

**The Smithsonian Interview Project:
Questions on Technical Standards in the
Care of Time-Based and Digital Art**

Ten Insights from Artists and Experts in the Field

Produced by the Smithsonian's Time Based Media and Digital Art Working Group and the
Smithsonian Office of Policy and Analysis

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Introduction

A hundred years from now, how can museums plug in and turn on today's time-based media and digital artworks?

Time-based media artworks¹ are characteristically unstable, unique, and complex. They often depend on operating systems, materials, and hardware that rapidly obsolesce. They may rely on audiences interacting with them in specific environments that will not exist in the future. Future installers may not be sure exactly what they can and cannot do with these works if they wish to respect an artist's original intent. In light of these considerations, what are the prospects for effective stewardship of time-based media artworks over the long haul?

In 2013, interviewers from the Smithsonian's Time-Based Media Art Working Group and the Smithsonian Office of Policy and Analysis posed this question to over two dozen experts² in the creation, curation, installation, conservation, and preservation of time-based media art and related materials. The interviews focused on two themes:

- The role of standards, guidelines, and professional best practices in the long-term preservation of time-based media art.
- Appropriate education and training for time-based media-art preservation professionals.

Despite the enormous challenges of long-term preservation of media art, the interviewees were optimistic about the prospects for continuous improvement of practices in this area.

The following document presents a brief, thematic summary of some of the key messages to emerge from these interviews. For those who want to delve into the details of one or more interviews, [full transcripts](#) of most of the interviews are available for reading on the Smithsonian's Time-Based Media Art website.³

¹ Time-Based Media and Digital Art is artwork with a specific duration including film, video, digital, audio, computer-based, web-based, performance, and installation art. Time-Based Media and Digital Art includes artworks with technology-based components that present specific challenges for conservation, documentation, installation, and acquisition.

² The list of the interviewees is available at the end of the report.

³ Some quotations here have been edited for brevity and flow from the corresponding passages in the full transcripts.

Ten Insights

1. Preservation Is Possible

The experts interviewed for this study agreed that the current situation is cause for concern, and that caring for media artworks is an immense challenge.⁴ However, they insisted that preservation is possible—and noted many ways in which museums, galleries, art centers, and universities throughout the United States and abroad are already developing and implementing solutions. Caitlin Jones, Executive Director of the Western Front Society in Vancouver, was clear: “We don’t have to despair. This is not an impossible task. We just have to figure out how we can scale it so we can do it.” Contemporary art conservator Christine Frohnert described the progress that has been made in these terms:

As a field, we might be about 15 years old. So we’re really, really young and evolving. But ... there has been a lot of research, a lot of publications, and a huge body of knowledge developed. Of course, not everything has been covered yet, but we are certainly not where we started 15 years ago.

Curator and scholar Sarah Cook believes that successful preservation is largely a matter of getting collectors to value the works enough to dedicate the necessary resources to their care:

There is an amazing misconception that media art and time-based art cannot be preserved, and that it is immaterial. I think we have to smash that one on the head, because anything can be preserved if the money and time are put into it. The problem with this is that they don’t want to put the money into it—the collectors, or the investors, or whoever. There is no sense of the value of it, or [if there is,] it is not being articulated. ... It can be preserved; it just needs investment.

The University of Sunderland’s Beryl Graham placed the issue in a wider philosophical context:

Organizations often cite preservation problems as a reason for not collecting new media art, but I think it is more complicated than that. It reflects a more general unfamiliarity with [media] art, and a humanist distrust of technology. Obviously, there are issues there, but nothing that a skilled preservationist can’t deal with.

⁴ Artworks under the umbrella TBMA are not equally vulnerable. For example, video, film, and digital photography are well understood by conservators and are stable for acquisition and display. Technologically multifaceted works, e.g., net-art, software-based art, and interactive art, are less so.

2. Be Prepared to Meet Each Work on Its Own Terms

Interviewees were asked if there are general approaches to similar types, classes, or components of time-based media works, or if each work needs individual attention. Most answered with some variant of “it depends.” Mark Heller, a media technology consultant at the San Francisco Museum of Modern Art (SFMOMA) offered these thoughts on how that organization deals with software-based art:

For software-based works, there are a lot of commonalities, but there is a lot of variability too. I was [once] asked, “What will you do when you have to deal with 1,000 works?” My answer was, “Well, we have about eight right now. So I don’t think we’re going to have to deal with 1,000 any time soon.” We’re giving individual attention to all of these works because things are just emerging. ... Hopefully when 1,000 works in a collection is the norm, we will have some kind of structure. We’re exploring, discovering, and defining that [structure] now.

Although most interviewees shared Heller’s hopes for greater systematization in the future, many also stressed that organizations need to be prepared to meet media artworks on their own terms. While there may be established preservation practices for certain components of a work, works often consist of multiple components that interact in unique and often unexpected ways. Christiane Paul of The New School’s School of Media Studies put it this way:

The components to be assessed consist of materials (hardware, media displays, natural or manufactured materials, sensors, mechanisms); sources (video sources, generic software, custom software, key concepts); and environments (including the gallery space). ... You have to develop approaches for each and every component. ... What film or video requires is so different from what a piece of net art or a virtual reality installation requires. We have to basically assess each project on a case-by-case basis.

For works that have an interactive dimension, audience contributions might be considered yet another component to factor into the mix.

Faced with this complexity, Paul Messier, founder of the American Institute for Conservation’s (AIC’s) Electronic Media Group, suggests thinking in terms of “preservation systems” that consist in the flexible application of general guidelines. Such systems can be seen as a middle way between applying rigid rules and reinventing the wheel with each new media work that comes through the door:

We are trying to come up with preservation systems—portfolios of practices—to do the most good for the most objects. ... If you signed up to take a bunch of rules and live by those rules all the time, this is probably the wrong profession for you. [Instead, you need to] take some broad guidelines and approaches that will do the most good for the most objects, and then be intelligent and flexible enough to know when those guidelines are irrelevant and need to be reworked. ... You need to know that if they are

applied to this particular work of art, it will simply die. You need to know when to put the rules aside and meet the artwork on its own terms.

New York University media archivist Mona Jimenez raised a similar point when she noted, “It’s not that you don’t need to [individually] evaluate every time-based media work; but the actions you take will be the same in some cases.”

3. Formal Standards *Per Se* Are Not the Answer

Interviewees agreed that formal standards coming out of related fields can be helpful for addressing parts of the preservation puzzle. However, most had doubts about the idea of formal standards for time-based media art preservation *per se*. These doubts arise from factors such as the wide variability within the category of media art, the rapid evolution of the underlying technologies, and the tendency of artists to stretch or break the “rules” that govern non-artistic uses of the relevant technologies. New York digital archivist Kara van Malssen summed it up in these words:

Standards with a capital “S” ... are more concerned with market factors and questions about the underlying technical infrastructure of things. ... Those standards don’t really tell you how to preserve the works.

The Whitney Museum’s Christiane Paul offered this view:

I definitely see the need for standards, but ... there simply is no silver bullet. That is what every conservator would presumably agree on when it comes to preservation in general, and it has not changed in the case of digital art.

Jeff Rothenberg, an independent Information Science consultant, put it in these terms:

To the extent that we can find universal or generic solutions, I think that’s a good thing. At the same time, especially in the art world, we have to be open to looking at an individual work and asking, “Does this or doesn’t this fit into our generic framework?” because there’s always the possibility, particularly with artwork, that something unique is there which doesn’t conform to our generic model and therefore requires some special handling. That will always be a human decision made by a curator or preservationist who knows enough about the artwork and its context to make that decision intelligently. Those are not decisions that technologists should make, at least not by themselves. So I would say that the drive for universal or generic solutions is a good one, it saves funding, and moreover it provides a framework for approaching work, but we also need to be flexible to deal with things that may not fit into our framework.

This attitude toward standards extended into areas such as the creation of repositories for media artworks. Thus, while Glenn Wharton noted that the work he and his colleagues at

the Museum of Modern Art (MoMA)⁵ have done in this area “fits well within the broad scope of [digital preservation] standards,” he also maintained that the specifics had to be tailored to the unique needs of that Museum’s collections. Media conservator Ben Finor-Radin, who manages the MoMA project, elaborated on Wharton’s point as follows:

We are aiming for a repository that meets MoMA’s functional needs, and properly safeguards the integrity, security, and longevity of MoMA’s digital collections. A byproduct of that is that we will check off many of the items on the Trusted Digital Repository Audit Certification (TRAC) checklist, but meeting these requirements as a standard is not our goal[.] While TRAC is certainly useful ... it is important to take these standards with a grain of salt, and not prioritize them over the actual on-the-grounds needs.

As an alternative to formal standards, many interviewees talked about creating mechanisms for sharing research, lessons learned, and practices within the community of practice engaged with these issues. Christiane Paul again:

It is crucial to develop frameworks that make sharing of knowledge about preservation approaches possible. This is something that curators, archivists, and conservators are talking about in the preservation and archiving community around the world. ... The question is, how can we share the valuable knowledge we are accumulating?

Glenn Wharton offered a similar opinion:

What I think is most helpful is for us to share practices. My knowledge of what Joanna Phillips is doing at the Guggenheim will certainly influence what I try to develop at MoMA. Sharing practices cross-institutionally is enormously beneficial. ... I believe the emphasis should be on sharing; I don’t think it is about developing standards that are implemented exactly the same way at all museums. I’ve been around long enough to know that all museum systems are in a constant state of evolution.

Wharton also indicated that:

A lot of [the most useful resources are] developed through projects where people come together with funding and create best practices or guidelines for emerging practices on the web. Then those people disperse, but the websites remain. I’m thinking of websites like DOCAM, Matters in Media Art, Electronic Intermix Preservation, and IMAP Preservation 101. These websites are invaluable, even though their contents become outdated if they are not maintained.

⁵ Wharton has since left MoMA and taken up a full-time academic post at New York University.

4. Promote Interdisciplinary Collaboration and Communications

It is impossible for any one person to know the ins and outs of every piece of hardware and software that goes into these works, let alone to have mastery of such technology on top of the curatorial and conservation skills required to keep them alive. Therefore, curators, archivists, and conservators must work intimately with programmers, information technology (IT) personnel, and technicians—as well as with artists, when possible—to understand the technologies and how they interact. Caring for time-based media art is a collaborative enterprise.

While this may seem obvious, it does not always happen in practice. The University of Sunderland's Beryl Graham, notes:

You need a team approach. ... In British museums, technicians are often neglected because of their status within the institution, but you need a really good integrated team with technicians.

Graham also expressed that it is “a new idea for a lot of museums—that the web team might have role in the preservation of artworks.” Likewise, Kara Van Malssen warned:

In practice, there is a lot of disconnect. People [with different areas of expertise] who may need to engage with one another, such as at the time of acquisition, are not doing it. ... That's because the curators are tasked with the acquisition and they don't always engage with the conservationists, the archivists, or the technologists, because everybody is so busy. So certain pieces are left out of the equation, [and] certain documentation isn't acquired.

However, there is increasing appreciation of the need for interdisciplinary collaboration, with some institutions leading the way. Koven Smith, former Director of Technology at the Denver Art Museum, discussed the involvement of tech departments at that organization in the entire lifecycle of media artworks, including the development of procedures for working with the objects and policies for acquisition and storage.

Collaboration across disciplines, or even within the same discipline across organizations, requires good communication, and its foundation is a shared language. Christine Frohnert notes:

It's important to be able to use the same language as a technician or an engineer you are working with. If you have to outsource some of the necessary work, it is important to define your goals clearly, especially if you work with non-conservators. Defining those goals without using the engineers' or technicians' language is difficult, and there is potential for misunderstanding. You have to make sure your use of all the technical terms is correct.

According to interviewees, the required language does not necessarily exist, even at the most basic level. For example, the range of names used to describe the artworks

themselves is wide: “variable media art,” “new media art,” “time-based media art,” “digital art,” “computer-based art”—the list of imprecise and overlapping terms goes on and on. Beryl Graham reports:

I spent some time looking at international sites online, and found that few use the same basic terminology for new media. ... Even in the Tate’s database, it’s very difficult to find new media works. Is it “performance”? Is it “time-based”? Beyond that, if you are trying to find works that are interactive or participatory, you find that those words really do not come up. It’s a very random set of terms right now.

New York contemporary art conservator Christine Frohnert cuts through the thicket by simply calling it “art with a plug.”

In response to this situation, exhibition preparer Steven Dye of SFMOMA described an initiative among MoMA, SFMOMA, and the Tate Modern to “develop a language” for clear communication about media artworks:

... Not “standards” necessarily, but just [a lexicon] so that we are all describing the same ideas in the same ways, and so we are all on the same page in terms of how we are talking about this work.

5. Cross Train Collaborating Experts

Many curatorial and conservation staff rely on AV or IT teams to help them bridge technology components with art handling practices. To do this, they need enough familiarity with the technology to understand and communicate with that side. The requisite training can take many forms, and interviewees favored different approaches. Suggestions included hands-on, cross-discipline residencies and apprenticeships; specialized professional development workshops or short courses; increased technical training in traditional conservation programs; specialized degree programs in media art conservation; and good old learning-by-doing.

On the other side, technical experts who work on media art preservation need to have some understanding of the language and professional values of the curatorial and conservation fields. Conservation theory and ethics must inform any technical manipulation of these works. As Christine Frohnert states:

It is important to sensitize those people to the specific needs of artworks—especially [to help them understand] that conservation does not mean “improvement.” You are not trying to make the artwork “better.” It requires a long relationship to sensitize these kinds of professionals to that. ... We are facing the likelihood that these works can be technically upgraded with newer technologies as they become available, [but] it requires a deep understanding of what the work is, when it was made, and how it is anchored in technology to translate our conservation approaches to these works in a respectful way.

Formal training opportunities for media art conservators remain sparse, and many interviewees saw a need to address this gap in current programs. However, some questioned whether it would be realistic to stack the required technical training on top of existing material in traditional conservation training programs. Others doubted whether the demand for media art conservators is sufficient to absorb a large increase in the supply of professionals specifically trained in that area. Several interviewees indicated that media conservators, for the most part, will probably continue to get at least some of their technical training through hands-on experience outside of formal conservation training curricula.

In any case, the constantly-evolving nature of media technology means that learning is an open-ended process. As Glenn Wharton noted:

When I finally became comfortable with standard definition video, all of a sudden HD video and born-digital works started to come into the collections. Now software-based and web-based works are coming in. No one could have been trained in these new media technologies, because they were invented within the last few years.

He also noted, however, that *any* field of contemporary art conservation—not just media art—requires a commitment to life-long learning as materials and understanding of them evolve. Similarly, Mark Hellar argues that media art conservators should be technology generalists who know how to replicate the processes they used to learn about existing technologies when new technologies come along—a view shared by Gaby Wijers, the Director of LIMA (Living Media Art Foundation) in Amsterdam:

The best thing to do is to train the conservators to a certain level of knowledge [so they will know] how to interpret all these technical changes.

Likewise, Kara van Malssen describes her training as a foundation of media preservation that she can apply to new technologies.

6. Develop Institutional Knowledge

Many interviewees spoke to the need to develop in-house institutional knowledge of media art conservation practices, rather than rely on consultants, contractors, outside experts, or the artists themselves. This can be a challenge, as museum professionals who work on the stewardship of time-based media artworks are rarely specialists in this area; rather, they encounter these works, among others, in the course of their “day jobs” as curators, conservation professionals, installers, and so on. As the Guggenheim’s Joanna Phillips states:

It should be a standard that museums build up institutional knowledge of their time-based media works—that an institution does not rely on outsourcing the responsibility for these works, for example, by relying on the artist or the artist’s studio to install or update the piece. The responsibility for the piece has to be assumed by the institution, or else the piece cannot be successfully preserved and managed.

The Smithsonian’s Time-Based Media Art Group itself is keenly aware of this need; members have discussed the value of informal, ongoing training for staff who work with such art to internally build up the institutional knowledge required of responsible stewards.

7. Build on Foundations from Other Fields—Within Reason

Standards, best practices, and training relevant to time-based media art preservation can be drawn from a number of fields, including:

- Art Conservation (for material science practices and art conservation ethics).
- Media archiving and media preservation (for assessment and preservation of AV collections).
- Information studies and library science (for systematic collections processing, description, and access).
- IT and AV engineering (for the underlying technical infrastructure and software platforms).

In addition, the gaming industry and community have been doing relevant work on managing complex objects, emulation, and interactivity. Even fields like astrophysics⁶ and video engineering have something to offer.

However, interviewees cautioned against lapsing into an uncritical dependency on solutions developed in other fields. The guiding principles must always return to the questions of artistic intent and conservation ethics associated with the field of art conservation. For example, Steve Dye of SFMOMA stated that while artists and conservators are “at the mercy of industry for all the tools we use,” he went on to note:

Given enough time, you can almost always come up with a technical solution—for example, if you are migrating a work. But you can’t do that in a vacuum; you need to have a conversation with the artist to discuss [relevant issues]. ... Resolving those questions is the more challenging part.

Similarly, Richard Rinehart, Director of the Samek Art Gallery at Bucknell University, relied on established schemas to help build a metadata schema for time-based media artworks, MANS (Media Art Notation System). However, he cautioned against rigidly applying such sources to artworks:

⁶ The study team interviewed experts in related fields. Arnold Rots, an Archive Astrophysicist who deals with astronomical archives, provided valuable insight on the topic of acquisition and archiving. He cautioned, “[Do] not be arrogant about pretending to know what metadata are required [when adding a data object to the archive], because it’s impossible to predict how the data will be used in the future.” See the full transcript for more details.

In some ways, I still feel like the canary in the coal mine. I keep finding myself saying “Wait a minute—you can’t just take a library metadata system and plunk it down on digital art; there are some different issues.” I even feel that way about digital forensics. Yes, we need it; and yes, it is great that we have smart professional people who can do it. But are we still forgetting the artistic issues that need to be considered before we even get to the technical solutions? How [do] you frame an artwork, and where are its boundaries? What is important to preserve about it? Is it just its behaviors and functions? Or is it also its form and historicity? Where are you going to draw that line? Art is different from a library book, because you have those kinds of questions. Art works are nothing if not carefully considered instances of the relationship between ideas and media.

8. Embrace New Practices of Documentation

Christine Frohnert articulated a common sentiment among interviews when she stated that “documentation is conservation.” The fundamental concern for media art conservators is how to document a work so that it can be recreated in the future in a way that remains true to what the artist meant.

Interviewees agreed that collecting as much relevant information as possible on such works is an indispensable part of any plan for their long-term care: these include artist interviews, installation diagrams, technical information on hardware and software, and other supplemental pieces of documentation. Glenn Wharton recommended documenting all conversations and decisions surrounding the installation of an artwork, as well as every detail of the resulting configuration:

During installation, the curator, registrar, exhibition designer, and conservator—and maybe even the artist—come together to discuss how the work will be shown. ... It is very important that we document these discussions and decisions so that the next generation of museum staff can draw on that documentation ... [to] inform their decisions about how it can be installed. We are not always very good at documenting these decisions. We should be recording the artist’s statements. We should have a recorder handy when a decision is made. We should be taking notes, and taking more photographs. We should make sure that we retain the exhibition floor plans and record all the details about the installation, including wall surfaces, types of paint or carpet, light levels, audio levels, and room size. We should know where we are going to put this information in our collections management database.

Artist Lincoln Schatz also discussed need for exhaustive documentation on the side of creators:

[In my studio,] we know that we have to document every step. ... The more consistent that we are in our structure and the way we put things together, the easier our jobs will be in the long term for both troubleshooting [an artwork] and preserving it. We’ll always know how everything fits together. We’ll know something from five years ago—exactly how

that piece was made, what the components are, where they are located, and what their names are.

James Snyder of the Library of Congress's National Audio-Visual Conservation Center was one of several interviewees who focused specifically on documentation of the often-complex interrelationships among components of media artworks:

If the artwork [consists in] the relationship between different elements, our job as conservators is to preserve as closely as possible the intent of the original artist [with respect to] what those relationships were—whether timing relationships or physical relationships or whatever those relationships would be.

The University of Maine's Jon Ippolito also broached the subject of how to proceed when these kinds of relationships cannot be sustained or reproduced in the future:

*How do you document not just the files and the relationships, but what to do when those relationships fail? What do you do if you have Vine clips on a drive with metadata connecting them to URLs or Twitter users, and then Twitter dies and the URLs go 404? You need to have some sort of strategy for saying, "When those relationships die, **this** is what we should replace them with." Or alternatively, you can say that we should not replace them; when the relationships die, the work is dead.*

In his recommendations for documentation, Ippolito also discussed the need to interview stakeholders in addition to the artist, such as curators, conservators, technicians, and even gallery visitors and staff.

Because of the importance of documentation, interviewees saw a need for new methods of capturing the relevant information in a systematic way. Kara van Malssen and Mona Jimenez both discussed the imperative to capture technical data about works in a way that is parsable and can be easily searched, analyzed, and reported on. Mark Hellar discussed the "technical narrative" structure developed at SFMOMA, a new model to document the technical dependencies of the work. And Glenn Wharton noted that "we need to have ways to track additional information that most archives would not be concerned with."

Some time-based media artworks require a conceptual shift in documentation similar to that associated with ephemeral or performance art. In some cases, this can mean that the documentation itself is primarily what is to be preserved. For example, artist, scholar, and Rhizome founder Mark Tribe, in discussing net art, noted:

It's a happening, an event. Sometimes it's about preserving documentation rather than the thing itself. That's an important conceptual shift.

Artist Cory Arcangel expressed a similar sentiment about his own art and like works:

That's how I think about these things now—as a kind of performance with systems and structures. People don't expect a performance to be happening always and in the same

way forever. They realize it's a temporary thing, and when it does happen again, you have to approach it with maybe some different variables—different people, different machines, different software, etc. ... I remember in school when I first learned that if you hear Bach played on the kind of instruments that existed in his own time, it sounds completely different than it does today. ... With media art, I think you'll have a similar situation, where things get skewed over time. It's a similar situation; Bach's scores are instructions that need to be executed on a machine. That's how I think about it. Maybe you can think about it in terms of a "historically informed performance," or something like that.

Beryl Graham agreed that “there is a parallel with conceptual art, where sometimes what you are collecting is a set of instructions.”

Some interviewees argued that, despite its imperfections, emulation is a better approach for some complex works than trying to keep an obsolete technology alive. For example, Ben Fino-Radin⁷ commented that:

Emulation is far more sustainable than the idea that a museum will simply hire someone to re-code or port a piece of software. This is not a dichotomy—it's not one or the other. But emulation is a far more sustainable practice than considering a work's technologies to simply be mutable or variable.

9. When Possible, Work with the Artist

Interviewees agreed it is best for collecting organizations, whenever possible, to work directly with the artist to plan for the long-term preservation of media art works. Preferably, this should be done at the time of a work's acquisition. However, as media art curator and scholar Sarah Cook notes, sometimes the coordination at this stage is lacking:

Curators assume a certain responsibility on the part of the artist; and the artist assumes a certain responsibility on the part of the curator; and we [both] assume the museum's responsibility. I think a lot of stuff falls between the cracks there.

Because of the rapidly changing nature of technology, artists encounter many preservation concerns even during the course of creating and initially exhibiting their works, let alone helping collecting organizations think through strategies for long-term preservation. Lincoln Schatz discussed the responsibility that artists must assume for ensuring the future of their own artwork, as well as how artists and collectors should collaborate at the time of acquisition. Likewise, artist Cory Arcangel notes most media artists have at least basic digital/media literacy and some grasp of the preservation challenge:

⁷ See Ben Fino-Radin and Jeff Rothenberg's transcripts for their detailed reasoning.

I don't know whose job it is [to think about preservation issues], but I do think most artists are at least as savvy as I am. They might not have naming conventions, but certainly they take care of their files. It's just a part of life now, right? ... Digital maintenance is just becoming part of life. It's so boring, but it's just a part of life. I know artists are thinking about it because I get emails and phone calls from my artist friends asking me about hard drives and stuff like that all the time. They might not be working formally with preservationists and thinking specifically about standards, but everyone is thinking about [digital preservation].

10. Embrace Uncertainty and Take Action— Change is Rapid and Constant

By art historical standards, the field of media art is very young and still evolving. More than one interviewee admitted that because not much time has elapsed between the creation of these kinds of works and the present day, museum professionals have a limited view of the larger historical context.

This uncertainty both excites and frustrates the professionals tasked with exhibiting, collecting, and caring for new media artworks. Paul Messier counsels conservators to “come to grips with the constant evolution of media art, and not be intimidated by it”:

Accept that things are moving fast and that we will always be a bit behind the preservation imperative posed by these objects. ... We have to get comfortable with that and rely on our instincts and our training as conservators. We as a profession are very well prepared to adapt to the demands of new media.

At some level, all interviewees seemed to agree that, while thinking and researching certainly have their place, it is important to move forward and *do something*. Even if the path forward is not yet entirely clear, answers will often emerge in the process of wrestling with specific works. Over-thinking or searching for off-the-shelf solutions that may not exist can result in an unproductive stasis or, even worse, a reluctance to collect time-based media art in the first place. These works are in peril right now, so organizations have to do something, even with limited resources and information. For Mona Jimenez:

What you don't want to do is spend a lot of time developing resources. I guess what I'm saying is to just get to work! Get to the work and don't expect that there are resources out there that will answer all of your questions or tell you how to address the most complex or at-risk works.

In the end, notes Paul Messier:

Theory only gets you so far. It's practice. Maybe because I am a treatment conservator, I truly believe that conservation is an active profession where doing stuff is really what we are about.

Resources

Interviews with Thought Leaders, [Full Transcripts](#)

The [Variable Media Questionnaire](#) is a tool to assist in recording strategies on how to preserve creative works when their current medium becomes obsolete.

In terms of Guggenheim standards for video acquisition, Joanna Phillips shares details on the [Guggenheim website in the Time-based Media Conservation section](#), where she uploaded check lists and templates (see www.guggenheim.org/tbm-lab; www.guggenheim.org/tbm-practices; www.guggenheim.org/tbm-documentation.)

The Tate's Matters in Media Art website (see <http://www.tate.org.uk/about/projects/matters-media-art>)

Interviewees

- **Agathe Jarczyk**, Independent Video Conservator & Lecturer at the University of the Arts in Bern, Switzerland.
- [Arnold Rots](#), Archive Astrophysicist in the High Energy Astrophysics Division at the Harvard-Smithsonian Center for Astrophysics
- [Ben Fino-Radin](#), Digital Conservator at Rhizome & Manager of the Digital Repository for Museum Collections at MoMA
- [Beryl Graham](#), Professor of New Media Art at the School of Arts, Design, and Media, University of Sunderland, & co-editor of CRUMB
- [Caitlin Jones, Jana Grazley & Scott Owens](#), Executive Director & Media Archivists at Western Front Society
- [Christiane Paul](#), Adjunct Curator of New Media Arts at the Whitney Museum of American Art & Associate Professor, School of Media Studies, The New School
- [Christine Frohnert](#), Conservator of Contemporary Art, Bek & Frohnert LLC & Visiting Professor in Conservation and Technical Studies at New York University
- [Cory Arcangel](#), Artist, Computer Programmer, & Web Designer
- [Gaby Wijers](#), Director of LIMA, Amsterdam
- [Glenn Wharton](#), Clinical Associate Professor in Museum Studies at New York University
- [James Snyder](#), Senior Systems Administrator at the National Audio-Visual Conservation Center, Library of Congress
- **Jason Salavon**, Computational Artist
- [Jeff Rothenberg](#), Independent Information Science Consultant
- [Joanna Phillips](#), Associate Conservator of Contemporary Art at Solomon R. Guggenheim Museum
- [Jon Ippolito](#), Associate Professor of New Media at University of Maine
- [Kara van Malssen](#), Senior Consultant at AudioVisual Preservation Solutions & Adjunct Professor at New York University
- **Kate Jennings**, Time-Based Media Conservator at the Tate Modern
- [Koven Smith](#), Director of Technology at the Denver Art Museum

- [Lincoln Schatz](#), Contemporary Artist
- [Mark Hellar](#), Owner of Hellar Studios, Consultant at SFMoMA & BAVC
- [Mark Tribe](#), Artist & Founder of Rhizome
- [Mona Jimenez](#), Associate Director of the Moving Image Archive Program (MIAP), New York University
- [Paul Messier](#), Independent Conservator
- **Pip Laurensen**, Head of Collections Care Research at the Tate Modern
- [Richard Rhinehart](#), Director of the Samek Art Gallery at Bucknell University
- [Sarah Cook](#), Curator, Research Fellow at the University of Sunderland, & Co-founder of CRUMB - Curatorial Resource for Upstart Media Bliss
- [Steven Dye](#), Exhibitions Technical Manager, San Francisco Museum of Modern Art

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