

# **Assessment Report for the Paul Ryan Collection**

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## **Table of Contents**

Introduction, p2
Background of the Collection, p2
Content of the Collection, p4
Status of the Collection, p8
Macro Environment, p14
Micro Environment, p16
Intellectual Control, p17
Physical Control, p18
Rights Status, p19
Recommended Actions, p20
Bibliography, p23

## **Introduction**

As part of the curriculum of the Moving Image Archiving and Preservation graduate studies program at New York University, under the guidance of Professor Grace Lile, Eddy Colloton performed a collection assessment on the videotape archive of Paul Ryan. The following report describes the findings of that assessment.

The collection of video artist, theorist, writer, and educator Paul Ryan is housed in an apartment on the Upper West Side of Manhattan where Ryan lived and worked for much of his career. Ryan's widow, Jean Gardner, lives in the apartment and is the current steward of the collection.

Given the size of the collection, over 600 items, a methodology of sampling tapes was adopted, creating granular descriptions of individual items, while attempting to account for the majority of the collection through a more broad level of inspection. This is reflected in the two attached spreadsheets, the "Ryan Collection" spreadsheet being the more "macro" focused inventory, and the "Samples from the Ryan Collection" inventory (128 items), the more granular. In either case, empty fields should not be considered neglected or forgotten, simply bypassed in the interest of time. Despite this technique, however, some of the collection remains un-inventoried. Tallies of works by format, and other collection level considerations, then, only reflect the items that were counted.

This assessment report aims to describe and inventory the breadth of videotape stored in the collection to the best extent possible, highlighting the current condition and key risk factors. Based on these factors the report will conclude with recommended actions for the continued preservation and dissemination of Paul Ryan's work.

## **Background of the Collection**

Paul Ryan (1943-2013) was a pioneer of his field and can be considered one of the first video artists. "In 1969, Ryan participated in the landmark exhibition 'TV as a Creative Medium' curated by Howard Wise, which served to link the kinetic art movement of the 1960s with the emergent medium of video art. The first exhibition in the United States devoted to video, 'TV as a Creative Medium' signaled radical changes and defined an emerging artistic movement."<sup>1</sup> Other notable exhibitions in Ryan's career as an artist include: "The Primitivism Show" in The Museum of Modern Art (1984), "The American Century Show" at the Whitney Museum of American Art (1999-2000), and the Venice Biennale (2002)."<sup>2</sup>

Ryan's interest in video developed out of theory, studying under thinkers like Marshall McLuhan, whose prophetic concepts about the "global village" and the inherent biases of media are now commonplace. It was while working for McLuhan at Fordham University that Ryan met Frank Gillette. Their shared interest and passion for video eventually spawned the Raindance Corporation in 1969. "RainDance Corporation" a play on the term R&D, and mockingly reminiscent of the Rand Corporation, was later renamed the Raindance Foundation in 1971,

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<sup>1</sup> McShea, Megan. "Paul Ryan Papers, 1931-2009." Archives of American Art. 2014. Accessed April 12, 2015. <http://www.aaa.si.edu/collections/paul-ryan-papers-15614/more>.

<sup>2</sup> McShea, Megan.

when the group became a 501(c)3 non-profit.<sup>3</sup> “A self-described ‘countercultural think tank,’” Raindance was a kind of breeding ground for video art and an exploration of video’s implications.<sup>4</sup> One of Raindance’s major projects was the publication *Radical Software*, first release in 1970.

“Issue one of *Radical Software* contained an article by Gillette on media ecology and another on the evils of EVR (a proprietary playback system developed by CBS); by Paul Ryan on the communication possibilities of cable TV; by Gene Youngblood on ‘The Videosphere.’ Nam June Paik weighed in with ‘Expanded Education for the Paperless Society,’ two pages of observations, quotes and news clips.”<sup>5</sup>

Though acting in an instrumental role in the development of Raindance, Ryan later reflected in an interview that “eventually small group dynamics split people up,”<sup>6</sup> and by spring of 1972 Ryan had left Raindance, and moved upstate to pursue his own artistic practice.<sup>7</sup> It was there, in the Shawangunk Mountains of New York that Ryan began developing Earthscore.<sup>8</sup>



“Earthscore, based largely on the writings of philosopher Charles Sanders Pierce and Gregory Bateson’s work on cybernetics, provided the theoretical and logical underpinnings of both the ecosystem documentation and interpretation process, and the triadic rituals of interpersonal behavior, that became the core of Ryan’s work for much of his life. These ideas were implemented in a wide variety of projects such as eco-channel design, video scores specific to certain locations, threeing projects exploring interpersonal behavior with video and computer technology, and a curriculum for combining media production training with environmental education.”<sup>9</sup>

<sup>3</sup> Gigliotti, Davidson. "A Brief History of RainDance." *Radical Software*. 2003. Accessed April 12, 2015. <http://www.radicalsoftware.org/e/history.html>.

<sup>4</sup> "Raindance Corporation." *Video Data Bank*. Accessed April 12, 2015. <http://www.vdb.org/artists/raindance-corporation>.

<sup>5</sup> Gigliotti, Davidson.

<sup>6</sup> Channer, Harold H., prod. "Paul Ryan, Video Artist." In *Conversations With Harold Hudson Channer*, directed by Gloria Messer. Manhattan Neighborhood Network. December 18, 1995. Accessed April 12, 2015. <https://www.youtube.com/watch?v=4QtgvLEZJOW>.

<sup>7</sup> Gigliotti, Davidson.

<sup>8</sup> Ryan, Paul. *Video Mind, Earth Mind: Art, Communications, and Ecology*. Page 53. New York: P. Lang, 1993.

<sup>9</sup> McShea, Megan. "Paul Ryan Papers, 1931-2009." *Archives of American Art*. 2014. Accessed April 12, 2015. <http://www.aaa.si.edu/collections/paul-ryan-papers-15614/more>.

Over much of the last thirty years, Paul Ryan lived and worked in the aforementioned apartment on the Upper West Side. Much of the collection was created there, and has always been stored there, with the exception of the 1/2" open reel tapes, which had previously been stored in a garage in Northern New Jersey.

Ryan's work is on a variety of formats, reflecting the constantly changing video market of the 70s, 80s, and 90s, and Ryan's commitment to engaging in new technologies as a way of exploring his theories. While the majority of the collection consists of Umatic (or 3/4") tapes and 1/2" open reel video, the collection also contains VHS, Betamax, MII, Betacam SP, and digital video files stored on hard drives and optical media (for a breakdown of the collection by format see Status of the Collection, page 8).

The Umatic tapes in the collection are of an unknown origin. It seems very likely that these Umatic tapes are dubs (copies) of the 1/2" open reel video, but when and how this transfer was done remains undiscovered (this will be discussed in more detail throughout the report, particularly in the Content of the Collection and Intellectual Control sections).

## Content of the Collection

### Sample of Major Works in the Collection

Media Primer (co-produced with Raindance Foundation) 1969-1971

Video Wake For My Father (also called Wake Series) 1971-1976

Triadic Tapes 1972-1976

Color TV 1974

Tapping on Water 1975

Water Chreods 1975

Threeing 1976

Triadic Behavior 1978

A Ritual of Triadic Relationships 1984

Ecochannel Design 1985

ICM Method 1988

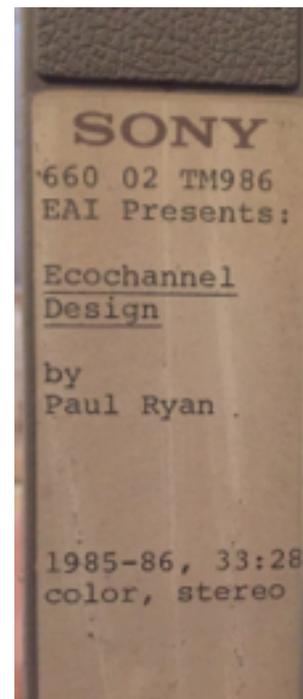
Black Rock Rangers 1988

Nature in New York City 1989

Water Web 1990

Crossing the Brooklyn Ferry 1990<sup>10</sup>

Digital Whitewater 2002<sup>11</sup>



There are two inventories describing the collection.<sup>12</sup> One is a handwritten list of titles or brief descriptions, with a corresponding number to the left of each title. The document is titled "Originals." Jean Gardner was able to confirm that most of this list is in Paul's handwriting,

<sup>10</sup> All dates are from: Ryan, Paul. Video Mind, Earth Mind: Art, Communications, and Ecology. Appendix III. New York: P. Lang, 1993.

<sup>11</sup> Except Digital Whitewater, found here: "Digital Whitewater." Electronic Arts Intermix. Accessed April 12, 2015. <http://www.eai.org/titleOrderingFees.htm?id=7363>.

<sup>12</sup> This does not include the spreadsheets created as part of this assessment.

although someone else has made notes on the document as well. For example, one entry on the list reads:

“88 Paul Dorothy George” and then, in a different penmanship, “Lots Noise,  
Too Dark, Did Not TR”

The second list is typed, and much more thorough. It is labeled “Paul Ryan Tape Database” and is divided into two sections: “Tape List,” and “Contents List.” The Tape List has nine fields: Category Number (either T###, M###, or W###), Project Title, Title, Subtitle, Format, Development, Generation, and Tape Condition (usually “Good,” “Some Signal noise,” or “Faulty Picture,” one labeled “Not Viewable”).

Both of these lists are attached as scanned PDF files.



The handwritten list seems to correspond to the 1/2” open reel video that is in the collection. Both the labels and the numbers on the tapes themselves align with the titles Paul wrote down. The titles written on the typed “Paul Ryan Tape Database” also align with the labels on the 1/2” tapes, and the numbers and titles on Paul’s handwritten list. However, the formats do not match. The only formats listed on the “Tape Database” are 3/4”, Beta, VHS, and MII. Luckily, one of the Umatic tapes, which mostly only have numbers on them and no other labeling, is labeled “142T” (pictured on the left).

All the other tapes, typically labeled with a number on their spine, and sometimes with a corresponding sticker with the same number, have no prefix or suffix number.

This then connects the tapes stored on shelves with the “Tape Database,” which links to the handwritten list, which links to the 1/2” video tape stored in the closet. Observing the annotations on the tapes seems to confirm this, to an extent.

For example, a 1/2” video with the number ten written on it was labeled “Last Nite.” The handwritten list has “10. Last Nite,” with “TR” written in different handwriting next to it. “T010” on the “Tape Database” is titled “Last Night,” is said to be on 3/4” tape and contain “Outtakes.” “Signal Noise” is listed under “Tape Condition.”

Besides illuminating the possible contents of otherwise unlabeled tapes, the “Tape Database” inventory is crucial to understanding the collection because it relates individual tape titles to broader projects. In general, it’s unclear what point of the production process much of the collection comes from, particularly the 1/2” video, whether these are camera originals, edited works, or some combination of the two. This, of course, excludes tapes that are specifically labeled “master,” of which there are several. This is further confounded by Ryan’s tendency to build works on ideas explored elsewhere, and his practice of creating multiple versions of works (now common practice in contemporary art, particularly among artists that work in electronic media).

Prolificacy was essential to Ryan’s oeuvre. Ryan pointed to a study conducted by Al Sheflin in the 1950s, in which a team of researchers closely examined behavioral relationships through

recordings of family therapy, frame-by-frame.<sup>13</sup> The idea being that through extended, thorough observation of patterns, one could internalize and understand those patterns. This concept is present across much of Ryan's work, including *Video Wake For My Father*, *Earthscore*, and *Threeing*.

This explains then, why Ryan recorded "45 hours of people running around in threes."<sup>14</sup> He was documenting groups of three people in the Raindance Foundation's studio, and then studying the footage in order to discern patterns. While all 45 hours are certainly not accounted for in the current collection, many of the tapes have annotations referring to Triadic behavior, threes, or a delta symbol ( $\Delta$ ), as do many of the titles on both inventories. An understanding of this artistic practice provides insight into many aspects of the collection.

For example, the tapes numbered 384 and above are all labeled "Wake" (page 15 of the "Paul Ryan Handwritten List.pdf," or line 499 of the "Ryan Collection" spreadsheet). Ryan's book *Video Mind, Earth Mind*, explains the reason for the amount of tapes in this series, in a passage reflecting on the death of his father:

"The funeral mass was an atrocity of insensitivity and I bolted. Three days later, I went to the Raindance loft, replayed tape of my father I had made while he was alive and shouted and wailed and carried on in front of a recording camera all night long. In effect, I produced a spontaneous, twelve hour *Video Wake For My Father*."<sup>15</sup>

The tapes in the *Wake* series, then, cannot be considered traditional production "elements." This footage was not intended to be edited down to a final product, as it would be in traditional video production, but rather to function as a kind of "study."

This same project-based, "study" practice is evident in examining tapes pertaining to Ryan's *Earthscore* project, his proposed *Eco-channel*, and the *Nature In New York City* project, as well. On the "Paul Ryan Tape Database," W014-W037 are all labeled as part of the *Ecochannel* project, W046-W067 are listed as part of the *Nature in NYC* project, and W069-W100 relate to *Water Web, Water Fire Water, and Tapping on Water*, three works which relate to the *Earthscore* concept of monitoring nature through structured, repetitive observation (page 5-9 on "Paul Ryan Tape Database.pdf").

A handwritten list of tape numbers and titles, with a large arrow pointing from the top to the bottom of the list. The list includes:

356	?
357	Paul Ryan
358	
359	Lisa Apple
360	Handwritten
361	Fr. Ryan #1 CV
362	Fr. Ryan #2 CV
363	Paul Ryan
364	Wake
365	
366	
367	
368	
369	
370	
371	
372	
373	
374	
375	

A large arrow points from the top of the list down to the number 406, which is written at the bottom of the list. To the right of the arrow, the words "with repeats" are written.

<sup>13</sup> Channer, Harold H., prod., "Paul Ryan, Video Artist." 40:15-42:08.

<sup>14</sup> Channer, Harold H., prod. "Paul Ryan, Video Artist."

<sup>15</sup> Ryan, Paul. *Video Mind, Earth Mind: Art, Communications, and Ecology*. Page 53. New York: P. Lang, 1993.

Tapes with a “W” prefix are all primarily found on the same bookcase (“Shelf 2” on the “Ryan Collection” spreadsheet, beginning on row 240). Twenty-two of the tapes inventoried as part of this assessment were checked against the “Tape Database” inventory as a random sample. Of the 22 checked, the labeling, annotations, and format of 20 tapes matched the items described on the inventory, one tape had insufficient labeling to confirm its contents, and one tape, “W036,” is labeled “Cold Spring Hudson,” while the “Database” inventory calls it “Mozart Outtakes.” Now, “Cold Spring Hudson” could simply be a more specific description of outtakes pertaining to Ryan’s work *Mozart on Ice*, but that particular tape’s relationship to the list was not as direct as the others (in the other cases, annotations and labeling on the tapes matched the “database” inventory description verbatim).



Ryan explains his thinking behind the *Earthscore* project, ideas from which are built upon in much of his work, including *Ecochannel* and *Nature In New York City* in an interview with Harold Hudson Channer on the Manhattan Neighborhood Network in 1995 (now on YouTube). This passage may serve as explanation of the large amount of material pertaining to each of these projects:

Ryan: The argument behind this kind of tape is that nature has its own score its own notation we don’t understand it - *by careful observation we can learn how it works*. And, this is an example, water is the richest source of pattern - so all of the water flow patterns that you see here have catastrophe theory models behind them, figures of regulation. The idea is not just to look at nature and say “Oh, that’s nice” but to figure out its score.

Channer: A score - like a score of a musical piece?

Ryan: Exactly, what’s the score in the Hudson River Basin, we don’t know the score. *So we learn the score by systematic observation*, and once we build up a shared understanding, agreement of what the score is, then we can develop coherent policies and practices...and it’s not dependent on language, and it’s non-hierarchical.<sup>16</sup>

Unfortunately, the origin of the “Paul Ryan Tape Database” inventory, like the Umatic tapes, is unknown. However, it seems likely that this inventory was created as part of a re-formatting process, in which the 1/2” video from Ryan’s collection was transferred to Umatic, given the relationship between the 1/2” tapes and the handwritten list, and the Umatrics and the typed “Database” list. This does not explain the “W” tapes, however, which are on a variety of formats from MII to VHS and Beta. The titles of the “W” tapes do not appear on the handwritten list. Perhaps these tapes were just viewed and inventoried, while only the 1/2” open reel tapes were transferred?

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<sup>16</sup> Channer, Harold H., prod., "Paul Ryan, Video Artist." Beginning 53:15. (Italics added by the author).

## Status of the Collection

### Physical Appraisal

#### Format                      Quantity

Umatic	223
VHS	91
Betacam SP	50
Betacam	1
Beta	12
1/2" open reel	254
MII	8
DVD-R	1

#### *Overall*

The entirety of the collection is made up of videotape, a form of magnetic media. On tape, information is inscribed on some type of metallic substance, either particulate media or a thin layer of magnetic material. A magnetic "head" in a video deck, or player, can then read the arrangement of this metallic material and interpret a video signal from it. The metallic material is then bound to a tape "base" with a chemical, typically polyester-polyurethane, called a binder. This binder is a common site of breakdown and decay. Most typically, the binder will undergo decay through a process called hydrolysis, or Sticky Shed Syndrome.<sup>17</sup> Sticky Shed Syndrome will be defined more thoroughly in the 1/2" open reel section, as some of the 1/2" tapes in the collection are demonstrating clear signs of this condition. However, since hydrolysis presents so frequently in magnetic media, it should be considered a risk for the entire collection. Preventing sticky shed, or in this case, preventing it from getting worse, is mostly a matter of creating a proper storage environment (storage environment is discussed in detail on page 14).

An even greater risk to the collection is the impending obsolescence of all magnetic media. There is consensus in the cultural heritage community, amongst technicians, engineers, archivists and conservators, that magnetic media is no longer a sustainable format for preservation. This is primarily because the equipment to playback audio and video tape is no longer being manufactured or serviced. As obsolete decks break down, it has become increasingly difficult to find parts, as well as professionals to repair them. Therefore, regardless of the lifespan of a tape (which is far from infinite), it will be harder and harder to find a functioning playback deck as time passes. Again, this will be described in further detail later on in the report (in the *Obsolescence* section, page 13).

Although it is not as broad of a risk, the existence of mold in the collection (presenting on the 1/2" open reel tapes) should be highlighted. Mold, if left unaddressed, can easily spread throughout a collection. The two tapes that were discovered presenting mold were quarantined

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<sup>17</sup> Benoit, Leon-Bavi, and Bertrand. "Report on Video and Audio Tape Deterioration Mechanisms and Considerations about Implementation of a Collection Condition Assessment Method." *Presto Space* (2006): 11-12. PrestoSpace.org. 2006. Web. 27 Apr. 2015.

in a separate polyurethane container, but the risk remains that un-inspected tapes have developed mold, and could threaten the tapes around them.

### *1/2" Open Reel Video*

The Sony DVK02499 "Video Rover" Portapak (also sometimes written "Porta Pak") was released in the United States in 1967. Portapaks utilized 1/2" open reel tape, and were highly mobile, condensing the VTR (Video Tape Recorder) into a shoulder pack attached to a handheld video camera. The Portapak is legendary for its portability, and the role it played in enabling video artists, journalists and amateurs to democratize media creation. 1/2" video tape was available to consumers, but its composition, and most importantly, how information was encoded on the tape, was not standardized until 1969. This standard, called EIAJ 1/2" open reel tape, is "1/2 inch wide tape, running at 7.5 in/s... with a 1mm wide audio track along the top edge of the tape and a .8mm control track along the bottom."<sup>18</sup> The EIAJ tape is made up of polyester (normally on 5" reels), "backed with carbon to reduce static electricity and coated with magnetized iron oxide particles suspended in a binder base."<sup>19</sup> Previously released, non-standardized tapes came in several "flavors," most commonly CV, but also Skipfield, Concord, and Panasonic NV.

Almost all of the 1/2" open reel tape in the collection is in its original storage containers. From these, it is clear that most of the footage Ryan shot and collected on 1/2" tape was on Sony V-30H stock. Unfortunately, it is unclear whether this stock is EIAJ. Green Tree Audio Video, a business located in Illinois, which provides conservation and transfer of 1/2" open reel tape, lists the V-30H stock under both its EIAJ transfer services and its "Skip Field, CV, Concord, Panasonic NV open reel tapes" services. This is possibly an indication that the same brand of stock was used in a previous CV configuration and then converted to EIAJ.<sup>20</sup>



Dating the tapes from Ryan's biography is also difficult. Many of the works are completed after the adoption of the EIAJ standard, but given the nature of Ryan's process, creation of these works could easily have begun before the standard was released.

During his interview with Harold Channer, Ryan described getting his first Portapak camera in "67, [or] 68," while working as a fellow with McLuhan.

<sup>18</sup> Villereal, Steven. "Format History -1/2" EIAJ Open Reel Video." MIAP Student Work, 2007. Accessed April 12, 2015. [http://www.nyu.edu/tisch/preservation/program/student\\_work/2007fall\\_2/07f\\_2910\\_villereal\\_a1.doc](http://www.nyu.edu/tisch/preservation/program/student_work/2007fall_2/07f_2910_villereal_a1.doc).

<sup>19</sup> Villereal, Steven.

<sup>20</sup> "Transfer Skipfield CV, Concord, NV, NV-8100 Video Tapes." Green Tree Audio Video. Accessed April 12, 2015. <http://greentreeav.com/skipfieldvideo>.

Channer: Cause I think you got the first Portapak off the boat, almost.

Ryan: Well, Nam June Paik claims he did (laughs). My first Portapak came from a man named Buckner. Who owned 1% of Sony stock... He thought McLuhan was the biggest thing to come down the pike since Jesus Christ and he went to Fordham and donated some of the first portables to Fordham. And [my colleague] looked at it and said "What are we gonna do with this?" And I said "Don't worry about it, I'll [gestures, as if taking the camera] (laughs)."<sup>21</sup>

Ryan's ability to obtain a Portapak at this time, and loan it to other artists, such as Raindance members like Gillette, is significant. At the time of its release in 1967 the "\$1495 price tag was still rather high for the domestic market."<sup>22</sup>



While it is clear that Paul Ryan was using the Portapak and creating video before the invention and adoption of EIAJ (Ryan gets his Portapak in '67 or '68, EIAJ is adopted in '69), it has also been shown that not all of the tape Ryan recorded has remained in the collection (for instance, the 45 hours of triad experimentation). Therefore, it is still possible that all of the tape found in the collection is of the more common EIAJ variety, but not certain.

Given their age, and that the tapes were stored in an open-air space (a garage in northern New Jersey), the 1/2" open reel tapes are in generally good condition (to the extent one can tell from

their exterior).

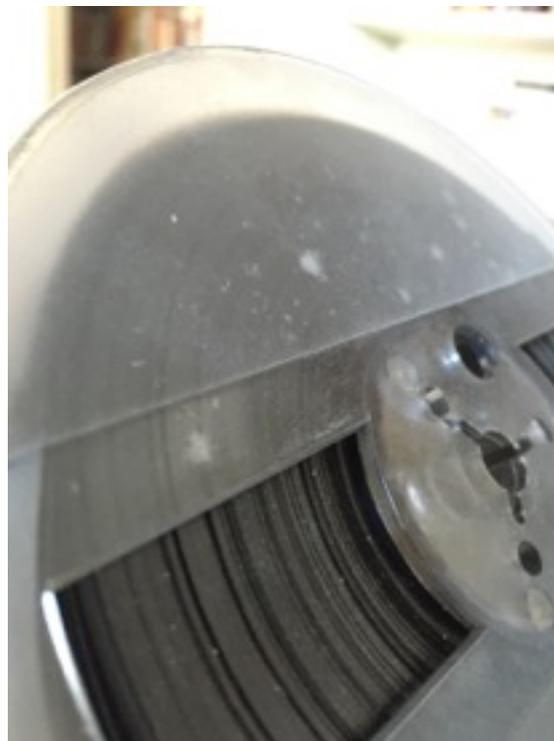
Many of the tapes have, unfortunately, lost the fastener that secures the end of the tape to the reel. This tape has then been loose, most likely for quite some time, and sustained the most damage. The ends of these tapes are, at worst, crinkled, deformed and exhibiting a white powder-like substance (see photo on left). The manifestation of this white material is logically referred to as "powdering." The European Broadcasting Union (EBU) defines powdering as "deposition on the tape surface of components from the binder due to chemical instability of the

<sup>21</sup> Channer, Harold H., prod., "Paul Ryan, Video Artist."

<sup>22</sup> Banuelos, Chris. "A Brief History of the Sony Video Portapak." MIAP Student Work, November 25, 2011, 4. Accessed April 12, 2015. [http://www.nyu.edu/tisch/preservation/program/student\\_work/2011fall/Restricted/11f\\_2920\\_banuelos\\_a2\\_x.pdf](http://www.nyu.edu/tisch/preservation/program/student_work/2011fall/Restricted/11f_2920_banuelos_a2_x.pdf).

formulation.”<sup>23</sup> In other words, a powder-like substance appearing on the exterior of the tape. Powdering is a sign of hydrolysis, or Sticky Shed Syndrome.

1/2” video tapes are known for their problems with Sticky Shed Syndrome,<sup>24</sup> “the most common problem with videotape deterioration.”<sup>25</sup> When a tape develops sticky shed, its “binder absorbs moisture and undergoes chemical changes... These changes cause the binder and magnetic particles to become sticky and to detach, or shed, from the base film. When these substances are shed during playback, the machine can stop playing altogether.”<sup>26</sup>



Thankfully, the sticky shed/powder problem can be temporarily alleviated through a process referred to as “baking tapes.” Baking tapes is exactly what it sounds like: tapes are heated in a convection oven for at least 8 hours, and sometimes up to 18-24 hours in extreme circumstances. “This heating process makes the tape usable for a few weeks and can be repeated many times.”<sup>27</sup>

Two of the 1/2” open reel tapes are exhibiting signs of mold. Mold can be cleaned off of tape, but is potentially harmful and should only be cleaned in an environment where the particles can safely disperse without being inhaled. Additionally, mold can quickly spread to other tapes, and threaten a collection. These tapes have therefore been segregated to their own polypropylene bin, however the bin is still stored in the same closet as the other tapes.

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<sup>23</sup> Dumont, J., J. Johansen, and G. Kilander. "Handling and Storage of Recorded Videotape." EBU Technical Review, 1992, 41-50. Accessed April 12, 2015. [https://tech.ebu.ch/docs/techreview/trev\\_254-tutorial.pdf](https://tech.ebu.ch/docs/techreview/trev_254-tutorial.pdf).

<sup>24</sup> Lindner, Jim. "Confessions of a Video Restorer." Media Matters. Accessed April 12, 2015. <http://www.media-matters.net/docs/JimLindnerArticles/Confessions%20of%20a%20Video%20Restorer.pdf>.

<sup>25</sup> Jimenez, Mona, and Liss Platt. *Texas Commission on the Arts Videotape Identification and Assessment Guide*. Texas: Texas Commission on the Arts, 1997. Accessed March 17, 2015. <http://www.arts.texas.gov/wp-content/uploads/2012/04/video.pdf>.

<sup>26</sup> Jimenez, Mona, and Liss Platt.

<sup>27</sup> Wheeler, Jim. "Videotape Preservation." Cool Conservation. November 1994. Accessed April 12, 2015. <http://cool.conservation-us.org/byauth/wheeler/wheeler2.html>.

*Umatic (also called 3/4" tape)*

Umatic tape was originally released in 1971, but not popularly adopted till the mid to late 1970s. "Offering color and image quality superior to 1/2", as well as the convenience of a cassette," Umatic was able to usurp 1/2" video as the format du jour until it was also replaced by yet another competing format.<sup>28</sup>

A visual inspection of magnetic media can only reveal so much about the condition of the tape. Fortunately, Paul's assistant, Aistė Jankauskaitė, has recently worked with some of the Umatic tapes in Ryan's collection. Jankauskaitė was kind enough to share her observations via email:

"I worked with Paul on and off for a couple of semesters. I was his TA on 'Semiotics for Digital Producers' and also helped him with his tapes. Initially, he wanted to put together an edit on 'Threeing' for a workshop and screening at (d)OCUMENTA (13) from the material he had in 3/4 inch tapes, which I did. We purchased the 3/4 inch machine, as he said he had bad luck with the one he had. Both of those machines were sent to repairs and so we started talking about what it is that he is looking to show. Eventually, he himself went through the handwritten list and marked the tapes I should have a look at. I then would look through the archive and identify the tapes and attempt to digitize whenever possible. Some of the tapes were greatly deteriorated with significant noise and deemed unusable by Paul. On several occasions a tape would get stuck in the machine... They would playback but occasionally got "eaten up" by the Umatic. None were destroyed and we were able to remove them. I believe that is why Paul sent the original Umatic for repairs."

From Jankauskaitė's description it seems the Umatrics are, too, experiencing sticky shed syndrome. This would explain the difficulty she had getting the tapes to playback, or move through the machine. As particles flaked off of the tape, they could adhere to the tape path within the Umatic deck, "clogging" the machine.

*Betamax*

Introduced in 1975 and used (in the U.S.) through the late 1980s, the Betamax format is well-known for its failure to be broadly adopted in the consumer market. According to the the Videotape Identification and Assessment Guide, produced by the Texas Commission for the Arts in 2004, "In the US, few decks survive, especially in working order. They are found primarily with preservation/restoration vendors, media arts centers, schools, and with artists and collectors. It is difficult to find parts or people to repair these decks."<sup>29</sup> The ability to maintain and repair decks has only decreased in the ensuing 11 years since the Assessment Guide was written.

Many of the tapes in the collection are exhibiting popped strands and other flaws in the tape pack around its hub, a possible warning sign of decomposition. The "tape pack" refers to how the tape winds around the hub. A bad wind, one which is uneven, or has gaps, exposes more of

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<sup>28</sup> Villereal, Steven.

<sup>29</sup> Jimenez, Mona, and Liss Platt.

the tape to contaminants and increases the risk of edge damage. Even small objects, such as dust, can cause serious damage to tape formats. Dust could be considered a primary risk to the collection in its current state. This will be discussed further in the Macro-Environment section (page 14).

### *MII*

MII was developed by Panasonic in 1986, “as their answer and competitive product to Sony's Betacam SP format. It was technically similar to Betacam SP, using metal-formulated tape loaded in the cassette, and utilizing component video recording.”<sup>30</sup> Due to poor customer support from Panasonic and a lack of reliability, the MII format was quickly abandoned in support of Betacam SP. Given its particularly short life in the marketplace, MII tape should be considered extremely obsolete. Fortunately, the format does not make up much of the collection, eight tapes in total. More than one of the MII tapes are copies of *Water Fire Water* which is also stored on other formats.

### *Obsolescence*

The approaching obsolescence of magnetic media is considered a crisis by the Association of Moving Image Archivists (AMIA). The Association for Recorded Sound Collections (ARSC) stated in 2009 that it is “no longer practical to make archival analog copies of... recordings to preserve their content. High-quality recording equipment (and the pool of replacement parts needed to keep existing equipment working) and tape are increasingly difficult to obtain; within the next decade or less, it is likely that finding recorders and tape will become even more of a problem.”<sup>31</sup> Similarly, The Library of Congress has urged institutions to prioritize the digitization of magnetic media, stating in 2012 that magnetic media must be migrated to digital formats within 15–20 years, before “the challenges of acquiring and maintaining playback equipment make the success of these efforts too expensive or unattainable.”<sup>32</sup> This is not to mention the growing risk of degradation as many of these materials are approaching their maximum life span.<sup>33</sup>

Given the age of many of the materials in the Ryan collection this threat of obsolescence is only magnified. 1/2”, MII, and Betamax are particularly at risk; migrating all of the magnetic media to digital formats as soon as possible should be considered a priority for the preservation of the collection.

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<sup>30</sup> "MII (videocassette Format)." Wikipedia. Accessed April 12, 2015. [http://en.wikipedia.org/wiki/MII\\_%28videocassette\\_format%29](http://en.wikipedia.org/wiki/MII_%28videocassette_format%29).

<sup>31</sup> ARSC Technical Committee. Preservation of Archival Sound Recordings. Silver Spring, MD: Association for Recorded Sound Collections, 2009. Accessed March 17, 2015. [http://www.arsc-audio.org/pdf/ARSCTC\\_preservation.pdf](http://www.arsc-audio.org/pdf/ARSCTC_preservation.pdf).

<sup>32</sup> Nelson-Strauss, Brenda, Alan Gevinson, and Sam Brylawski. "The Library of Congress National Recording Preservation Plan." Edited by Patrick Loughney. 2012. Accessed March 17, 2015. <http://www.loc.gov/rr/record/nrpb/PLAN%20pdf.pdf>.

<sup>33</sup> Jimenez, Mona, and Liss Platt.



### Macro Environment

“The stability of magnetic tape and of other information-recording media is strongly influenced by the storage environment. Heat and moisture promote tape binder deterioration... ISO recommendations suggest the use of cooler temperatures and low RH (Relative Humidity) to optimize the stability of the polymeric binder.”<sup>34</sup> That being said, practicality should take precedence. The collection is stored in an apartment, the primary function of which is habitation, not storage of audiovisual materials. Therefore the extended-term storage ISO recommendations of “a temperature range between 11°C and 23°C and a related range of RH levels between 20% and 50%” are unreasonable in this instance.<sup>35</sup> This is particularly true in light of the fact that, when compared to other forms of media, such as film, magnetic media is relatively tolerant to temperature, and merely reacts strongly

to high levels of humidity, and/or dramatic fluctuations in temperature or humidity. In fact, the EBU states that “normal room conditions are about optimum environment for magnetic tapes.”<sup>36</sup>

In the case of the 1/2” open reel tapes, the environment the tapes were previously exposed to, before coming to the apartment where they now reside, was potentially harmful. “Rain [or] the formation of condensed water” can exacerbate the process of hydrolysis, or sticky shed. In turn “hydrolysis weakens the tape and causes drop-outs.”<sup>37</sup> This is particularly unfortunate given Ryan’s affinity for water. Ryan recalls in his book:

“For awhile I lived near a broad beautiful stream of water that ran over an exposed bed of rock. I would crawl in the stream on all fours with the camera strapped in various configurations on my body.”<sup>38</sup>

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<sup>34</sup> Bigourdan, Jean-Louis, James M. Reilly, Karen Santoro, and Gene Salesin. "The Preservation Of Magnetic Tape Collections: A Perspective." Image Permanence Institute. December 22, 2006. Accessed April 12, 2015. [https://www.imagepermanenceinstitute.org/webfm\\_send303](https://www.imagepermanenceinstitute.org/webfm_send303).

<sup>35</sup> Bigourdan, Jean-Louis, et al.

<sup>36</sup> Dumont, J., J. Johansen, and G. Kilander. Page 43.

<sup>37</sup> Ibid. Page 45.

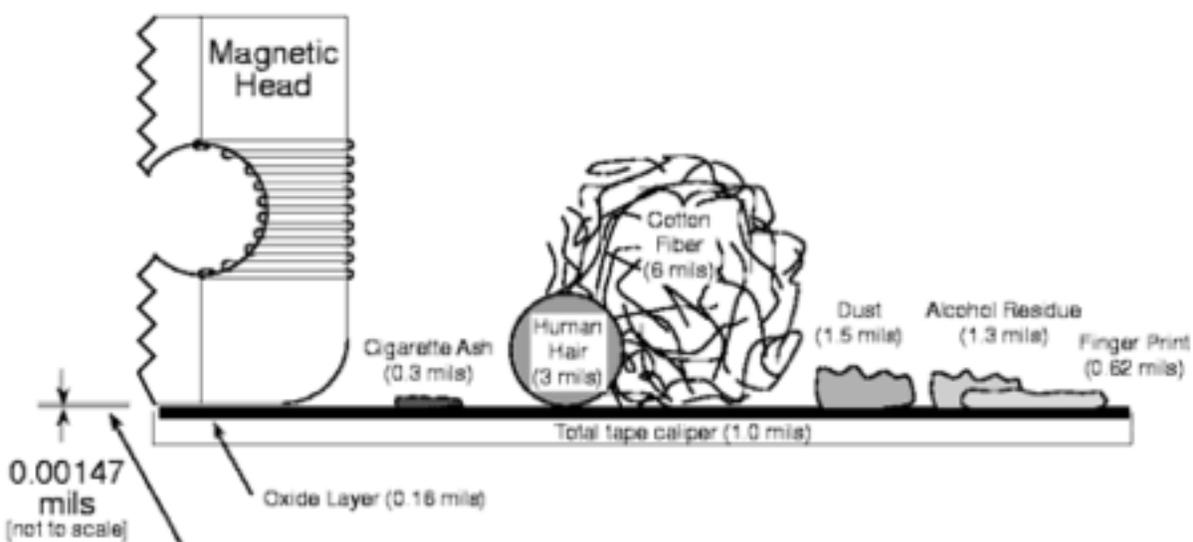
<sup>38</sup> Ryan, Paul. Page 53.

It is certainly possible that some of the tapes were exposed to water, either during the production process or while they were being stored. This is one possible explanation for the mold presented on two of the 1/2" open reel tapes.

Dust is another potential threat to the collection. As the diagram below illustrates, even very small particulate can negatively affect the video signal carried by the tape, to the magnetic head of the playback deck.



### Debris Perspective on High Density Digital Recording Tape



Spacing which would cause a 2 dB loss at 50 Kfci

## Micro Environment

As one can see from the images throughout the report, the collection is stored on shelves in Ms. Gardner's apartment. In keeping with the Council on Library and Information Resources' guide to Magnetic Tape Storage and Handling, all of the tapes assessed as part of this project are now positioned upright, with their spines arranged vertically.<sup>39</sup> Proper alignment of the cassette or reel reduces stress on the tape and can extend the life of the material. Unfortunately, there was not time to inspect every tape in the collection, and some of the tapes in Ms. Gardner's closet may remain stored in a less than ideal arrangement, for instance, laying horizontally (rectifying the storage of the collection is discussed briefly in the *Recommendations* section of the report, page 20).

Similar to the discussion of temperature and humidity control in the previous section, ISO standards for archival housing of the tapes in the Ryan collection are not



reasonable at this time. ISO standards (ISO 14523 and ISO 18902) call for all product components to pass the photographic activity test (PAT), and to be made up of non-acidic materials.<sup>40</sup> For Ms. Gardner to purchase new shelves, or to re-house tapes into archival polypropylene cases would be an unnecessary expense, not to mention time consuming and difficult.

Thankfully, much of the materials in the collection are housed in their original containers, in keeping with recommendations made by the California Audiovisual Preservation

<sup>39</sup> Van Bogart, John W. C. "Magnetic Tape Storage and Handling." Clir.org. Council on Library and Information Resources, June 1995. Web. 03 May 2015.

<sup>40</sup> Adelstein, Peter Z. "IPI Media Storage Quick Reference." Image Permanence Institute. Accessed April 12, 2015. [https://www.imagepermanenceinstitute.org/webfm\\_send/301](https://www.imagepermanenceinstitute.org/webfm_send/301).

Project.<sup>41</sup> This suggests that many of the containers' "life expectancies should approximate or exceed those of the materials they house. Also, their size and strength should be appropriate for the shape and weight of the objects stored in them," as the Image Permanence Institute recommends.

Many of the 1/2" video tapes in the collection had been stored in plastic bags before the assessment. Sets of 30 to 40 tapes were bound together in plastic garbage bags and tied closed. Sealing tapes in bags can potentially be harmful. It is possible for moisture to be trapped inside the bag, and eventually condensation can occur.<sup>42</sup> As stated previously, exposure to water can cause tapes to breakdown at an accelerated rate. All of the 1/2" tapes that were inventoried as part of this assessment were then moved to plastic polypropylene bins.



Several 1/2" tapes were also stored in plastic bags within their containers. The same risks are present, regardless of the size of the enclosure, and if anything, the proximity of the plastic bag to the tape only increased the risk in this instance. While plastic bags within containers were removed when they were encountered during the assessment, not every container was opened, and plastic bags may still remain around some of the tapes.

## Intellectual Control

The lists of mysterious origin that describe the collection have already been discussed to an extent within this report. While a fuller understanding of the nature of the two lists and their original purpose would clearly provide a deeper understanding of the collection, the purpose they now serve, as partial inventories of the collection, is extremely valuable.

The handwritten list, in effect, provides unique identifiers for the 1/2" open reel tapes, which are then also applicable to the Umatic tapes. Furthermore the "Paul Ryan Tape Database" list extends unique identifiers to the objects not described on the handwritten list, while providing additional description, including project, format, date produced (in some cases), generation and condition to the majority of the collection.

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<sup>41</sup> California Audiovisual Preservation Project. "Audiovisual Formats: A Guide to Identification." Page 11. September 26, 2013. Accessed April 12, 2015. [http://calpreservation.org/wp-content/uploads/2013/10/2013-Audiovisual-Formats\\_draft\\_webversion-2013oct15.pdf](http://calpreservation.org/wp-content/uploads/2013/10/2013-Audiovisual-Formats_draft_webversion-2013oct15.pdf).

<sup>42</sup> Wheeler, Jim. "Videotape Preservation." Cool Conservation. November 1994. Accessed April 12, 2015. <http://cool.conservation-us.org/byauth/wheeler/wheeler2.html>.

Some mysteries created by the lists, unfortunately remain. For instance, on the “Paul Ryan Tape Database” list, the numbers that have the “T” prefix begin with T010, while the corresponding handwritten list begins with “01.” Why the discrepancy? The 1/2” open reel tapes that correspond to 0-10 on the handwritten list are still in the collection (Ryan Collection spreadsheet line 475), and Umatic tapes labeled as low as “5” are on Shelf 1 (Ryan Collection spreadsheet line 4). If the “Paul Ryan Tape Database” list described the Umatics, why are there Umatics that are not described on the list? What is the significance of the gaps on the list (there is another gap between T169 and T209, and again between T219 and T221)? Furthermore, the T prefix numbers on the “Paul Ryan Tape Database” list do not go nearly as high as the numbers on either the Umatics, the 1/2” video tapes, or the handwritten list. Perhaps the “Tape Database” list is just incomplete?

### Physical Control

Almost all of the tapes in the Ryan Collection are labeled with a corresponding number. Typically, the number is on a sticker adhered to the item, and additionally written on the item in permanent marker.



Few of the Umatic tapes have any other



information written on them, besides the number, save a few cases where detailed annotations accompanied a number. Typically, however, a Umatic tape will either be numbered, or have descriptive annotations, but rarely both.

The 1/2” open reel video tapes often have the title of the work written on their containers label, a sticker on the outside of the container, as well as a sticker inside. The label with the title is typically pre-printed (not handwritten) and adhered strongly to the container. Indeed the physical control of the 1/2” video in the

collection is quite thorough.

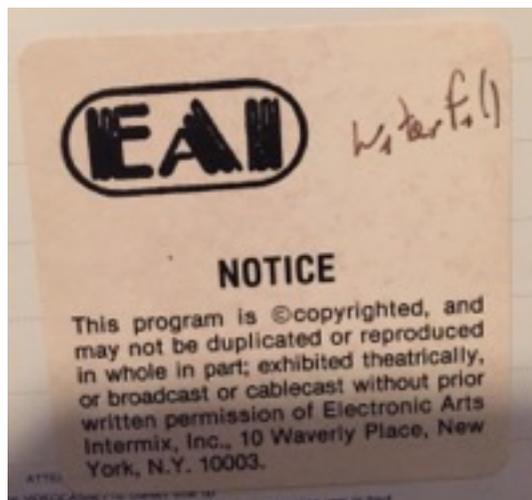
This was particularly forward-thinking when considering that many of the stickers now fall off when items are moved (or worse, if the container of a tape is opened). Both the numbers on the tapes, as well as the titles, correspond to the ones provided on the handwritten list.

Ms. Gardner suggested that labeling the tapes so thoroughly was not typical of Ryan's nature, and that possibly the numbering had been done by someone else.

While technically, in an archival practice, there would be the potential to confuse the numbers on the 1/2" open reel tape with the Umatic tape, and truly "unique" identifiers would be preferred, renumbering hundreds of tapes would be extremely impractical and unnecessary.

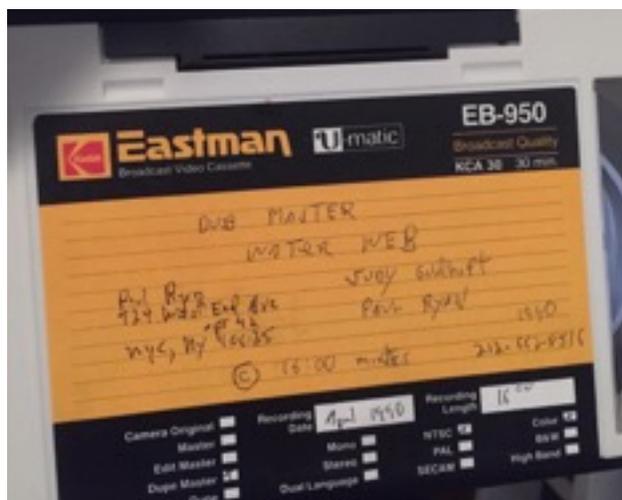
### Rights Status

Due to the collaborative nature of much of Ryan's work (often other creators are credited in the annotations of the tapes) and the non-commercial sphere Ryan was working in, the copyright status of some of his works may be unclear. For example, *Bow Falls*, a 26 minute piece created in 2005, is a collaboration between Ryan, who shot and edited silent video, and Annea Lockwood, an audio artist, who composed non-sync sound for the piece. Special attention would need to be shown to such collaborative works, as the rights may have been shared between the creators.



Electronic Arts Intermix (EAI), a non-profit video and media art archive, own the rights to distribute several of the works Ryan co-produced as part of the Raindance Foundation, and several of Ryan's works, including *Ecochannel Design*, *Coast of Cape Ann* and *Five Waterfalls*. It is unknown the extent to which EAI holds exclusive rights over these works, or simply has permission to distribute and exhibit them.

When releasing Radical Software, "To demonstrate their commitment to free information, [Raindance] rejected the standard copyright mark in favor of a new one, a circle with an X inside it, meaning, 'please copy.'"<sup>43</sup> In a similar fashion, works listed in Ryan's book *Video Mind, Earth Mind* as being co-produced with Raindance, notably *Media Primer* and *The Rays* were also produced under erasure, "i.e., immediately erased or given to the person or persons videotaped."<sup>44</sup> Perhaps this spirit of "giving away" rights has continued, and



<sup>43</sup> Gigliotti, Davidson. "A Brief History of RainDance." Radical Software. 2003. Accessed April 12, 2015. <http://www.radicalsoftware.org/e/history.html>.

<sup>44</sup> All dates are from: Ryan, Paul. *Video Mind, Earth Mind: Art, Communications, and Ecology*. Appendix III. New York: P. Lang, 1993.

motivated the decision to extend the rights of the Raindance Foundation work to EAI.

Two works by Ryan, *The Rays* and *Ritual of Triadic Relationships* are in the MoMA collection. *The Rays* is a Raindance work (the MoMA site confirms that EAI owns the rights), but the copyright of *Ritual of Triadic Relationships* is attributed to “© 2015 Paul Ryan.”<sup>45</sup>

Most of the annotations and labels on the tapes in the collection make no reference to copyright, nor do either of the previously created inventories. That being said, occasionally one of the tapes has a copyright notice “©” written on it, an encouraging sign of Ryan’s awareness of copyright status.

### Recommended Actions

Unfortunately, the Ryan collection is not stable in its current condition. Meaning, as time passes, the possibility of using or viewing the materials in the collection will only decrease. Forms of decay mentioned in the Physical Appraisal section (page 8), such as Sticky Shed Syndrome or mold, will only accelerate or increase, and reformatting obsolete materials will only become more expensive and more difficult. While some actions could be taken in the meantime - such as removing the remaining 1/2” open reel tapes stored in the closet from their plastic bags, dusting the closet and shelves, and ensuring that any tapes not inspected as part of this assessment are arranged appropriately, with their spines vertical - the central recommendation of this assessment is to donate or sell the collection to an institution that can preserve these materials, and make them accessible to the public. A donation or sale of this size is a complicated arrangement, not to mention an emotionally difficult task, as the collection belongs to a recently deceased loved one. Therefore, the process of bestowing the collection to an institution should not be rushed. That being said, there is urgency to begin the preservation process as soon as reasonably possible.

Paul Ryan donated his papers to the Archives of American Art at the Smithsonian in 2008. Along with writings, correspondence and photographs, the collection includes 47 Umatic videotapes. Video works included unedited footage of Bronx Falls, and Triadic Behavior studies shot at Ashokan Field Campus. The typed inventory, a.k.a. the “Paul Ryan Tape Database,” is also listed on the archive’s finding aid, along with shot lists and notes related to the production of certain works.<sup>46</sup>

- Jean Gardner has remained in contact with curators at the Smithsonian about acquiring the remainder of Ryan’s collection. The Archives of American Art are concerned with “primary sources that document the history of visual arts in America,” such as artist’s

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<sup>45</sup> "Paul Ryan. *Ritual of Triadic Relationships* (1984)." MoMA.org. Accessed April 13, 2015. [http://www.moma.org/collection/browse\\_results.php?criteria=O%3AAD%3AE%3A34888&page\\_number=2&template\\_id=1&sort\\_order=1](http://www.moma.org/collection/browse_results.php?criteria=O%3AAD%3AE%3A34888&page_number=2&template_id=1&sort_order=1).

<sup>46</sup> McShea, Megan. "Paul Ryan Papers, 1931-2009." Archives of American Art. 2014. Accessed April 12, 2015. <http://www.aaa.si.edu/collections/paul-ryan-papers-15614/more>.

papers and documentation, and not necessarily their completed works.<sup>47</sup> Ms. Gardner is in a dialogue with the curators, and hopefully the inventory gathered during this assessment can help clarify the contents of the collection. It is recommended that an institution that already holds some of Ryan's work, be it Electronic Arts Intermix, Video Data Bank, MoMA or the Archives of American Art at the Smithsonian, be given priority when looking to donate or sell the rest of the works in the collection.

- Greater intellectual control of the collection will be of significant benefit. To be able to clearly identify and describe each object in the collection, if only on a macro level (such as identifying the project a tape is associated with, or a time period it was produced), would make it much easier to, for instance, find a specific tape on a shelf, or identify duplicates. One way to do this would be to unify the individual inventories of the collection, including the one created for the purposes of this assessment. This proposed list would link the 1/2" open reel video tapes with their corresponding descriptions on Ryan's handwritten list, matching annotations on the tapes and containers with the title on the list. This information, then, could be cross referenced with the "Paul Ryan Tape Database" inventory, looking for discrepancies, such as the gaps in numbering mentioned in the intellectual control section of the report. Finally, the numbered Umatic tapes in the collection could be linked to their corresponding descriptions on the "Paul Ryan Tape Database" inventory, creating a clear relationship between the 1/2" original tapes, their description, the Umatic dubs, and their description.
  - The digital files created by Aisté Jankauskaitė could also provide insight into the proposed relationship between the Umaties and the 1/2" open reel tape. The digitized contents of the tapes could be compared with their description, and the description of the correspondingly numbered 1/2" originals, to confirm the suspicion that the "Paul Ryan Tape Database" list does describe the numbered Umatic tapes in the collection and that there is indeed a direct original-to-dub relationship between the Umaties and the 1/2" open reel.
- Finally, it is recommended that all of the media be transferred to digital formats. As Ms. Gardner is looking to donate or sell the collection, it seems most appropriate for this task to be levied on the collecting institution. Given the fragility of magnetic media and its shortening lifespan, an institution's ability to efficiently digitize the tapes should be considered the best metric for finding a permanent repository for the collection. Migrating analog formats to digital files is a complex and technical process, stable and broadly accepted file formats and encoding are still debated. However, there is consensus in the field of preservation that digitization of material stored on magnetic tape is the best option for ensuring a prolonged life span. Two helpful resources when considering the technical specifications for digitization are George Blood Audio Video's recommendations to the Library of Congress: <http://www.ala.org/alcts/sites/ala.org.alcts/files/content/resources/preserv/images/Appendix%20V.pdf> and Guidelines For The Creation Of Digital Collections created by the Consortium of Academic and Research Libraries (CARLI), found here: [http://www.carli.illinois.edu/sites/files/digital\\_collections/documentation/guidelines\\_for\\_video.pdf](http://www.carli.illinois.edu/sites/files/digital_collections/documentation/guidelines_for_video.pdf)

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<sup>47</sup> "About Us." Archives of American Art. Accessed April 13, 2015. <http://www.aaa.si.edu/aboutus>.

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