ONE: The Ways and the Means.

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[11] See Michael Rush Video Art, (London, Thames & Hudson, 2003); Illuminating Video eds. Doug Hall and Sally Jo Fifer (New York, Aperture Foundation, 1991); Johanna Gill's Video: A State of the Art (New York, Rockefeller Foundation, 1976).

In this chapter I examine the complex forces that came together to create "The Medium is the Medium." Several different factors were involved. First of all the necessary technology, the video tape recorder, had to be invented. Secondly television, or more specifically its public variant, would have to make a commitment to broadcasting programs geared towards art and artists. This was aided by two institutions in particular, the Ford Foundation and the Rockefeller Foundation both contributed significantly to the creation and maintenance of educational television. Lastly, a group of artists who are drawn to technology and engineering as new ways of making art had to emerge.

These three factors led to the creation of the show. Without any one of these parts it is quite possible that the show would not have happened. Unlike Howard Wises' gallery show, which required a single person dedicated to new art forms completely independent of external forces and desires, The Medium is the Medium required a social and cultural infrastructure by its very nature as a television program. Since it wasn't broadcast on a mainstream network, alternate television stations had to arise. It was also dependant upon technological innovations and the desires of people to utilize them.

The late nineteen sixties was a time of such extreme cultural change that any attempt to pin down a reason or simple cause behind the emergence of an art form is impossible. But what I hope to do in this chapter is to illustrate what lead to the creation of this program from a technological perspective (as much of the art developed as a result of technological innovation) thereby allowing the program to stand in contrast to the Wise exhibition. I hope to show that this program is an example of early video artists breaking free from the constraints of the gallery and museum arena. Television offered

them a whole new venue free from the baggage of traditional art spaces.[12] Since the videos were predicated upon technological developments, clues to their evolution can be found in earlier electronic based art forms. As a broadcast event The Medium is the Medium was more closely related to early sound art programs broadcast on European radio stations from the nineteen twenties onward. Its nature as a tape-based medium also links it conceptually (if not formally) to the Musique Concrete movement begun in the late nineteen forties. It was at this time when radio artists, experimenting with a new, technologically dependent art form, and engineers began collaborating. It was a time when engineers approached artists to create new exciting art forms. The two came together out of necessity and set a precedent for other artists to follow.

This is key to contextualizing the work of the artists included in this program. The artist-in-television program at WGBH was created to give artists the opportunity to make video based work with the help of engineers. Several of the artists had clearly worked with engineers before. Paik worked with radio engineers in the late fifties in Germany, Seawright was the tech supervisor at the Columbia/Princeton Electronic Music Center, and Thomas Tadlock was an engineer and had just completed his Archetron when approached for the program. But most of them had no experience with television broadcasting and the particular type of engineering demands that it involved (the exception being Kaprow whose piece *Gas* was recorded and broadcast by CBS in 1966[13]). These disparate experiences in electronic art making would play a role in the way they approached video. And these six artists were clearly not alone. Many artists in

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[12] This is not to say that the Howard Wise Gallery was traditional. The Wise Gallery was noted for exhibiting challenging and ground breaking work. But it was still a gallery.
[13] While Paik made first contact with personalized video cameras, at this point he had yet to work with broadcast television.

the sixties saw technology as a means for creating new kinds of art. There was a desire to *use* technology to push what art could be. As Otto Piene noted at the Symposium on Art and Science, held at the Massachusetts Institute of Technology in March of 1968 (one year to the day prior to The Medium is the Medium's broadcast), "Technology should be applied to *physically changing* the arts, making art bigger, to enable it to reach more people. Technology should be applied to the problem of communication."[14] It comes as no surprise that he was asked to participate in the program at WGBH.

Part One: The Technology of Magnetic Recording and the Development of a New Art Form.

Magnetic recording plays an integral role in the history of video. In fact, magnetic recording could be thought of as the heart of video art. Without the videotape, video would not be the art form as we know it today. The invention of the videotape moved video art beyond the television. Videotape released it from a signal-based form dependant upon the television to one that could be manipulated and transformed and re-broadcast. The videotape removed the need for transmission. While live transmissions certainly played a role early on in television and video art (starting with Les Levine's closed circuit piece *Iris* in 1968) the real struggle was between the act of transmission and the fact of maintaining the art work. Did art lie in the performance or in the tape that became the object, the residue of that performance?

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[14] Quoted in Grace Marmor Spruch's article "Two Contributions to the Art and Science Muddle, Part 1," Artforum, January, 1969, p. 29.

The television as a subject or object of investigation had been occurring for several years in the art world. It was used in the performance of "9 Evenings" presented by the Experiments in Art and Technology group in 1966. TVs were part of Ken Dewey's happenings in 1966 and 1968. And the aforementioned Les Levine and Nam June Paik had been including televisions in their work for several years. The television had also been used as a canvas for creating abstract images. Paik was the first to do this but many others (Boyd Mefford, Robert Kragen and Robert Lippman in 1967 and 68[15]) including Thomas Tadlock followed in his wake. What changed was that artists began looking at television as a *medium* in and of itself, not as a subject matter. In his review of television art after the screening of The Medium is the Medium John Margolies noted this shift. As he said "that's where the excitement is. A growing group of artists will turn to television, seeking to have a relevant and influential role in society."[16] Since television was predominantly about recording to delay broadcast, if video art was going to embrace television as its medium it was going to have to be recorded onto tape. Several artists would try to create the illusion that this wasn't so (Paik attempts to interact with the audience "live") but by its very nature this was impossible.

Video was not the first art form to make use of magnetic recording. The release of the magnetophon tape recorder in the nineteen thirties inspired artists to take up the art of splicing audio tape to make new sounds and new types of music much like the video tape would inspire early video artists. This device opened a whole new world to people interested in making work unlike any other.

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[15] For all of the above see Margolies, pp. 54 – 55.
[16] Margolies, p. 55.

Magnetic recording was introduced in 1898 when a young Danish engineer Valdemar Poulson discovered a means of recording sound onto steel wire by varying the degrees to which it was magnetized[17]. Sound could be recorded to it by running a current from a microphone through an electromagnet then drawing the wire rapidly past the electromagnet. A key to the machines success was that the wire could be re-used (a fact which would also account for the success of the audio and video versions). Poulson called his device the Telegraphone and debuted it to great acclaim at the Paris Exposition in 1900.[18] Years later he related his motivation for inventing this device as frustration in "the inability of telephone users to leave a message when the party they called was not at home."[19] At this point the machine was thought of as a supplement to the telephone with no other intent. Due to its poor audio reproduction capabilities, its development went nowhere.

The development of magnetic recording continued over the next three decades. Two German companies, Allgemeine Electrizitäts Gesellschaft (A.E.G.) and I. G. Farben, improved upon Poulson's concept with some help from an Austrian inventor, Dr. Fritz Pfleume. It was his idea to apply magnetic materials to paper or plastic tape. Pfleumer succeeded in adding powdered bronze to a gold colored strip as a means for coloring

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[17] Poulson developed his machine and idea independently but the very first idea of magnetic recording dates from 1878. Oberlin Smith, a mechanical engineer, developed the first magnetic recording device after a visit to Edison's workshop in Menlo Park, NJ. He unfortunately never patented it but recorded his idea in a memorandum in 1878 and subsequently published an account of his work in Electronic World magazine in September 1888. Mark H. Clark, "The Magnetic Recording of Sound," Magnetic Recording: the First Hundred Years, eds. Eric Daniel, C. Denis Mee, Mark H. Clark (Piscataway, New Jersey, IEEE Press, 1999). p. 7.

[18] Joseph Semi Begun, Magnetic Recording, (New York, Murray Hill Books, 1949). p. 3.

[19] Mark H. Clark and Henry Nielson, "The Telegraphone," Magnetic Recording: the First Hundred Years, eds. Eric Daniel, C. Denis Mee, Mark H. Clark (Piscataway, New Jersey, IEEE Press, 1999). p.15.

cigarette paper. He experimented further, adding magnetic material, pulverized iron particles, on to strips of paper. Pfleumer called it "sounding paper" [20] (the grain size of his applied materials are so large that the tape resembles sandpaper)[21] and patented it in 1928. In 1932 Pfleumer was hired by AEG where he continued experimenting with magnetic recording mediums consisting of plastic or paper tapes coated with powdered magnetic materials.[22]

It was about this time that radio began proliferating in Germany. Introduced in 1923 radio had a relatively quick dispersal throughout the country. In light of this a culture grew around the radio, specifically centering on the Horspiele, or radio drama. By 1924 German radio stations[23] had begun organizing their broadcasts into distinct types of drama programs. Mark Cory, in his essay "Soundplay: the Polyphonous Tradition of German Radio Art," notes three distinct styles of radio emerging "The first was a logical extension of the stage, radio perceived as a theatre of the blind. The second took radio 'drama' beyond the staging of works for the blind and sought to develop an imaginative literature written expressly for the new medium. The third understood something even broader: radio art as acoustical art, a radical and short-lived breaking away from literary

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[20] Friedrich K. Engel, "The Introduction of the Magnetophon," Magnetic Recording: The First Hundred Years, eds. Eric Daniel, C. Denis Mee, Mark H. Clark (Piscataway, New Jersey, IEEE Press, 1999). p. 47-48.

[21] Begun, p. 9.

[22] There are numerous transition devices that emerge between 1920 and 1931, the Dailygraph, the Textophone and the Stahltone-Bandmaschine. See Clark "Steel Tape and Wire Recorders," Magnetic Recording: The First Hundred Years p. 30-46; Begun Magnetic Recording p.7-9.

[23] Mark E. Cory, "Soundplay: The Polyphonous Tradition of German Radio Art," Wireless Imagination: Sound, Radio, and the Avant-Garde, eds. Douglas Kahn and Gregory Whitehead (Cambridge, MA, MIT Press, 1992). p. 334.

conventions that was to signal the debut of the avant-garde tradition."[24] It was the third form that inspired the *Musique Concrete* movement that emerged immediately after the war.

The avant-garde movement in German radio wanted to drastically change the way people interacted with sound. In 1924 Hamburg Radio director Hans Bodenstedt described the possibilities for radio art in contrast to the Horspiel (radio drama), "A room large of small, a theater, a recital hall, an athletic arena, a speaker's podium, classroom, factory, street, ship, zoo...the whole world offers itself as studio."[25] This is strikingly similar to John Cage's description of his piece *Living Room Music* from 1940 which used instruments that could be found in a living room: furniture, papers, windows, walls, doors.[26] Cage set out to make music and not radio art (the difference, I imagine, is one of context). Yet the similarities between the two are remarkable. Given that Cage was indebted to German avant-garde filmmaker Oskar Fischinger (who would almost certainly have been aware of the radio art movement in Germany) for his early style there was clearly influence from this earlier tradition. The avant-garde radio movement in Germany was ultimately stymied by its technological limitations. The unpredictability and imprecision of editing due to its reliance upon wax recordings prevented it from truly progressing[27]. Some film artists such as Walther Ruttmann attempted to make radio art

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[24] Cory, p. 334.
[25] Quoted in Cory, p. 339.
[26] Quoted in Francis Dyson, "The Ear That Would Hear Sounds in Themselves: John Cage 1935-1965," Wireless Imagination: Sound, Radio, and the Avant-Garde, , eds. Douglas Kahn and Gregory Whitehead (Cambridge, MA, The MIT Press, 1992). p. 378.
[27] This is a simplification. Cory goes into further detail regarding the fading of this movement, linking it to the end of the Weimar period and the political shift in Germany prior to the war.

using spliced film but for this proved to be prohibitively expensive.[28] The development of audio tape recording changed everything.

Between 1930 and 1935 AEG spent considerable amounts of time and money developing a marketable audio recording device. It was the fourth version, denoted the Magnetophon K (K as in *koffer* or portable case), that debuted at the 1935 Berlin Radio exhibition to great success. Audiences were "amazed to be able to hear their voices an instant after recording."[29] Despite its lackluster performance at the exhibition[30] it wound up being financially successful. The machine's technological success was due to Eduard Schuller, who invented the "ring head." This became the "basis for all future magnetic recording heads and one of the most fundamental inventions in magnetic recording."[31] Ring heads were large diameter capstans, or rotating spindles, that allowed for better control of the passage of tape through the machine. It was the spread of this machine throughout Europe that would usher in the era of electronic music known as Musique Concrete.

By 1940 magnetic tape and the magnetophon were in full use by the new British Broadcasting System and German radio stations. The end of the war brought about greater access to machinery that had previously been the purview of the German military propaganda machine. In 1946 in the Paris studio of Radio France Pierre Schaeffer began recording industrial and natural sounds onto audiotape and hand splicing them together. Although not entirely new as an art form, it was clearly an move forward in terms of ease

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[28] Cory, p.340.
[29] Engel, p. 56.
[30] Begun describes its performance as "mediocre" (p. 9) while Engel quotes one of the engineers at the exhibition as saying that it "created a great deal of interest" with the dealers "recogniz(ing) the fact that this machine was the 'hit' of the show." (p. 61)
[31] Engel, p. 51.

and cost. Schaffer began collaborating with fellow radio engineer Pierre Henry to compose electronic music symphonies under the rubric of *Musique Concrete*. In his essay "Roll Tape: Pioneer Spirits in *Musique Concrete*" Rob Young calls Schaffer and Henry's work "constructive transgression" with them "act(ing) on the knowledge that tape materialized music into a solid, concrete object (hence the name). In its plastic form, music could be interfered with – reversed, sped up, or slowed down, measured in inches, laid out on a slap, and dissected at will."[32] The Magnetophon reduced sound to a dissectible object. It was sound on plastic. What was crucial (and will be relevant later on) was the desire to use electronics to create a new art forms. As Pierre Henry describes it "the idea was to find a new form of music, a new writing style instead of just imitating and being stuck in a trend. We wanted to bring out a new music."[33] Schaffer and Henry went on to form the *Group de Recherche de Musique Concrete* (GRM) studio in 1951, which immediately began attracting composers.

Karlheinz Stockhausen had just completed music studies at the National Conservatory in Cologne and was composing serial music when he traveled to Paris in 1952 to study rhythm and aesthetics with the composer Olivier Messiaen. While in Paris he visited the GRM and studied with Schaffer and Henry. The following year he returned to Cologne and began working with Robert Beyer at the *Westdeutscher Rundfunk* (WDR) turning it into another center for electronic music[34]. Several years later Nam June Paik

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[32] Rob Young, "Roll Tape: Pioneer Spirits in *Musique Concrete,*" Modulations: A History of Electronic Music. Throbbing Words on Sound, ed. Peter Shapiro (New York, NY, Caipirinha Productions, Inc., 2000). p. 14.
[33] Pierre Henry, "Interview: Pierre Henry," Shapiro, p. 22.
[34] Young, p. 17.

would arrive (whom I will discuss in Chapter three) at the WD spending several life altering years there.

While this took place in Europe the Magnetophon was introduced to the United States thanks to a young engineer named Jack Mullin. Mullin was working for the Army Corps in Europe during the war. With the invasion of France he moved to Paris to investigate electronic devices left behind by the Germans. His assignment was to follow the retreating German army and pick up items of "electronic interest." Told of a recording device at the studios of Radio Frankfurt that had "remarkable dynamic range and low distortion,"[35] Mullin traveled to Cologne to inspect the machine. In awe of its sound and fidelity in recording he immediately took possession of several working tape machines and a library of tapes. These were subsequently shipped to his home in California.

Mullin was convinced that the machines would revolutionize the radio industry. He demonstrated the Magnetophon to the Institute of Radio Engineers in San Francisco in May 1946. That demonstration, along with the first ever commercial disc originally mastered on tape, "Songs by Merv Griffin," (released that year), brought Mullin to the attention of Hollywood executives. In June of 1947 Mullin once again gave a demonstration of the machine but this time for Bing Crosby (who was in a dispute with his network over live recording of his program). They recorded an episode of his show and Crosby immediately hired Mullin as his chief engineer. In 1948 Crosby and his company, Bing Crosby Enterprises (BCE), entered into a partnership with the Ampex

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[35] Jack Mullin, "Discovering Magnetic Tape," Broadcast Engineering (Overland Park, KS, Intertec Publishing). May 1979.

Corporation to produce the machines. Ampex manufactured the machines with BCE distributing them.[36] By 1949 the use of audio recording was widespread.

The introduction of the audio tape recorder began having an effect on American artists rather quickly. In 1952 John Cage began experimenting with tape composing. Working with engineers he composed five pieces between 1952 and 1965 "using magnetic tape and four works for radio, adding to his 'electronic' ensemble microphones, loudspeakers, and tape loops, plus the curious 'percussive' device of the phonograph cartridge."[37] As Frances Dyson goes on to say about Cage's magnetic tape work "the materiality of tape assisted in the development of Cage's 'art into life' philosophy, it also reaffirmed his already established views, inspired originally by Fischinger, of sounds as some kind of object, the being or 'center' of which could be released through the incisions of a razor blade."[38] Cage went on to compose *Williams Mix,* a spliced tape composition inspired by the I-Ching, in 1958. He later commented that spliced tape enabled him to "heighten the unique element of individual sounds, releasing their delicacy, strength, and special characteristics."[39] That same year composer Vladimir Ussachevsky had an Ampex tape recorder delivered to the Department of Music at Columbia University. This ultimately led to the formation of the Columbia-Princeton Electronic Music Center some months later.[40]

The success of the audio recorder sparked the Ampex Corporation and the BCE to shift their focus towards magnetic tape's ability to record a video image. Over the course

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[36] Gooch, p. 87.
[37] Dyson, p. 385.
[38] Dyson, p. 385.
[39] John Cage quoted in Dyson, p. 386.
[40] Young, p. 18.

of the next four years they experimented, building several prototypes in an attempt to create a machine that produced a better image at lower cost than kinoscoping, which was the industry standard of television recording. Due to the time difference between the east and west coasts of the United States, television stations were forced to record shows as they were broadcast in the east in order to play them at the appropriate time on the west coast. Kinoscoping was the only method available. This entailed recording the transmitted program onto film, processing the film and then broadcasting the film version at the same "time" as the original east coast version. It was time intensive and expensive. The industry was desperate for something that would not only save them money but also make their process easier. The answer lay in magnetic tape.

In April 1956 Ampex debuted their video tape recorder, known as the Mark IV, at the National Association of Radio and Television Broadcasters 31st annual convention in Chicago. Cameras were pointed at the Ampex executive and monitors were placed around the room while he gave his presentation. "When the executive completed his remarks he directed the cameraman to play back the video recording. The cameraman pushed a button, rewinding the tape in a few seconds. He pushed another button and the executive's speech was on the television screen again."[41] The crowd of broadcasters sat in stunned silence before erupting into cheers and whistles. The audience knew perfectly well what the Mark IV could do for them. Within two weeks of the NARTB Ampex took orders for 100 machines priced at $45,000 each. By 1958 kino recording had disappeared and the networks had completely shifted to video tape recording. This shift provided financial relief for television networks.

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[41] Val Adams. "TV is put on Tape by New Recorder." New York Times. 15 April, 1956: 76

Part Two: Television and Education

Television had coalesced into an industry dominated by networks during this time. With the growth of mainstream television networks concern arose about the lack of educational programming it offered. But, just as mainstream radio networks evolved into television networks so did educational stations. The first educational radio station in Boston, WGBH (for Great Blue Hill), began as a university cooperative known as the Lowell Institute Cooperative Broadcasting Council (LICBC)[42]. Initially broadcast on local commercial stations, by 1950 the WGBH Educational Foundation, as it became known, had secured an FCC license and began operating on its own. From the beginning Ralph Lowell, founder of the Lowell Institute and major donor to the station, knew that television would inevitably take over the airwaves. His desire to add television broadcasting to WGBH's repertoire was expressed before the radio station even existed.[43] However, due to the FCCs freeze on new television licenses he would wait several years. Finally, on June 1953, Lowell's petition for channel 2 in Boston was approved. The WGBH Foundation leased what had been an old skating rink converted to offices at 84 Massachusetts Avenue on the MIT campus. Thanks to numerous donations from other Foundations, in addition to over $145,000 raised by a citizens committee, WGBH-TV

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[42] Ralph Lowell, president of the Lowell Institute, gathered together the leaders of six other academic institutions, Harvard, MIT, Tufts, Boston University, Boston College, and Northeaster University, to form a consortium that would jointly organize and operate a station that would adapt college coursework for broadcast on the radio. See Edward Weeks, The Lowells and Their Institute (U.S.A., Atlantic – Little, Brown Books, 1966).

[43] Edwin Leonard Glick, "WGBH: The First Ten Years (1955-1965)." Diss. U of Michigan, 1970. p. 38-39

and WGBH-FM were integrated under one roof. On May 2nd, 1955[44] they began broadcasting. WGBH was not alone in the public television landscape. The Educational Television and Radio Center at Ann Arbor, MI had been in existence since 1952. And the first public educational television station KUHT in Houston debuted in 1953. By 1955 Public television stations were beginning to crop up across the country.

From the beginning the arts played a large role in the programming of WGBH-TV. The MFA sponsored a weekly program titled "Museum Open House" that was shot in the galleries. This was in addition to two other programs, one for children and another called "Images" that was shot in the WGBH studios. During the winter of 1955-56 the MFA hosted two programs, Adventures in Art and Louis M. Lyons and the News, which were broadcast from the Museum's rotunda.[45] This relationship was continued into the 60s with Museum Open House,[46] a show hosted by Russell Conner, which was a half-hour talk shot in the galleries of the MFA.[47]

By the early sixties, although WGBH was consistently creating shows that were recognized for their high quality and erudition, the act of putting art on television proved to be controversial. The Museum of Modern Art in New York began experimenting with the possibilities of television as early as 1939 making it the first museum in America to

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[44] By this point membership in the LICBC had grown to include the Museum of Fine Arts, Yale University, the New England Conservatory, Simmons College, Brandies University and the Museum of Science.

[45] Glick, p. 56-57.

[46] WGBH and the MFA also had a program titled An Invitation to Art hosted by Brian O'Doherty who would go on to direct the film, television and radio programs for the National Endowment for the Arts. I could not determine the exact time frame that this show ran. O'Doherty replaced his wife Barbara Novak as host.

[47] Conner would go on to a curatorial position at the Rose Museum of Art at Brandeis University where he would put together the first museum exhibition to include video work, titled *Vision and Television*, in 1970. Connor subsequently goes on to the New York Council for the Arts where he is responsible for video and television artist's grants.

appear on television. Their desire was not only to educate but to also illustrate their own cultural presence. As Lynn Spigel notes, "MoMA saw television not simply as a venue for publicity or education, but as central to the maintenance of its own cultural power."[48] MoMA also made a conscious decision not to court educational television but instead aim for commercial stations. According to Spigel "the museum conceived of its educational function completely within the logic of commercial public relations. "[49] MoMA saw television as an opportunity to expand their customer base and cultural presence in one televised stroke. In 1952 the museum began the Television Project funded by a three-year grant from the Rockefeller Foundation. This was a project that created in-house television programs to be broadcast by local network affiliates.

The museum hired filmmaker Sidney Peterson to oversee the project. He began making a series of telefilms on various aspects of the arts. Peterson believed that the medium would bring the museum out of the rarified world of Art (with a capital "A") therefore making it more egalitarian in nature. Yet MoMA was conflicted about the role of television in their mission to educate the masses about modern art. There was concern about the difference between those who entered the museum space and those who sat at home watching television. In his report for the Rockefeller Fund titled "The Museum Looks in on TV" Douglas Macagy considered the museum visitor "contemplative" while the television viewer was "distracted." He goes on to describe the difference between the two as "the person who goes to the trouble of visiting a museum and the one who may

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[48] Lynn Spigel, "Television, the Housewife, and Museum of Modern Art," Television After TV: Essays on a Medium in Transition, eds. Lynn Spigel and Jan Olsson (Durham: Duke University Press, 2005). p. 353.
[49] Spigel, p. 359.

choose to go elsewhere without moving from his living room"[50] with one clearly preferable to the other. For the duration of the Television Project MoMA constantly struggled with the concept of just who their audience was. The museum's administrators vacillated between wanting to raise awareness of MoMA and not wanting to devalue their reputation by becoming involved with television. Spigel quotes an internal MoMA report as stating "the great majority of people who come to the museum can be figured to have a reasonable amount of education. The audience cannot be supposed to have the same."[51] The museum ultimately decided not to risk the prestige of their institution by displaying art on television. The Television Project shut down in 1955 and the films were sold off to Mavro Television Company with "the proviso that the company 'agrees to make no reference to, nor use the name of the Museum of Modern Art.'"[52]

In Boston, the Museum of Fine Arts willingly collaborated with WGBH and took on the role of educating the public. In contrast, MoMA, while wanting to educate the public, refused to utilize educational television. Both museums occupied very different cultural positions in two very different communities so the comparison between the two is not perfect. But it does illustrate the conflict that took place between art and television at this time. It is perhaps more telling of the differences between the two communities then differences between the institutions. WGBH were partners in a collaborative effort to create educational television. MoMA opted to produce its own product and sell it to networks in a decidedly commercial venture. But these two experiences clearly illustrate

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[50] Quoted in Spigel, p. 359.
[51] Spigel, p. 373.
[52] Spigel, p. 372.

the difficulties of bringing the art world to television. What was needed was a re-thinking of what the combination of art and television could be.

A key player in this process was Fred Barczk. Barczk, who would go on to direct "The Medium is the Medium," began working at WGBH as a graduate intern in 1958. He became a force for avant-garde programming at the station beginning with his direction of the experimental anti-war play *Five Days* in 1960. His next program attempted to bridge the gap between presenting art and creating it. It was the program Jazz Images broadcast in 1961. Believed to be the first "experimental" television program, this was a music program directed and produced by Barzyk, Olivia Tappan and David Atwood. It began as an hour-long live music program. Jazz musicians visiting Boston would stop by and promote their stay at a local venue. It became a visual experiment with Barzyk directing the engineers and cameramen as they created abstract images by flipping switches and electronically improvising alongside the musicians.[53] The success of this program allowed him to create What's Happening Mr. Silver in 1967.

What's Happening Mr. Silver was a live, weekly program hosted by an English professor from Tufts University. It was Brazck's experiment in alternative television. He was strongly influenced by the writings of Cage and George Maciunus of the Fluxus art group. One episode, titled "Madness and Intuition," was his opportunity to test Cage's notion that all sound was music and challenge his theories on change and art making. According to Barzyk "the premise was all non-related images can become a television show when selected by chance. I invited 15 people into the control room and asked them

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[53] Kathy Rae Huffman, "Video Art: What's TV Got To Do With It?" Illuminating Video: A Guide to Video Art eds. Doug Hall and Sally Jo Fifer (New York, Aperture Foundation, 1991). p. 82.

to yell out when they were bored and we would change the images."[54] The studio was filled with a cacophony of music and sounds as people moved about drawing graffiti and driving motorcycles. There were several slide projectors alongside water and paint projectors. Barzyk left the room for a period of twenty minutes and let the program direct itself. It was a televised performance, a Happening and a visual (not to mention auditory) example of an intellectual pursuit dating not only to the aforementioned German avant-garde radio but to Dada and Marcel Duchamp, who at this point were experiencing a resurgence in popularity. It was the desire to make art out of randomness all over again with the key difference being that this was televised. This collection of random moments would be seen and experienced by possibly more people that had ever heard of Dada or Duchamp. This program brought WGBH and Fred Barzyk to the attention of both the Rockefeller and Ford Foundations.

By the mid sixties, both foundations had begun looking at different ways to fund educational television. The Ford Foundation spent much of the fifties and early sixties putting money towards the founding and maintenance of the Educational Television and Radio Center at Ann Arbor, MI. By the mid-sixties they began looking for other ways to contribute to television and the arts. In 1967 Ford created the Public Broadcasting Laboratory. They provided a two year grant to start a production company that would "show how noncommercial (television), when backed by adequate funds for programming, might produce superior cultural and public affairs programs for a

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[54] Fred Barzyk quoted in Brian O'Doherty, "Barczk: Electronic Visionary," Fred Barzyk: The Search for a Personal Vision in Broadcast Television (Milwaukee, WI, Marquette University Press, 2001). p. 32

nationwide audience."[55] David Oppenheim, cultural executive producer of the PBL, began searching for broadcasting outlets for artists. He invited Barzyk, and co-workers Olivia Tappan and David Atwood to New York to show tapes of work created at WGBH. After seeing the experimental work created at the station, they were chosen as a production site. At the same time the Rockefeller Foundation had decided to fund a three-year "experimental workshop" at WGBH. The goal was "focusing attention on bringing artists and writers into association with television production staffs to explore freely the techniques inherent in the medium." One of the additional goals was to show the audience just how a television production takes place and "involving the viewing audience in the creative process behind television broadcasts." [56] This workshop, known as the Artists-in-Television, offered its first residency to electronic artist Nam June Paik, a close friend of both Howard Klein at the Rockefeller Foundation and Dave Davis at Ford.

As of this point, mid 1967, the pieces fell into place. WGBH was strong as a television station. Two major foundations have turned their attention to a new television art form using videotape. And a growing group of artists began experimenting with the possibilities of this new technology. Over the course of the following year six artists were invited to Boston to create a work of video art to be broadcast under the title "The Medium is the Medium."

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[55] "Noncommercial Television," The Ford Foundation Annual Report 1967, (New York, NY, The Ford Foundation, 1967). p. 38.
[56] "Boston Television Station Opens Experimental Workshop," The Rockefeller Foundation Quarterly. April, May June 1967 (New York, NY, Rockefeller Foundation, 1967).

Chapter Two: The Artists and Their Technological Work

"I also envisage the day when the collaboration of artist and engineer will progress into the unification of artist and engineer into *one* person."[57]

Nam June Paik

By 1968 several artists groups had emerged that explored the relationship between art and technology. The most notable were the Experiment in Art and Technology group (EAT) in New York City, the "Art and Technology" program with their exhibition at the Los Angeles County Museum of Art, the National Air and Space Administration art program, and the Center for Advanced Visual Studies (CAVS) at MIT. These groups were all founded within four years of each other and serve as evidence of the cultural shift that was taking place. This shift began shortly after the end of World War II with the rise of the cold war. By the middle of the nineteen fifties there was an explosion in the drive for more science education. Thanks to the success of the Soviet space program and the launch of Sputnik successive presidents from Eisenhower to Johnson put tremendous energy towards promoting science-based education. By the time of the Johnson administration in the mid sixties there was a noticeable change in the way that the sciences were perceived.

A strong desire to bring a "human" dimension to the pursuit of scientific knowledge had manifested itself. It was thought that by combining art and science the devastation brought about by de- (or non) humanized science could be avoided. As Anne

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[57] Nam June Paik, "Art and Technology of Nam June Paik," Artsmagazine Vol. 42, Number 6, April 1968. p. 51.

Collins Goodyear notes, "In the early 1960s, art came to be seen as a necessary complement to science. If science was seen as an engine of social and political well-being, art could still inform and temper science, helping to ensure that scientific advancement did not result in human devastation."[58] This rhetoric faded as images of the Vietnam War began dominating television screens.

The American public was growing distrustful of the government and corporations. By the turn of the decade most of the groups had (if not disbanded) proven ineffectual and problematic. According to Goodyear "political concerns about the uses of technology introduced by growing public consciousness of the war in Vietnam were compounded by an economic recession which severely impacted the organizations." As of 1971 the NASA program had been cut due to budget constraints, EAT was virtually bankrupt and the CAVS program was under intense scrutiny as student groups began protesting MIT's role in the development of military instruments. But in 1968, as the artists began working "The Medium is the Medium," things were still decidedly optimistic. There still existed a belief that art and technology could work together.

None of the artists selected The Medium is the Medium were involved with these organizations. They were, however, working around the intersection of art and technology. Prior to their arrival at WGBH all six of them had dealt with this intersection in various ways with differing degrees of success. Allan Kaprow utilized technology not as a subject matter but (following in the footsteps of John Cage) as a means of expanding the possibilities of his work. The other five all used technology in one form or another as an integral part (and sometimes the only part) of their work.

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[58] Anne Collins Goodyear, "The Relationship of Art to Science and Technology in the United States, 1957 -1971: Five Case Studies." Diss. U of Texas, 2002. p. 7.

Five of the artists were also bound together through the Howard Wise Gallery in New York City. All but Kaprow had exhibited there prior to being selected for the WGBH program. Howard Wise began his gallery in 1960 with a focus on abstract expressionist work. He soon focused on work that combined art with technology. He began showing kinetic art by artists like Jean Tinguely and Piene's Group ZERO and quickly "became a locus point for the kinetic art movement."[59] In February 1967 he showed included most of the artists here in the exhibition *Lights in Orbit*. This exhibition was then expanded considerably and moved to the Walker Art Center in Minneapolis and renamed *Light/Motion/Space*.

By 1968 Wise and his gallery director, Douglas MacAgy, began looking for new directions to take the gallery. They organized their first ever exhibition of video work *TV as a Creative Medium,* which was set to open in 1969. When the Ford Foundation chose WGBH to host the PBL program, Wise, his wife Barbara, MacAgy and Paik were sitting on their advisory board.[60] Wise became a father figure to the burgeoning video art movement. In December of 1970 he closed his gallery and began the non-profit organization Electronic Arts Intermix, which remains a repository and distributor of video art to this day. *TV as a Creative Medium* was the link between the gallery and the Artists-in-Television program. The origins of the two remain so intertwined that it is a bit like the chicken and the egg, no one is sure which came first. But the PBL program proffered up a very different space for the artists. It was not the static art imbued space of

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[59] See Electronic Art Intermix Archives: http://www.eai.org/kinetic/ch1/gallery.html as well as the Video History Project at: http://www.experimentaltvcenter.org/history/people/pview.php3?id=24&page=1

[60] Brian O'Doherty, "Barzyk Electronic Visionary" Fred Barzyk: The Search for Personal Vision in Broadcast Television, (Milwaukee, WI, Marquette University, 2001). p. 34.

the gallery. Television was a transmitting medium that would expand what the medium could be.

In what follows I will take a look at each of the artists involved. I look at their histories and the types of work they created prior to their involvement with "The Medium is the Medium." The point is mainly to offer a context for the work they would create at WGBH. Is their prior work noticeably different? What were the particular challenges inherent in the shift to television? These are the lenses with which I will examine the program in chapter three. But to note the shift it is crucial to know what came before.

Aldo Tambellini.[61]

Tambellini was born in New York in 1930. After receiving his MFA in sculpture from Syracuse University he moved to New York City. In 1963 he founded the group Center in a loft on the Lower East Side. The Center was a space for jazz concerts, poetry readings and served as an arena for conversations about race and politics. It was here that Tambellini began making work that dealt with issues of race and class. He was interested in "staging a one-man opposition to the gallery and museum system"[62] which would directly oppose what he viewed as a racist and elitist art scene. The New York scene was in his opinion "a synthetic, monolithic structure, purely set up for profit, the art market excludes that which determines life. The shopkeeper called *gallery dealer*, in the business of objects, has closed the door to the impulse of energy that lives outside...saturated with

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[61] See also Art in America v. 57 (September 1969) p. 48; Artscanada v. 24 (November 1967) p. 1{sup}; Artscanada v. 25 (April 1968) p. 35-7; Arts Magazine v. 41 (May 1967) p. 18; Art in America v. 55 (May 1967) p. 24-47.

[62] Elisa Tambellini, "The Gate Theatre," Artscanada October 1967

boredom, the art market dies with a whisper."[63] Following in the tradition of Cage and Kaprow, Tambellini began creating work that was event based and experiential. He would mix dancers, live music, poetry readings, slide projectors and film in live events he coined "Intermedia."

By 1967 Tambellini was including electronic devices such as ultra-violet lights, strobes, and an "unlimited variety of reflective plastics" in his events. Inspired by other groups, such as USCO (the US Company) and EAT, he created his second artist collective, the Black Gate Theatre. The Black Gate Theatre was a space formed by Tambellini and Otto Piene and was the first theatre to give "electromedia" a home in New York City. The theatre was formed around the belief that by combining electronics and art it was a possible for mass communication to bring people together. Electronic devices were at the core of the art they made. As Tambellini described it, "Electromedia is our era. We must get to the heart of the medium, it its tube, its filament, its energy. We must produce visions from the stuff that media are made from."[64] In 1968 (probably about the time of his residency at WGBH but no exact dates are available) Tambellini and Piene collaborated on *Black Gate Cologne*. This was a fifty-five minute videotape piece made for German television. It involved a combination of taped and live material mixed with audience reaction to events in the studio. This production was similar to the way in which the artist would work at WGBH. It also drew upon the techniques of the radio artists in Germany mentioned in the previous chapter. As everything was recorded "live" on videotape each production was predicated upon the live mixing of every conceivable material at their disposal in the studios.

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[63] Tambellini, "Electromedia: a movement," Artscanada (November 1967) p. 1{sup}
[64] Tambellini, p. 4.

Tambellini's work was also informed by his fascination with blackness both as a signifier of the absence of light and as racial difference. For him black was a return to the womb or as he called it "birth black."[65] He was convinced that black was "the beginning of everything." It was the "birth, the oneness of all, the expansion of consciousness in all directions." Black-ness was liberating. It was a concept that he felt led to the destruction of art as *art.* This concept prompted him to name his group the Black Gate Theatre and title many of his works *Black (*he made Black I, II, Black TV and others). In 1966, shortly after Sony released the Videocorder, (the first consumer grade video tape recorder) he began experimenting with videotape. His work was very different from other early video artists. Most early adopters created videos that were documentation of actions (Bruce Nauman, Joan Jonas, Paik's first videos) but Tambellini was interested in creating abstract images from the beginning. He concocted special circuitry that would generate both image and sound electronically on two monitors. The imagery consisted of white globes, spheres, and coils against a black void.[66] In 1967 he exhibited one of these pieces known as *Black Video Two* at the Howard Wise Gallery.

Thomas Tadlock

Thomas Tadlock, at 27, was the youngest artist included in the program. Very little information exists about him or his work outside of the creation of the Achitron and its inclusion here and at the Wise Gallery. He graduated from the Rhode Island School of

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[65] Aldo Tambellini, "Black," Artscanada, (October, 1967) p. 5
[66] Gene Youngblood, "Expanded Cinema – Aldo Tembellini," Video History Project, www.experimentaltvcenter.org/history/people/ptext.php3?id=117&page=1

Design as a sculptor. He quickly became known for his sculptures made out of light bulbs. Early on in his career he was exposed to the work of Nam June Paik and began his own alteration of television sets. Upon moving to New York Tadlock received a commission from the collector Dorothy Weitzner.[67] She wanted him to create a machine that would transform the television image and then use it to project a transformed image of her. One of his first electronic light sculptures was included in the *Lights in Orbit* exhibition at the Wise Gallery in 1967. His piece *Quadrilateral Light Case with Changing Geometric Designs* was just that. A light case with randomly generated geometric light patterns. The following year, his machine, the Archetron, was completed, just in time for his inclusion in the WGBH program. Tadlock's work is indicative of the tendency towards psychedelic art that was fairly popular in the late sixties. His machines created random light patterns that were extremely abstract and non-representational. His work stands as a precursor to the work of Woody and Steina Vasulka who would continue to use electronics to manipulate video imagery. Weitzner ultimately used the Archetron in new age rituals at Aquarian Republic, Inc. It was used for prophecy, meditation and healing.[68]

Allan Kaprow

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[67] Very little information exists about Tadlock. Most of this information is from an interview by Jud Yalkut, "The Archetron of Thomas Tadlock," The East Village Other (July 2, 1969) Vol 4, No 31.

[68] John S. Margolies, "TV – The Next Medium," Art in America, Vol. 57, No 5, September-October 1969. p. 52.

Kaprow was arguably the best known artist included in the program. Although he was not an artist who used technology per se, Kaprow's use of the multi-media event (and his friendship with Paik) brought him to the program. Known as the father of the "Happenings" Kaprow actually began his art career as a painter. Like Tambellini Kaprow struggled with a medium loaded with "high" art connotations. He was searching for a way to remove the exclusivity that surrounded painting (and art in general) in the 1950s. Everything changed when Kaprow took John Cage's class on experimental music at the New School in 1957.

Cage proved to be an immense influence on Kaprow. In Cage's class he was free to play and test ideas around the use of sounds as event compositions. Cage would also imprint his theories of chance and the tenet that everything and anything can be art. Kaprow also adhered to Cage's Buddhist belief in the "refusal to impose his will upon the artwork."[69] Cage's class confirmed everything that Kaprow believed and attempted to do with his artwork. According to Jeff Kelley "he had been trying to move away from the figurative abstraction preferred (in painting)...and toward a method of making art that was at once physical and extemporaneous."[70] And he would.

In 1958 Kaprow made his break with painting and published an essay in Art News, "The Legacy of Jackson Pollock." In the essay Kaprow described his desire to merge the viewer with the artwork. Following in Cage's footsteps (and the German avant-garde radio artists) he believed that "objects of every sort are materials for the new art: paint, chairs, food, electric and neon lights, smoke, water, old socks, a dog, movies, a

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[69] Jeff Kelley, Childsplay: The Art of Allan Kaprow (Berkeley, CA, University of California Press, 2004). p. 17.
[70] Kelley, p. 18.

thousand other things that will be discovered by the present generation of artists."[71] Kaprow desired a new form of art that existed in the moment and did away with existing notions of what was or could be art. He identified the art in Pollock's paintings as the very action of painting them as well as the action of experiencing them. He looked forward to a new type of artist who defied delineated boundaries.

Kaprow holds his first public Happening, *Communication,* in April 1958. He quickly developed other happenings. *The Big Laugh at the Rueben Gallery and Coca Cola, Shirley Cannonball followed Eighteen Happenings?* at the Judson Gallery in early 1960. But the problem with these pieces was that the audience remained just that – the audience. They were audiences as standing, watching masses despite the fact that the performers roamed throughout the spaces. Kaprow knew that audience participation was crucial to making his happenings function. Otherwise it was simply theatre. With *The Apple Shrine* he created an environment into which the audience had to enter. They would be surrounded by the piece and thus forced to engage with it. *The Apple Shrine* was constructed as a "modern labyrinth" with narrow passages made from old newspapers, cardboard, and tarpaper stuffed into chicken wire stretching from floor to ceiling. He placed an alter in the center of the space and decorated it with both real and fake apples. This was the perfect example of his desire to make anything art. It was a room that was literally made out of detritus.

Over the course of the early to mid sixties Kaprow continued pushing the boundaries of the performance/Happenings. He solidified his reputation as an artist, stretching the boundaries of performance and environmental art, despite the fact that he

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[71] Allan Kaprow, excerpted in Art Since 1900 Hal Foster, Rosalind Krause, Yve-Alain Bois, Benjamin H. D. Buchloh (New York, Thames & Hudson, 2004). p.450.

was working in an increasingly crowded oeuvre with numerous artists creating Happening style events.[72] By the mid-60s Kaprow had stopped calling his work "Happenings" and began referring to them as "activities." As Kelley describes it "the term 'Happenings' had acquired so much art-world and pop-cultural baggage"[73] that Kaprow was forced to discard it.

Yet Kaprow never forgot Cage's lesson that everything and anything could be art. In all of his "activities" leading up to The Medium is the Medium content and materials continued to be drawn from the everyday. From the ice blocks of *Fluids* to the tar paper and concrete of *Runner* Kaprow maintained his connection to the real world environment. In 1966 he had his encounter with broadcast media. That summer he was recruited to produce a number of Happenings in the Hamptons during a three-day weekend in August. These were subsequently aired on a New York CBS television show, *Eye on New York.* The idea was to interject Happenings into the everyday activities of those in the town, in order to catch them unaware and record their reactions on camera. When it was over, the television crews packed up and returned to New York.

While most of those involved in *Gas* thought it was a great success, Kaprow didn't. For him the piece was about theatrical spectacle. It reinforced the audience/performer relationship once it was televised. The feedback loop between the participants wasn't evident. As Kelley notes "the feedback provided by the experience was replaced largely by the false feedback of narcissism on a mass-media scale, in which

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[72] Between 1959 and 1961 Jim Dine, Robert Whitman, Red Grooms, and Claes Oldenburg all produced either Happenings or Environments. See Allan Kaprow, Assemblage, Environments & Happenings (New York, H.N. Abrams, 1966).
[73] Kelley, p. 88.

the culture, through the mirror of television, watches itself having a gas."[74] Despite his disappointment in televising Happenings Kaprow agreed to participate in "The Medium is the Medium." The difference was that this time he was working directly with the technology and calling upon participants through it. There was no viewer. Of course this was ignoring what would happen upon the actual broadcast of the program months later. Kaprow, however, was quick to disassociate himself from *Hello*. Once it was over as a performance, it was over as a piece. He had no input in its editing. It offered an opportunity for him to expand his concept of what Happenings could be. It was a chance to create a "tele-happening."

James Seawright[75]

James Seawright was one of the more electronically adept participants in the program. He was trained as an electronic engineer in the U.S. Navy and became the stage technician for choreographer Alwin Nikolais from 1962 to 1963. He often collaborated with his wife who was a dancer. They created works involving light and sound. Seawright began composing electronic music and was soon working as technician and instructor at the Columbia Princeton Electronic Music Center (CPEMC). He also took sculpture lessons at the Art Students League in New York. While at CPEMC he started experimenting with the use of electronics to make sculptures. His desire was to "make

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[74] Kelley, p. 119.

[75] See also Artforum v. 10 (April 1972) p. 64-71; Gazette des Beaux-Arts v. s6 no. v78 (December 1971) p. sup 15; Art in America v. 58 (November 1970) p. 118-23; Art in America v. 58 (May 1970) p. 32C; Art News v. 69 (Summer 1970) p. 68; Art International v. 14 (Summer 1970) p. 139; Art Journal v. 29 no. 1 (Fall 1969) p. 40-4; . Art in America v. 55 (May 1967) p. 24-47; Aujourd'hui v. 10 (January 1967) p. 180-1.

valid art out of materials that are shaping the world."[76] Seawright was driven by the same thought as Kaprow, Tambellini and Cage before them. He wanted to make art out of conventional materials that had other cultural significance. Seawright gathered electronic components and began making sculptures with them. He showed his first electronic sculpture *Tower* at the Stable Gallery in 1966 - *Tower* was "a column of wires arranged in layers and vertical rows and supporting nearly a thousand little indicator lamps."[77] The lamps would switch on and off in programmed intervals creating the effect of the light moving around the piece.

Seawright began designing his sculptures to respond to external influences. *Watcher* and *Searcher, Captive, Scanner* all reacted to environmental light patterns prompting electronically generated sounds. *Searcher, Captive, Scanner* actually produced light and had the ability to modify its own programming, "In the presence of one another, the pieces interact and provide a continually varying patter of independent and collective activity."[78] Seawright, inspired by Paik's robots of the early sixties, was creating living, moving art that acted autonomously. It was this aspect of the work that brought him to the attention of Howard Wise who had been exhibiting kinetic art since the early sixties. Wise included him in the *Lights in Orbit* exhibition in 1967.

Otto Piene[79]

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[76] Douglas Davis, Art and the Future, (New York, Praeger Publishers, 1973). p. 153.
[77] Davis, p. 154.
[78] Davis, p. 155.
[79] See also Art in America v. 58 (May 1970) p. 118-19; Art Journal v. 29 no. 1 (Fall 1969) p. 72; Arts Magazine v. 44 (September 1969) p. 55; Art International v. 13 (May 1969) p. 56; Arts Magazine v. 43 (April 1969) p. 63; Artscanada v. 25 (December 1968) p. 38; Artscanada v. 25 (June 1968) p. 13, 14-17; Aujourd'hui v. 10 (October 1967) p.

Piene also left painting to make multimedia art. He began creating smoke and light paintings in the mid nineteen fifties. In 1957 he formed group ZERO with Heinz Mack. Together they published an art journal of the same name. Piene described ZERO as "a changing group of voluntary individuals with personal identity, a free community without a formed manifesto to swear by."[80] Despite having no "formed manifesto" ZERO was operating in a way that distinguished them from other art collectives of the time. The group functioned with:

> the understanding that visual and sensual perception could be induced by partly controlled means without eradicating chance, the irrational, and the artist's subjectivity; the understanding that LIGHT is a leading force of life; the understanding that man has to live *with* and not against the elements, *with* and not against technology; the understanding that it's the artist's part today to change our environment on a large, as opposed to a mere petty scale.

ZERO was similar to other groups in that it believed art could cause change but it differed in that they believed artists should use technology to affect change on a grand scale. Piene continued to follow this belief as he moved away from painting towards more "multi-media" work. He had his first one-man exhibition in Düsseldorf in 1959. That same year he started using light to create change environments and performed his

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161, 168-71; Arts Magazine v. 42 (September 1967) p. 20-1; Studio International v. 173 (February 1967) p. 70; Art in America v. 55 (January 1967) p. 106-11; Arts Magazine v. 41 (Summer 1967) p. 24-31; Arts Magazine v. 40 (January 1966) p. 63; Art in America v. 53 (December 1965) p. 45-55; . Studio International v. 170 (July 1965) p. 2-9.

[80] Davis, p. 134.

first "light ballet." In 1960 he began building light machines that were connected to timers as a way to add more technology to his performances.

Piene was introduced to the American art scene at the Guggenheim in 1962.[81] He moved to the United States to teach at the University of Pennsylvania and organized the first Zero show in the U.S. at the Philadelphia Institute of Contemporary Art in 1964. Piene loved the United States. As he told Douglas Davis "here people do and make things, as opposed to merely thinking about them." He saw the U.S as a place where technology and the arts were working hand in hand. And at the time this was certainly true.

ZERO ceased to exist as of 1966 and Piene began a partnership with Aldo Tambellini. Together they created the Black Gate Theatre where Piene's belief in LIGHT as a life force contrasted with Tambellini's Black. It is about this time that Piene began creating his first balloon sculptures. Using small machines the balloons inflated and deflated while moving about. He showed his first balloon piece *Octopus* at the Howard Wise Gallery in 1965. The following year he was included in the *Festival of Lights* exhibition at the Wise Gallery. This show was expanded and sent to the Walker Art Center in 1967 where it became *Light/Motion/Space.* In 1968 Piene was invited to be the first artist in residence at the newly created Center for Advanced Visual Studies at MIT. While there he participated in the WGBH program.

Nam June Paik

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[81] Art in America v. 52 (April 1964) p. 50

Paik, now considered to be the founding father of video art, provides the most direct link to German radio artists and the work of John Cage. Paik began as a composer studying piano, composition and art history at the University of Tokyo. Upon graduation in 1956 Paik moved to Munich where he began work on a doctorate degree. He quickly changed his mind and moved to Frieberg to study composition with composer Wolfgang Fortner. After two years Fortner realized that Paik's interest did not align with traditional music and suggested that he work in the electronic music studios of the *Westdeutscher Rundfunk* (WDR) in Cologne. From the beginning Paik was working across genres and thinking not only about what he was making but what he was making it with. In 1958 Paik met John Cage while he was teaching at the International Holiday Courses for New Music in Darmstadt.

Paik attended several of Cage's lectures. His theories of randomness and performance were extremely influential for Paik. He immediately composed a piece for audiotape and piano. Titled *Homage a John Cage,* it consisted of an audiotape combined with two prepared pianos.[82] Paik was son moving away from simple compositions and began inserting performative aspects to his work. These "actions" (as Paik called them) consisted of "smashing eggs, breaking glass and overturning a piano"[83] the purpose of which, according to Decker-Phillips, was "to irritate and shock. Whereas it was Cage's intention to liberate sounds, for Paik the goal was to eliminate traditional music and

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[82] Prepared pianos were simply that, pianos that had been altered in some form for the performance. Cage performs his first prepared piano piece in 1938. The piano had its strings muffled. Edith Decker-Phillips, Paik Video (Barrytown, NY, published under the Station Hill Arts imprint by Barrytown, Ltd, 1998).p. 26.

[83] Decker-Phillips, p. 28.

performance practices all together."[84] Yet Paik was also playing to Cage's belief that "musical performance was a kind of theatre, analogous to the theatre of life, and as such it should engage both the 'eye and the ear.' "[85]

In March of 1963, Paik had his first solo gallery show at the Gallery Parnasse. This show, titled *Exposition of Music – Electronic Television,* was Paik's first attempt at combining his two interests: visual art and music. It consisted of his first television sculptures alongside several altered pianos. Paik returned to Japan in 1963 and began working with the engineer Shuya Abe whom Paik later referred to as "my major collaborator in TV art."[86] While in Japan, Paik's love of electronics blossomed. He constructed an electronically controlled robot with Abe, built his own video cameras and started experimenting with color television. His robot, *Robot K-456,* was remote controlled and walked, talked and defecated.[87] Paik brought the robot, which he thought of as a "Happening tool," with him to New York in the summer of 1964.

Paik spent the majority of the next year continuing his experiments with televisions. He began using electromagnets formed into a ring known as a degausser (used by engineers to eliminate electrostatic charges on television screens). The first of these works was known as *Demagnetizer (*or *Life Ring).* Paik also began using large iron magnets placed on the television cases to distort the image. *Magnet TV* was created about this time. In this piece a large magnet is placed on top of the television and the viewer would move the magnet around distorting the image.

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[84] Decker-Phillips, p. 28.
[85] Owen F. Smith, Fluxus: the History of an Attitude (San Diego, CA, San Diego State University Press, 1998). p. 22.
[86] Davis, p. 149.
[87] John G. Hanhardt. Nam June Paik (New York, Whitney Museum of Art, 1982). p. 12.

That same month Paik purchased his first video tape recorder. The recorder allowed him to distort specific content as opposed to being at the whim of broadcast television. One of the first videos he made was *Mayor Lindsay*, shot in November 1965. It consisted of a recording of New York City mayor John Lindsay on the eve of his election. It was simply a short looped section of video with the mayor smiling; "his hand lifting for a wave, and then the picture freezes." *Early Study*[88] was his next video, created in January 1966. This video documented Charlotte Moorman's visit to the Johnny Carson show. Paik recorded everything in her segment, including the commercial breaks.

At the end of 1965 (November –December) Paik had his first gallery show in New York at Gallery Bonino. The show, titled *Electronic Art,* included his magnetic television work as well as Robot K-456. Paik described it as "overkill. Like all of John Cage's pieces, putting in everything, that's the real American spirit, thirty amplifiers, thirty contact microphones, and so forth. I generally include many things. I put the ten TV sets...including the RCA color TV I had brought and worked on in Tokyo, plus my first videotape."[89] The show was representative of everything Paik had worked on up to that point. It was a milestone in his career. In 1967 Paik participated in the *Festival of Lights* and the *Light/Motion/Space* exhibitions along with several other artists who would be involved with "The Medium is the Medium."

It was predominantly due to Paik that both the Artists-in-Television program and The Medium is the Medium were created. Paik began his relationship with the

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[88] Decker-Phillips, p.148-149. This video is also known as *Variations on Johnny Carson vs. Charlotte Moorman* see John G. Hanhardt, "Paik for TV and Video: Global Groove 2004," Global Groove 2004 (New York, Guggenheim Museum Publications, 2004). p. 15.

[89] Davis, p. 149.

Rockefeller Foundation in 1965 when he became one of the first to receive their individual artist's grant in television art. As I noted in chapter one Paik would go on to have a relationship with the directors of both the Ford and Rockefeller Foundation. Thanks to his work, these institutions turned their attention to this new art form. Since he was a fan of Fred Barzyk's show What's Happening Mr. Silver he was also partially responsible for having both programs at WGBH.

Conclusion

These six artists knew each other. Five of them had exhibited at the Howard Wise Gallery at one time or another. Most of them were in the *Festival of Lights* exhibition in 1967. This space was their common ground. Wises' gallery gave them a space that allowed the creation work that was unusual and challenging to the contemporary art scene. He showed their work whether it was a balloon sculpture or a mangled television. But the transition to television proved to be challenging. Their artwork had to shift due to the different technological complications of television. Does it change significantly? Was it representative of the work they would make after? And in the light of Kaprow's delineations noted in the introduction, does it foreshadow trends that emerged in its wake?

Chapter Three: The Show.

"One did not usually watch broadcast television to see a new visual art form or an innovative means of expression."[90]

John G. Hanhardt

One thing that is important to keep in mind when examining The Medium is the Medium is the arena in which it was created. American television programming at the time was monolithic in its nature. It was an industry dominated by three national networks with programming that was extremely market driven. By 1968, as John Hanhardt notes, "television had become a marketing tool. It was not the communications medium it claimed to be but, rather, a one-way channel, broadcasting programs that sanctioned limited innovation and whose very means of production were invisible to the home consumer."[91] In the twenty-five years since its debut television had become a seamless hegemonic institution. Mainstream television occasionally tried to break out of it's demographic and appeal to young people.[92] But it ultimately remained a mass media enterprise with no room for art. Art was left to the educational oriented public stations.

As discussed in chapter one there was a long history of creative programming at WGBH. When looking at all of the programs created at WGBH, one has to remember that everything produced was a struggle between the desires of the directors and producers and the engineers. The engineers controlled all of the equipment in the television studios. Due to their complex electronic nature (not to mention the electrical

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[90] John G. Hanhardt, "De-Collage/Collage: Notes Towards a Reexamination of the Origins of Video Art" Illuminating Video: A Guide to Video Art ed. Doug Hall and Sally Jo Fifer (New York, Aperture Foundation, 1991). p. 71.
[91] Hanhardt, p 71.
[92] Kaprow's *Gas* was created for and broadcast by a CBS affiliate.

workers unions) no one else was allowed to touch it[93]. Every idea had to be run by the engineers with hope that they would go agree to do it.[94] All of the segments of The Medium is the Medium were collaborations between Barzyk, the artists, and the engineers. According to David Atwood just getting their participation took quite a bit of convincing.[95] These shows would not have even taken place without their cooperation. It was a struggle between an entrenched way of production and a desire to break out of old modes of thinking. Granted, the accommodation between an artist and assistants, stonemasons etc has been taking place since artists began making art. What was different this time was the power dynamic between the two. The engineers were extremely proud of their skill and the quality of the work they were doing. What the artists and the producers wanted verged on heresy for them. They couldn't believe that someone wanted to distort the perfect signal, to rearrange its scanning patterns. It was unheard of. Some of them ultimately agreed to do it. The engineers began seeing the artistic quality in the work being made.

All of the pieces were recorded on tape. They were made over the fall of 1968 and, with the exception of Thomas Tadlock's piece, were made at the WGBH Studios in Boston. Tadlock's video would be the exception for the entire program. Due to the size and complexity of the Architron machine his video was recorded from a monitor in his studio in New York. It was shot live (as the machine "read" the spy program) in its

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[93] While the engineers were probably unionized and thus the only ones "allowed" to handle the electronics. In my interview with David Atwood of WGBH I got the impression that the engineers were also extremely territorial about the equipment and simply wouldn't let anyone touch them.

[94] In my interview with Atwood he stated that any idea involving the cameras or control room that wasn't up to the engineers rigid standards required some convincing by the director and producers.

[95] Interview with David Atwood, July 14, 2006.

entirety with the music added at the WGBH studios. Much like the radio artists two decades earlier each piece was created live in the studio. All of the ingredients were hauled in and thrown together in order to create the piece in one take. Cuts from shot to shot were made on command from the artist to the engineers. They could determine which shot to use but were not allowed to make the actual cut themselves. As video editing was almost non-existent at this time it was much easier to cut on the fly, literally cutting from camera to camera. The exception to this was Allan Kaprow's piece, which was edited shortly after its production by Fred Barzyk.

The format of the program was straightforward. With narration by David Oppenheim, it followed the format of a half-hour informational program. The program opened with an image of an American flag as Oppenheim described the project, "The Public Broadcasting Laboratory invited six artists to work with television professionals in a search for new ways to use the tools of television as an electronic art form." The use of the flag is curious. Is the flag perhaps referencing Jasper Johns famous painting *Flag* from 1955? Is it a marker for the show's "art-ness?" Not only was the flag image static, it was centered within the television frame as a painting might be hung. Or perhaps given the demographic of public television's audience (which was even then viewed to be educated and affluent), the flag could have simply been seen as a symbol of American artistic achievement.. Either way the image grounded the program as an American production funded by American foundations (the Ford and Rockefeller's were nothing if not arbiters of American culture). The image of the flag then distorted into an array of electronic patterns and colors as the camera zoomed in to the field of stars. The stars disappear to a pulsing color field with the PBL logo flashing in and out. As Oppenheim

asked the viewers "what happens when artists use the medium as *their* medium" the images fade out and the show begins.

Prior to each video Oppenheim gave a short introduction of each artist, detailing the date of birth and briefly contextualizing the piece that followed. His voiceover acted as an audio version of wall text, his introduction was like reading the plate on a museum wall. It prefaced the upcoming video and informed the viewer that this is a work of art and here is what you should know about the artist.

The artists approached the program as an opportunity to work with a new type of technology. But it was also a chance to get their work seen by an audience far larger than that frequenting galleries and museums.[96] It was an attempt to create a "museum for millions" as Oppenheim stated in the beginning of the show. Each artist approached the technology in a different way. Some created work that, although visually complex and certainly pushing the technological and semiotic message of television, maintained the role of the audience. The work was simply an interesting visual experiment and wasn't at all self-reflexive about the technology. So while the content was something that was unfamiliar to the audience its delivery was commonplace. It was meant to be *watched.* They created works of art that were predicated upon a art-viewer relationship. Two of the pieces attempted to break through this boundary. Paik's segment abounded in visual experimentation while simultaneously pushing the dyad of viewer-creator by inserting commands directly at the audience. Kaprow also sought to create something different by attempting to create interactivity.

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[96] It is difficult to know just how large WGBH's audience was. They would only acknowledge the number of people in range of their transmitters. They did not begin subscribing to the Nielsen Ratings system until the seventies.

Each artist was invited to Boston to spend some time at the studios to work on their video. They were given a production crew to work with and had complete access to the WGBH facilities. Fred Barczk, as producer was responsible for each production. He described his experience working with Nam June Paik, "Paik showed up in (rubber) boots and with about twenty old TV sets. I asked him why he was wearing the boots and he said 'Oh, I get electrocuted otherwise.' He asked if I could get a nude woman to dance over a picture of Richard Nixon. I went as far as I could on public television. I had a dancer who was willing to do it in pasties and a g-string. But that shook up the station too, because this was definitely not what they expected."[97] Each artist would push the boundaries of what the station expected from them. But they were limited to a timeframe of five to seven minutes that some perceived as a detriment to the programs success.[98]

Tambellini's video started off the show. His video *Black* involved a thousand slides, 30 school children from the Roxbury neighborhood of Boston, sixteen of his own films and several television monitors. The video was both a documentation of an event (it was recorded live in the studio) as well as a piece of abstract art in itself. It was also a form of social critique since Tambellini had the children discuss the nature of blackness. It began with a series of abstracted circle images in black and white shifting between foreground and background. The audio was a mixture of street sounds and electronic noise. Over time, the children began to appear through the abstract imagery. Initially silhouetted in black against the stark white background, they were gradually shown

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[97] Fred Barzyk quoted in George Fifield, "The WGBH New Television Workshop," Fred Barzyk: The Search for a Personal Vision in Broadcast Television (Milwaukee, WI, Marquette University Press, 2001). p.64.
[98] John S. Margolies, "TV – The Next Medium," Art in America, Vol. 57, No 5, September-October 1969. p. 53

without abstraction. At the same time their dialogue emerged from the chaos of street sounds revealing a conversation about how they felt being black in America. It ends with one of the children proclaiming "I'm black and I'm proud." It was Tambellini's belief that television offered the audience a chance to experience the medium through all of the senses. It was his intent to get the audience to "experience TV as a medium itself."[99] But was this successful?

In *Black* Tambellini combined his desire to create an abstract space that was indicative of his "black as the womb of the space era"[100] concept with a political statement. The slides and films created a non-space that was never clearly defined. The images were obviously projected in the studio but this was impossible to determine through viewing. It was non-space but it was also referencing his desire for space in its expanding and contracting abstracted circles (this space image as utopian ideal that would emerge in Kaprow's video as well). On top of this Tambellini was also trying to create a politicized video. By having children discuss racism, he sidestepped the highly charged theme of "black power." Instead it looked beyond the issues of the present combining the space imagery with the voices of children suggesting a correlation between technology and the future, an idea that permeated much of his work. It was a strikingly abstract video to begin the program with. But its visual power was overwhelmed by Tambellini's political ideology. His comments about race and identity were ultimately much more striking than the black and white circle imagery that dominated the video.

Thomas Tadlock's video came next. His video was in stark contrast to Tambellini's in that it was a video without a message. It was simply an image to be

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[99] John S. Margolies, p. 54.
[100] Tambellini, p. 4.

enjoyed. *Architron* was both the title of the piece and the name of the machine that made it. What the machine did was take in a black and white broadcast television signal. It divided up the image in two three triangular sections counter clockwise around a central axis. These sections (as images) were then fed as one with the differences in grey scale superimposed and section is given a different color that is chosen by nine color controls. For each signal there are three knobs representing the primary colors – red, blue, green. The colors could be adjusted by the knobs to make any combination of the three. They would then be mixed with controls that adjusted the percentage of each color present. The effect was a kaleidoscopic star image of colors that constantly turned. For The Medium is the Medium Tadlock transformed a television spy drama (which is never identified) and synced it to a Beatles song titled "I will" from their 1968 album The Beatles. The images were completely abstracted and the video was a nice abstract "music" video well before such term came to use. Tadlock set out to make meditation patterns with his machine. But ultimately, it demonstrated the possibilities in appropriating and distorting the televised image. His desire (which was shared by all of the artists) was to use technology to open up television to artists. His work was explored the electronic possibilities of the televised image.

Allan Kaprow's piece followed. *Hello* was an attempt to use television technology to bring people closer. Kaprow's idea was based on the concept of making television a communication device. He wanted to remove the viewer-audience dichotomy inherent in mainstream television and enable people to get in touch with each other. *Hello* took place in four locations using five cameras and 27 television monitors. Two locations

were at the WGBH studios, one at MIT and one at a children's school in Newton. In an article in Art-Rite magazine published four years later Kaprow described the piece:

> Each of the four sites were linked together sending and receiving simultaneously, like an open conference call on the telephone. There was about an hour, of time available. A group of participants at each place watched their monitors and when anyone saw someone they knew they called out Hello! (speaking the name of the person) I see you!` The engineers in the control room at WGBH, which was also one of the sites, had the additional job of randomly switching the sound and picture signals to all four sites. Thus one of the monitors at site A might get audio but no video image, two monitors at site B might have video but no audio, while C and D got normal transmission for a few minutes on all monitors. Audio and video might be divided between sites so that friends might hear but not see each other and vice-versa.[101]

Hello ended up being much smaller. Barzyk edited the broadcast version down from the hour long "performance" or "tele-happening" to just six minutes. Kaprow was not involved with the editing and called it a "video tape digest," with no relation to the piece itself. In this way *Hello* was very much like *Gas*. It had a feedback loop (as Kelley calls it) between the performers as the piece was performed but this is gone once it was broadcast. As with *Gas*, "the feedback provided by experience was replaced largely by the false feedback of narcissism on a mass-media scale, in which the culture, through the

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[101] Kaprow, Art-Rite. Autumn 1974. p. 17.

mirror of television, watches itself."[102] The piece was no longer about an experience but had become a documentation of the event.

The video opened with a medium shot of a wall of monitors. There were several quick cuts between the monitor wall, close ups of Nam June Paik and a hand pushing buttons to switch cameras. There was a pause with a shot of Kaprow pointing at the monitors and shouting, "I see you!" This was followed by a shot of a monitor with another man standing in the studio looking around and saying, "I don't see anybody." There was another shot of Kaprow pointing and shouting (a repeat of the same shot as before). Next there was a shot of a monitor showing another location at the WGBH studios. Two monitors sit on carts in a hallway. A group of people gathers around looking from the camera to the monitors and back again asking "have they started yet?" Shots of the children at the school take up most of the video. They sit gathered around a monitor and camera. Several of the children play with toys, completely ignoring the pleas of the parents. What was an attempt to create a communication event quickly became an event about watching. But it is unclear if people are looking for others or looking at themselves. The intent was certainly to see others but the act of watching oneself is inescapable (and unknowable in this edited context). Just who was watching whom? A crowd gathered in the studio and stood behind the engineers. They craned their necks straining for a glimpse of someone they knew. It had stopped being about the "hello" moment and became about seeing, as they all started yelling "I see you!"

The parents began to shout questions at their children. Someone could be heard through the cacophony of voices, "If only I could talk to her (his child) through all this

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[102] Jeff Kelley. Childsplay: The Art of Allan Kaprow. (Berkeley, CA: University of California Press, 2004) 119.

machinery, that would be great!" Kaprow later described the action, "a father cried out deploringly to his child to take notice and like everyone else who was able to connect for a moment was overjoyed when the girl's thin voice called out Daddy. The child seemed more interested in the blocks she was playing with. One woman tried to tell her friend she liked her own face on TV. It was all very human and very silly."[103] Unfortunately, the video ended up lacking much of the looseness that Kaprow described. What he felt was a very touching moment of a parent attempting to communicate with his child reads as voyeurism. There were several shots of the children playing, completely ignoring the equipment before them, juxtaposed with the faces of the parents staring at the monitors and crying out for their attention. In the interaction between parent and child, *Hello* became more about surveillance than communication through technology. Actual clarity of verbal interaction gets lost in the cacophony of voices and pleas for attention. And there was an element of the narcissism with the parents demanding recognition from their children. One child actually states "I saw you already." The excitement of seeing was lost on them.

Towards the end of the video there is a shot on one of the monitors of the Earth as seen from Apollo 8. The Apollo 8 mission was the first manned spacecraft to leave Earth's gravity and orbit the moon. The mission took place from December 21st to the 27th 1968. Was it inserted here to imply that Kaprow desired to make *Hello* a global event? Using a shot of the Earth in its entirety to suggest the universality of peoples desire for communication. The penultimate shot of *Hello* was of the moon. The whole moon was off to the right of the screen as the text "Hello" is spelled out with the final "o"

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[103] Kaprow, Autumn1974, p. 18.

overlapping the moon. The combination of these two shots is very telling of the cultural moment. Within the timeframe of *Hello*s creation and its broadcast NASA conducted two Apollo missions, 8 and 9. Apollo 8 orbited the moon while 9 (March 3rd to 13th 1969) tested the lunar module in preparation for the actual moon landing which would take place four months later. Was Kaprow using the space imagery to illustrate technological optimism? He believed technology would bring people together, be it through space travel or interpersonal communication linked together with the television. As Pamela Lee states with regards to the televised NASA events "no account of the mission, after all, would be complete without the television sets, all those black and white altars in living rooms or mounted in a corner at the local bar. Millions would watch this history play out on television."[104] Television brought people together for significant events like NASA missions. Kaprow envisioned *Hello* as doing that same thing. *Hello* ends on another technological note. Starting with a close up of a video monitor with a static filled image, the camera ten racked out to reveal the monitor sitting next to a Sony video tape recorder. It is a picture of the Sony Videocorder.

Why does the video end on this shot? Clearly it was added in post-production. None of the other videos in the program make such a self-reflexive display of technology. And all of the videos were shot with large studio cameras - not the portapak shown - making its inclusion even more incongruous. Perhaps Kaprow's video served as more of a document of an artwork than an artwork in and of itself (a conundrum that would haunt documentary video makers). The shot of the technology served to both remind the viewers of the construction of the piece as well as confirm Kaprow's assertion that

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[104] Pamela Lee. Chronophobia: On Time in the Art of the 1960s. (Cambridge, MA: The MIT Press, 2004) 7.

technology will bring people together. Placing the three shots, the Earth, the Moon and the Videocorder together created a conceptual link between technology, communication and personal empowerment.

James Seawright's *Capriccio* came next. Seawright's video marked a bit of a reversal for him. It was a step away from the his techno sculptures and a return to the dance pieces he created in the early sixties. Collaborating with his wife on the videos creation he made her dancing the focal point. Seawright's video is both a performative and electronic piece. While straightforward in its content (it is simply two dancers), he used the electronic studio devices to create a piece that is a combination of the literal and the abstract. For its construction he used two dancers (one of them his wife Mimi Gerrard and Virginia Laidlaw), videotape delay, and positive and negative color video. He commissioned Bulent Arel to compose the soundtrack.

The main video imagery was of two dancers. They moved about the studio interacting with each other. For the first two thirds of the video they were shot in "negative color" on a stark white background, which was then superimposed with a reversed image. The colors shifted from shades of pink to bright green. The images of the dancers multiplied from two to four to six and drifting from foreground to background and back again. Arel's soundtrack provided an appropriately abstract electronic accompaniment.

For the final section the two dancers images were separated into the three primary colors used by the cameras. Each color image was recorded on a different tape The three tapes were then mixed to create multiple images with a time delay between each version. The effect was of the dancers leaving multiple visual traces of their movements in

different colors. The video stands in stark contrast to the work Seawright was making at the time. It was one of the more innovative of the pieces included and its color manipulations foreshadowed much of the work created in the seventies as electronic manipulation of video proliferated.

Otto Piene's video was fifth. His video was stylistically somewhere between Seawright and Tambellini's. Piene's video had the static camera and simple studio set up of Seawright as well as the theatricality of Tambellini's "event." Like Tambellini's his video was both abstract and literal. It was both a documentation of a performance and a electronically manipulated visual extravaganza. *Electronic light ballet* continued Piene's oeuvre of balloon sculptures and performances. The piece comprised 22 tanks of helium, searchlights, 800 feet polyethylene tubing, and a 95 lb girl. The documentation aspect was rudimentary. It was a recording of the performance that took place at night in the parking lot of the WGBH studios. The young woman was strapped to a balloon made of the polyethylene tubing filled with helium. Over the course of thirty minutes she ascended forty feet into the air. Piene then took the footage and mixed colors and electronic patterns on to videotape. The two tapes were then blended together to create the final video.

The video opened with colored light patterns moving across the screen. Below the dancing lights an image of a women getting attached to the balloons can be seen. The audio track consisted of electronic noises and distorted bits of conversation. The video continued with the image of the woman getting clearer as the color patterns move faster and faster across the screen. There are several moments when it is possible to see the balloon but it is difficult to discern what it is.

Off all the artists involved Piene was the one to see the potential of televising art. He saw the ability of broadcasting to bring art to a larger group of people. His video *Black Gate Cologne* (made with Aldo Tambellini) stands as the very first broadcast of video art in the world.[105] Like the WGBH video it was also a event that took place live in the studio and recorded in its entirety for future broadcast.

Nam June Paik' *Electronic Opera #1* closed the show. Paik and Kaprow had very similar approaches to making their videos. Both were investigating the technology's ability to interact over distance. Yet their conceptual premises were very different. Kaprow was very much about the *event*. His work was predicated on the "live-ness" of the moment. The resulting video was irrelevant. His art was the act. Paik's video by comparison was much more about the television and its potential for artistic interaction. It was a linear progression from his interactive pieces in Germany. He followed the simple pattern of "do this so that this will happen." This was evident from the very beginning of his video.

Electronic Opera #1 opened with the declaration "This is participation TV," immediately establishing the fact that the viewer would have an active role in the piece. Next came "Please follow instructions," which formalized the relationship: the viewer will be told what to do. This directive was intercut between shots of a seemingly topless woman dancing (*we* know that she is wearing pasties but the audience didn't). The video continued with cuts between the dancer, video footage of President Nixon and John N. Mitchell, his attorney general, Paik's magnetically produced color images, and three

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[105] The exact date of its broadcast is unavailable but two sources mark it as close to if not before "The Medium is the Medium. See Davis, p. 84 and http://www.medienkunstnetz.de/works/black-gate-cologne/

random men identified by the narrator as "hippies." Interspersed with the footage were more commands from Paik and an unidentified person, presumably a WGBH staff person. First he has the viewer close their eyes and then open them. Then asks "Who said you could open your eyes?" Throughout the piece there is no set pattern (or at least no discernable one). According to Barzyk, the hippies and the semi-nude dancer were shot live in the studio with the cuts taking place from one moment to the next by the engineers running the switcher as directed Paik. The only pre-recorded parts were the footage of Nixon and Mitchell. There was a final bit of banter between Paik and the unidentified person near the end of the video. The other person asks, "What do we do now?" with Paik responding "Lets start it from the beginning." And it does seem to start all over with a repetition of the shot from the opening. After a second or two the screen goes black and a voice intones "Turn off your TV sets." And it is over.

Paik's video was doing several things, especially if seen in contrast to Kaprow's. First of all it is an embrace of the medium, television. This comes as no surprise since Paik has been navigating television as both a sculpture and an interactive device for ten years at this point. But the ability to broadcast completely transformed how he approached his videos. It was far from the simplicity of his first videos, such as *Button Happening,* a video that showed a man buttoning and unbuttoning a coat. *Electronic Opera* #1 was an attempt at using the technology to interact with the audience. As I said at the beginning, this was The Medium is the Medium was all about creating a "museum for millions." For Paik, it offered up a chance to create the artistic network that Kaprow desired yet couldn't reconcile with his own work. Paik viewed the television as

intrinsically "live" while Kaprow didn't. Allison Simmons notes that at the time speculations regarding television vacillated between the positive and negative,

> TV has fostered an ambivalence between activity and passivity. Televisions juxtaposition of banality and real human disaster creates a moral and aesthetic numbness, encouraging passivity, even apathy and manipulability. Yet television is intensely involving and creates a strong sense of active participation...generalized good guy/bad guy thinking in turn reinforces the viewers feelings of powerlessness with respect to the present one way structure of broadcast television, and to industrial and governmental influence over his or her life.[106]

Paik was clearly on the positive side of this discourse. He pushed the "sense of active participation." For him television offered this opportunity. It was about interacting across (or through) the airwaves. This perspective would pervade the work that Paik created after the show, most notably in *Global Groove* (1973), which combined commercials, satellite imagery, live feed and magnetically distorted imagery.

Kaprow was less optimistic. He felt that *Hello* failed because it didn't challenge contemporary notions of televisual possibilities. He was part of a program that was televised. Despite Paik's attempts it couldn't be interacted with. He viewed television as a non-interactive media. For him "live-ness" was in the performative moment. It was live as the signal transmitted from location to location. Once edited and broadcast it was over,

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[106] Allison Simmons. ""Television and Art: A Historical Primer for an Improbable Alliance." The New Television: A Public/Private Art. (Cambridge, MA: MIT Press, 1977) p. 7.

dead. Kaprow didn't buy television's "live-ness." Television was about passivity. Five years later Kaprow acknowledged this complication,

> It is doubtful that the tape did what it was supposed to do because TV audiences are always audiences. They are sent messages in one direction and that is what they are used to. Hello approached the medium of video as if it were a picture telephone. The telephone is so common it no longer makes any claim as "technology" and acts therefore as a personal and social medium. We may be a long way from video with this kind of access.[107]

Kaprow saw the problem as one of technology. The technology to create the dream version of *Hello* wasn't available yet, implying that in the future (when the technology catches up) it could be restaged successfully.

Were the failings of the show technological? Were they even failings? In his review of the program in Art in America in fall of 1969 John Margolies felt that the program was disappointing in that each piece was far too brief to "demonstrate a real command of the medium"[108] although they did show great potential. This program was notable for not just what it did (as the first ever broadcast of video art) but for what it showed. It showed the *potential* of the technology. In spite of some early attempts at combining television and art (noted earlier), people weren't really aware of television's potential as medium for making art.

CONCLUSION

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[107] Kaprow, Autumn 1974, p. 18.
[108] Margolies, p. 53.

"Recently I viewed a tape of the show (The Medium is the Medium) and discovered that this seminal program, which Fred Barczk produced, may have influenced more video careers that I realized. In a shot that panned across the stagehands I recognized a couple of helping hands, youngsters Bill Viola and Mary Lucier."[109]

Barbara London

The Medium is the Medium took place thanks to a technological, artistic and social convergence. This moment (March 23rd 1969) brought together the aesthetics of video as art, performance, and technological manipulation. It was also a moment when foundation support and an artistic drive to expand the concept of art merged. It was the right time, the right group of people, and the right place. The Medium is the Medium wasn't the last program on WGBH to contain video art[110] but it was the first. And it was notable for what it was not. It wasn't a didactic exercise in art history or art practices (at least not literally).

The Medium is the Medium was not about broadcasting art as an educational experience, as in WGBH's previous programs on art. It was a reconfiguring of what art on television could be. It was television as museum or gallery space without the social implications of those spaces. The Medium is the Medium ultimately resonates more due to the fact that it wasn't tied to a specific institution such as a gallery. Gallery spaces imply larger cultural issues around art with a large "A." They are inherently loaded with cultural baggage. Gallery spaces lack the egalitarian aura of (educational) television. Unlike the struggles at MoMA, which took place ten years before, the art on television program was inherently about breaking down the elitist separation between art and the

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[109] Barbara London, "For the Love of Scan Lines," Fred Barczk: The Search for a Personal Vision in Broadcast Television (Milwaukee, WI, Marquette University, 2001). p. 55.

[110] WGBH would go on to do other programs with video artists: *Video Variations* and *Video: The New Wave* would follow in 1970 and 74.

people. The artist and the social sphere in which they navigated had moved away from these divisions. They were looking to create art that moved people and could affect social change. The introduction of personal video tape recorders placed this power in their hands.

The Medium is the Medium took place in a moment of technological transition. The video tape recorder offered up the power of personal involvement with a distribution system dominated by corporations. It was a device that opened a window to opportunity, for storytelling, documentation, commentary, whatever the possessor wished. The emergence of the relatively inexpensive technology opened up television for the first time. It enabled those dissatisfied with the status quo to create their own televisual experiences.

> This group of people was concerned with exploring as rich an array of subjects as possible. They felt broadcast TV had developed bland programming in an effort to offend as few people as possible, attract high ratings, and thus command higher prices for advertising time. The alternative television people were not supported by advertising; they didn't care about ratings. They were free to focus their cameras on anything.[111]

This, of course, didn't happen for several years. Most of the audience for The Medium is the Medium wouldn't have even known what a video tape recorder was let alone how it would transform the act of watching television.

Following the broadcast of "The Medium is the Medium," video usage (and video art) began to grow. As I noted in the introduction, within a year the first gallery show

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[111] Johanna Gill. Video: The State of the Art. (New York: Rockefeller Foundation, 1976). p. 2.

involving video art took place. Within two years the first museum show opened. In 1974 the Artists-in-Television program at WGBH was transformed into the New Television Workshop and continued its practice of bringing in artists to work with video technology. That same year the Museum of Modern Art in New York hosts "Open Circuits: An International Conference on the Future of Television." This conference took a look at the historical moment of art and television. It attempted to contextualize the medium and the technology in light of its relatively short life. And it looked to the future of video. The transition from the sixties to the seventies changed the way that artists and culture looked at technology. As Anne Goodyear notes, "fascination with the potential for collaborations between art and technology had turned to suspicion." [112] The culture had turned away from technology as a panacea. The ideals that these collaborations represented faded with the deepening of the Vietnam war.

Video technology would evade these complications. Video offered up an opportunity to shake off the hegemony of mainstream media. It put the technology and its possibilities into the hands of the people. Educational stations and non-profit organizations offered the possibility for exploration without the burden of corporate interference. Thanks to programs like those at WGBH and KQED in San Francisco, combined with the availability of affordable video technology, artists began taking up video in droves. Before the show aired other artists were experimenting with it. Les Levine constructed pieces on both tape and using live video feedback, Bruce Nauman videotaped himself in his studio as early as 1967, and Joan Jonas started in late 1967-68. But by 1972 many more artists, who had formerly worked in other media begin using

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[112] Goodyear, p. 410.

video, notably John Baldessari, Vito Acconci, and Richard Serra. Video art soon split into the varied categories that Allan Kaprow described in 1974.

These genres, the "taped art performance, environmental open-circuit video, and documentary or political video"[113] would be broadened (if not completely exploded) as the technology evolved. Yet here in this formative moment, when the medium was still about the medium, one can see the origins of the medium's deployment, whether its was for narcissistic satisfaction or for experiments with time.

Following the show's broadcast, the six artists continued working, most of them leaving video technology behind. Paik alone continued to experiment and push the boundaries of the medium in both televisual and the sculptural directions. He became famous for his large-scale television monitor installations and his live feed broadcast videos. Kaprow included video cameras as part of his classes at the California Institute of the Arts.[114] But otherwise he shied away from video technology. The other artists would continue creating work but returned to familiar territories. Piene continued teaching at MIT and became the director of the Center for Advanced Visual Studies in 1974. James Seawright went on to teach visual art at Princeton University and kept making his electronic sculptures. Aldo Tambellini made many more videos after leaving WGBH, most of these consisted of performance documentaries. He joined Piene at MIT in 1976 as a teaching fellow at CAVS where he taught courses on the intersection of art, media and communication. He began another group known as Communicationsphere, which was included in several international art exhibits. By the early 80s, his work had shifted

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[113]Kaprow, Artforum, June 1974.

[114] He taught a class called "life lessons" at Cal Arts which consisted of his students using the cameras as diaries for performance ideas. See Kelley.

to writing and poetry that focused on the intersection of art and technology. Thomas Tadlock disappeared. He was included in the Howard Wise exhibition that opened shortly after the programs broadcast. After that there isn't much information about what happened to him. The Architron was Tadlock's one and only contribution to video art history.

Ultimately, I wonder if The Medium is the Medium offers up an early guide to these burgeoning genres. It seems simplistic to hinge the development of an art form on a historical moment. But an argument can also be made for just how important a role this program had. Clearly video art would have evolved and grown without this show. One can look to both Otto Piene and Aldo Tambellini's videos and see the origins of experimental documentary video. Tambellini's political-based work also foreshadowed the more explicit political videos that emerged in the next few years. The techniques employed by James Seawright seem comparable to those in Paik's later video *Merce by Merce* (1978) if not the video work evident in the early days of MTV.

The Medium is the Medium was produced and broadcast at a crucial time in American history (and television history). It signified the optimism still evident in the art community. It showed the possibilities of a new medium using an old one. It is evidence of a exploratory time for artists and television producers. It marked both the end of and the beginning of a new era. It was an opportunity for these artists to create work unlike anything seen before. In the spirit of John Cage, these artists put everything they had at their disposal into the videos.

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