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GLENN WHARTON: Welcome back, everyone. We're now about to start section two of our discussion with the artists. For those of you were here this morning—I hope most of you were—Jennifer McCoy and Francis Hwang presented their works, which I think you would all agree are problematic when we start thinking about documenting and conserving them. Part two is to talk about that with the artists. Ann Butler has joined us again on our panel. For those of you who weren't here this morning, Ann is the senior archivist at Fales Library Special Collections at New York University. And prior to that, she was archivist at the Guggenheim Museum. My name is Glenn Wharton. I'm on faculty at N.Y.U., where I teach the conservation of modern and contemporary art. And I'm about to start a position as conservator at the Museum of Modern Art, addressing their media collections.

The session is until 3:15. At a certain point we will break and I will wrap up with a discussion about the conservation of new-media art. I will give you an idea of what's going on in museums and how we are thinking about conserving new-media collections. We will start with questions. Ann and I thought it would be interesting to have a conservator and an archivist on the panel so we can ask different kinds of questions. We will ask a few questions to get it started, then I'll open it up to the audience, because I think it could be very interesting to get some conversations going. And actually, the two of you may have questions for each other, as well. Ann, do you want to start by asking a question?

ANN BUTLER: This morning I discussed two different types of documentation, each defined by intent. I think it's clear from the examples the two of you showed of your work that you do document your

work. But you document it after the work has been made. And so my question to you is are there any types of evidence, traces, or materials that you save from the creation of the work, from the evolution of the work, before it becomes finished? Are you interested in that material? Do you ever go back to it and consult it? Do you ever provide access to it for others who are interested in your work?

JENNIFER MCCOY: I guess a lot of it happens sort of organically, in that some of the work we do is commissions and people ask how it's going and what's happening. And so email has been an amazing repository of things, whether it's, you know, vendors that we might work with, that you save a bookmark to their site, or you know, sometimes process photographs that happen in the studio. You know, often these things are created on really tight deadlines. And so, you know, we'll have process photos that may even end up in a publication or catalogue, because the publishing deadline was before the work was finished. And so a lot of times, there's things done for that reason. And then Kevin, more or less as a hobby, has everything on Flickr. So, you know, once in a while he walks through the studio and just photographs what's going on. And it's not really with the intent that you're going to need some bit of info, but it's almost like, "Let's just photograph this." And then sometimes that is useful when you're like, "Oh, where did that part go?" Or, you know, "Oh, actually, that was a different way to look at it, before." And even in the work itself, sometimes the finished work isn't finished. You know, like we'll have to—we have a piece right now that was made for a commission at the Addison Gallery. And you know, it wonderfully did its thing for the six or eight weeks of the show, but I think it has to be entirely reengineered now. And so some of those systems are going to be upgraded before we show it again.

FRANCIS HWANG: I think in my case, in a lot of the work that I showed today, since there's so little—so much of it is digital, and so much of it is made using tools that are digital, you kind of already get this built-in stuff, right? I used Photoshop for the iPod piece. Photoshop actually has—we'll sometimes save a history or whatever; you have all these sort of layers. And just my natural working method tends to be fairly—I don't delete things that often, because I'd rather just not have to ask the question if it's okay to

delete it. So I'll have, like, a bunch of different Photoshop files that I started on, and then the one I actually used. And then when I do a second version, maybe I've created another two. So there's that, which you can sort of rely on automatically.

Beyond that, I don't go to the trouble, necessarily, of documenting it for documentation's sake. Mostly because, I guess, you know, when I'm doing it, I want to just sort of stay in the moment or the flow of, like, giving myself the space to kind of just make aesthetic decisions, even without having a good explanation for them. I think that tends to be a fairly...as somebody who's done a little bit of criticism as well, it's a fairly different mindset, I think. You can't—I think it's very hard to function as an artist if you're constantly asking yourself about, sort of, "How does this fit in the context of this history of this thing that I'm doing?" You just have to kind of do it, and sometimes it's going to suck and sometimes it won't. So, yeah, sometimes I'm, like, not thinking those thoughts. Or trying not to.

BUTLER: Another aspect of the two of you that I think is very interesting is that you both actively maintain Web sites. And those Web sites are used—well, they appear to be actively maintained.

MCCOY: I wish!

BUTLER: Okay. Well, as repositories for various types of documents—and I think in particular with you, Francis, where you are creating works that don't have any type of physical instantiation—your Web site is the history of your body of work.

HWANG: Yeah. And one of the things that's actually paradoxical about the Web, when it comes to the notion of history, is although it—you know, you have all these documents that can be changed, and there isn't necessarily any fixed final form for anything. It actually brings a sort of a social aspect into archiving. Because anyone who's run a Web site knows that if you put out...like, it's good Web practice for a gallery

to not just have their most recent—the show that's up now, not just on the front page, but to actually have a permanent URL that will always last as the URL about that show, because if I have a blog and I'm writing about art and I'm linking to your show, I would love to have a URL that will be there in five years. It's fairly impolite, in fact, to put that out there and then, you know, you redesign your Web site or whatever and those URLs stop going. So that means you kind of—somebody else took the time to talk about you, and then you didn't reciprocate the favor by actually, like, paying attention to that conversation. So you know, in sort of the Web-theory world, you do get into these very heavy, super-theoretical concepts as conversations about, like, "What is a resource, and how long does it have to last?" Dublin Core kind of pushes up against that stuff in a slightly different context, but it's very similar sort of thinking.

MCCOY: Yeah, it's true. And I like that aspect of it, that if you go to a gallery site and, you know, the show is four years ago, you still read the press release in the present tense of this exciting moment. And it makes a context for the work that is really lively, that isn't just, you know, "Oh, I have to go buy a catalogue or order one;" that it's there as a quick research tool.

WHARTON: I'd like to ask a question about longevity. As a conservator, I come from a position—or from a profession—that venerates the object, the traditional object in art. Our code of ethics and standards for practice is about the authenticity of the original object. Yet with the kind of art that each of you are producing, it's not just about the object. In fact, in some cases, there is no object. I also see that with the two of you, there's a difference. It seems that Francis is creating work that often doesn't have an object. And even when there is an object, he doesn't seem to be too worried about it. For instance, the work that he sold on eBay ended up in someone in Belgium's hands. And I think you said this morning you don't really know or care whether he's listening to it on the subway or putting it on a pedestal. And Jen, with your works, there sometimes are objects. So for Francis, my question is, if there is no object and you're not selling your work, how do you think about its longevity? Do you want people in the future to know about it? What would you like the process to be for them to experience it or know that it existed?

HWANG: Yeah, it's hard. I think you can...the tricky thing about online work is that you're dealing so much with developments that are expiring really quickly, right? The *Ten-Sided* piece was kind of about blogs. But it may be the case that in ten years, even if a technology like blogs will probably continue to exist, the word itself—its novelty—will not be there. So putting yourself, sort of, in the historical moment is difficult. I think that a lot of times, in those cases—I mean, a lot of, sort of, the conversations I've had about these kinds of archival issues tend to make me a lot more Buddhist about it than I used to be. I sort of think that you really—you know, you can't step in the same river twice. So when you're going to your museum—an arts museum or in any kind of archival situation—and you're looking at a thing that's ten years old or hundred years or a thousand years old, there is also this difference. And it's sort of essential, I think. Simon Schama is this historian, and he also writes for the *New Yorker*. And he has this really great line about how all of history is a negotiation between familiarity and strangeness. And I think it's easy to get caught up in a talk about, sort of, emulation—although I think emulation is very valuable as well—but it's easy to get caught up in this idea, “Oh, all this digital stuff can be made to be exactly the same forever into the future.” But it's also useful to go to a museum and look at a thing and say, “This is old. Like, when it first came out, people thought differently about this thing and that thing.” It's possibly a tougher sell, because people don't like history, though they should. So yeah, you know, the iPod piece, for example, I thought of it primarily, I guess, as a work of propaganda. Like, it was an act of communication. You know, the physical embodiment of it—or the actual piece, the thing that was sold—was part of it, but the act and the conversation was really much more. So, you know, then you think about, what are analogies? How do people learn about a famous speech, right? How do people learn about Martin Luther King's *I Have a Dream* speech? Well, there's all these weird, different ways to do it. But you'll never actually be there at that moment. You were just there once, maybe. Probably weren't; I wasn't. And that's probably the best analogy I can think of.

WHARTON: So to understand that work in the future, the political and economic and social context needs

to be communicated, as well as the act.

HWANG: Yeah. I mean, the work is meaningless if you don't really know anything, for example, about the original *Negativland U2* album, right? Which happened fifteen years before it. It's meaningless. It's not very interesting if you don't know that, you know, like a couple years before, there'd been this giant lawsuit with Napster and Metallica and all this stuff. It depends on all this context of the moment. Actually, you know, also for me, there was a...it was a historical act, and it was useful for me to think about all these kids who didn't know anything about *Negativland* and their first exposure to this history was because of Napster, and to actually point out, "Hey, by the way, this an old thing." Like, "You're not the first people who have ever been, like, caught up in this problem or in this struggle." But yeah, that's very historical. So you need a lot of context.

WHARTON: And then, Jen, when I think about your work, it transcends from Internet art to CDs, and now you're working with more sculptural elements. The same kinds of questions come up and I think about the object and authenticity. I also think about obsolescence with, actually, both of your work. But you're selling your work, so it does end up in collections in museums. One of the things I'm interested in is your ideal relationship with an institution that owns your work. Because as conservators, we're interviewing artists about these kinds of questions. In fact, I interviewed you and Kevin about the work at MoMA. Would you like to be there every time MoMA reinstalls it? Would you like to continue the relationship? Or do you see your presence as easing away?

MCCOY: I don't know. I mean, I think when it's possible to collaborate—I mean, Kevin and I collaborate from the get-go. And, you know, it's because it's a conversation that we like to have. And really, you know, the moment is when something starts to function in the studio and what conversation comes, you know, when it's finally going and you have that energy. So to bring other people into the process, I think, is really an organic one, you know, because it's collaborative to begin with. But I do...I think that basically,

once it's out of our studio, I'm thinking about the work that I'm making now or next, you know. It's really done. And so it's wonderful that it reinvigorates energy in the viewer, and also in the staff that's putting it together and making it happen again, and I like to see that, but it's not the same kind of investment that I have. So in a way, it's very proper that a new team of people is enthusiastic about, you know, getting this going again and really knowing about how it's put together and...you know, we like to be there if we can, but I think that it really—it's sort of the new team, you know, at that point.

WHARTON: That's an interesting perspective, because I'm seeing it from the point of view of the museum. And over the past two years it's been very interesting for me to learn how MoMA operates. I'm sure many museums operate in the same manner, by bringing in installation artists every time a work is reinstalled. I'm also finding that artists vary as well, just as the works really vary. Some just don't want to be involved, and others expect to be, or insist on—

MCCOY: Well, I mean, the heart of the work, a lot of it is that it's fairly open ended. You know, we're relying on the viewers' perception and them stitching things together. In some works, software is creating things live that, you know, I may not have seen before. And that has to be fine. And so it would be kind of strange for us to say that we want all this control at the end, you know? I mean, we try to set things up so that the viewer has as close to the experience as they can, if—you know, the right way to show it. But you know, these things are really variable. I mean, there's certain things we won't do. I mean, like with *Horror Chase*, you know, because it's way easier to show a single-channel piece as a projection, even—you know, we've been asked, "Can I just—can you burn an hour of it onto DVD?" And we've said no to that. I mean, removing the object completely is off the table. But short of that, things are—you know, dimensions are variable, and lots of things are variable about them.

WHARTON: Uh-huh. And the *Starsky and Hutch* piece with all the CDs lined up—are you concerned about the fact that they can't be played anymore, that the technology's going to have to be different?

MCCOY: Well, they still can be played, but they can't be played on their original video CD players. We would have to have DVD players that can read that kind of file format, which is possible, but they're not the same form factor. And so we've been, as we've started to preserve that piece...there's five of them and two of them have come back from their homes to be sort of upgraded. And what we've done—and it was a really complicated decision; we went around and around. Because if we change the player, we would have to remake the case—we'd have to change the suitcase. And, you know, the monitor is fine, the discs were fine, the speakers are fine. But what isn't fine is the system that plays the video CD. And so at that point, we really did some soul searching and asked, you know, "What is the most important thing?" And I'd say if the work was just sitting around in our studio and it hadn't been shown that much, or it hadn't been collected, for sure, we would've just remade the whole piece. But since it had been shown and it's in books and it's in, you know, articles, for us it became the most important thing that it looks exactly like it used to. And so what we did was we ran the cables from the monitor out to a completely other DVD player that basically can be upgraded, because it can be any shape or size. And the original discs play, but not in the original player. So I mean, for us, if you photograph the piece—I mean, the interactivity's still there; you can still choose from the discs. We didn't, like, put it all on a hard drive or something and then you have an interface. I mean, it could be so many things and still be conceptually the right work. But it also became kind of important to have the work visually be the same. So we made this choice. And I don't know—I mean, I'm really not even sure now it's the best choice. But it was the easiest thing to do, which was, you know, good, because we needed to get it finished. And it seemed like it was right for the piece. Because that piece was also about being very handmade looking and using consumer materials in an innovative way. I mean, there's so many more high-tech things we could've done, even at that time. And we really like this sort of, you know, clunkity consumer-electronics-all-mashed-together kind of aesthetic of it. It looks a little more slick, maybe, in a picture, but in person, it's sort of like a Nam June Paik. It's sort of sad, and it's got these, like, frayed edges, and it's got a handmade look to it. And we didn't want to erase that. So there were all these different concerns. And

believe me, we scoured the Web for years. First we got those players from this place in the midlands somewhere in England. And then we got this handwritten note one day: "I'm sorry, I'm not going to make these anymore and I've run out of them. Here's a Web site in Korea." And then this trail—it was like detective work for years and years and the trail just dried up. So you know, when it's done it's done.

WHARTON: I could ask a lot more questions, and I'm sure Ann could, too, but let's open it up to the audience. Does anyone in the audience have questions? If not, we can go on and then when people do—okay, I can see many...I can hear many minds clicking out there. Okay, when you go to the mic, please identify yourself and either the institution where you work or...

CAROL PARKINSON: My name is Carol Parkinson. I'm from Harvestworks. We're a digital media arts center. But I had a question about the quality of the picture. I mean, just to follow Jennifer's train of thought: If you had an opportunity to upgrade the resolution of video, is that something you would consider, or is the resolution of the video part of the piece that must be maintained? The whole 640 by 480 and all that.

MCCOY: I think it's kind of part of it in this case.

PARKINSON: So you would leave the resolution of the video.

MCCOY: Yeah, because it kind of came from these VHS dubs that, you know, we were able to acquire. And that matches with the technology not of when we made it, but in a way, of when the show was made. So I don't know. It certainly doesn't bother me that it's the resolution that it is, so...

PARKINSON: But I think it's an issue if someone is restoring your work and there is technically an opportunity to upgrade the quality or the resolution of the video, or to upgrade the quality or the resolution

of the audio. So I don't know, I'd like to know how you felt about that.

MCCOY: Wow, I don't know. I mean, personally, I guess—I don't know. I would have to channel Kevin. I'm sure he would say, "Yeah, knock yourself out." You know, because it would just be incredibly difficult to do that, but it's possible.

WHARTON: This came up this morning, with Carol Stringari's discussion about the Grahame Weinbren work that they emulated, working with software people who wanted to upgrade, and the discussions that they all had about establishing the limits of variability, or the degrees to which it could and should change.

MCCOY: Yeah. Yeah, a certain crappiness in our work, I think, is part of it. You know, I think it really is. Because it's really about that idea of, you know, the paucity of the end-user's experience, you know? And I think that quality has become such a crazy concern now. I mean, just working with students, there was always this thing that I had: I'm going to show full-screen video. And now, like, students do presentations and we're looking at YouTube screens, this tiny little thing, and watching things on iPhones, and it's sort of gone out the window. I mean, not with me. I think I'm like the last generation that really has this idea of broadcast quality and things like that. But other people really don't care. Like younger people, especially, just—you know, they just don't even see the artifacts or something. They're, like, looking *through*, or something. It's amazing. And then at the same time, there's these huge-budget films that they're all engaged with and we're all engaged with. So it's amazing that it was, you know, centered before from pretty low quality to pretty medium quality. And now, it's like, you know, Internet resolution on one level, and super high-def digital projection on the other, and everything in between seems acceptable. I'm kind of excited by it. I think it's kind of great.

HWANG: I mean, the YouTube example is a pretty good example of people—you know, people make conscious decisions or subconscious decisions about...they value some qualities over others. YouTube

video looks like hell. But it's up there all the time, and as soon as something funny happened on TV last night, then whatever. Like Britney Spears goes on the V.M.A. and she totally bombs, and then there's, like, ten clips of it up in, like, an hour, and people want to see that. It's really funny.

MCCOY: And the iPhone is optimized to see YouTube. And it's the perfect tool for the disposability inherent in the idea of that much video of, you know, middling quality. It's perfect.

HWANG: Yeah, yeah.

BUTLER: ...low resolution as an aesthetic consideration, which I think you were getting at a bit before, saying that you want it to have that look—because it was *Starsky and Hutch* from the 1970s—I think that that's very much a consideration that needs to be brought in. You can't assume that everybody wants to upgrade the quality. In some cases, there are other considerations at play.

HWANG: But I would even maybe be a little more absolutist and say in the case of YouTube— like, I don't know, there probably are video artists out there who are putting out little snippets of their work on YouTube; that although in a very traditional way, the quality of YouTube—the terrible, terrible quality of YouTube—is a limitation, you can also say this about it. Whoever put it up there, they made an aesthetic decision. They knew. They were like, "I get immediacy, and this is going to look like hell." And so that's a decision that was made at a historical point in time. I actually think, sort of from a technical point of view, that's not a decision that will have to be made for much longer. But you know, that's an interesting thing to consider.

MCCOY: But higher is not always easier. I mean, look at the example of, you know, high-definition television screens at home. I mean, there could be, you know, lots of producers of—say, independent cinema or lower budget TV operations—that are not going to be able to really work at the level they've

been working much longer, because their set design relies on a certain lack of resolution. You know, they don't have to have every little antique in the background, because it's not going to be in focus anyway. You know, whereas as things get to that level, everyone has to ramp up to match it, all of a sudden. So it can be very expensive to do that kind of thing, and it might be, like you were saying, kind of against the sort of impetus of the work.

WHARTON: Let's go back to the audience. We have another question.

JULIA NOORDEGRAAF: Thank you. My name is Julia Noordegraaf, I'm from the University of Amsterdam, the archiving program there. I have a question for Francis. I was very intrigued by your remark about the cultural context and importance of that context for your work. For instance, you said about *firmament.to*, that it only makes sense in a context of Google search machine. I want to address the question of not preserving things. Do you have particular ideas about that, about the—I mean, we always assume that we should preserve everything. But looking at the ephemeral nature of some Web-based artworks, what are your ideas on not preserving things?

HWANG: I definitely think it's a thing that both institutions and artists...it's a possibility that they have to be open to. And part of it is simply just a matter of resources, because in some cases, you're going to have work and you're going to have a discussion, and you're going to say, "Well, if this costs us a \$100 to bring it back, we could, but if it's going to cost a \$100,000, then that's ludicrous." And that's legitimate. Art happens in the real world. It has real costs and real benefit, you know? Not concrete and financial in that sense, but...I don't have a strong opinion about it. I think that if I were in a situation in the future where an institution wanted to bring back some of my work, I'd probably try to be very polite and work with them. But...yeah, and I'd like to think that they were making a good effort on it. But I do think fundamentally it's an imperfect thing to be doing. So the fact that it is imperfect means that there's probably a couple of different ways to do it that are all sort of okay. So I don't have a strong opinion.

MCCOY: Just going on that, I just think that, you know, in some ways, it's—the conservation-preservation is one way, but there's also the art historians and critics, and people who really write the story of, you know, what the anecdote is around the work, especially sort of Net-based interventions, you know. To really think about, like, "Well, here's a picture of it, but it functioned this way, and it may have these ramifications. And these other artists made work in response to it." And, you know, I think people writing those histories are really important. Like Christiana Paul and other people that, you know, really can, like, put the groups of concepts together and really add all the historical weight back into the discussion.

AUDIENCE MEMBER: I'd like to second what you just said, because I think that really what seems to me very clear from all this is the disparity between conservation and archiving. And we've got two representatives up there right now, two very separate ideas, in a sense. And what excites me most is the collection of the so-called ephemera, the more mundane things around a work of art, which, as you've just said, create a history and a context, especially a social context, within which the piece was actually made. And I find the discussion of how to preserve these pieces somewhat academic, I have to say. It worries me slightly, because I think we've entered— I get the feeling that we've entered a new era where perhaps those kinds of somewhat old-fashioned, if I dare say it, outdated ethics that go with the conservator and the restorer of work may not pertain exactly the same way to this new kind of work. And maybe that's what this is all about, this is what we're all discussing here. But I've seen things today and I've seen things in the past that are so much of the moment and so much like a piece of theater, something that exists and then ceases to exist, where memory and collective memory carry it through and pass it down, that it seems to me that to go to great extent—to go to great lengths to actually preserve these sorts of things may be misplaced ingenuity. Now, I hope I'm not throwing a spanner in the works here, but I would like you to address that, please, as you will.

WHARTON: Well, I'd like to respond, as the conservator on the panel. I'm also thinking about what Carol

Stringari said this morning about this tension—as she mentioned, all these resources going to create tools for documentation and the resources going into the documentation itself. Her feeling as a conservator—and I have to say, mine as well, because it's so deeply engrained—is: “What about the object? What about the work itself?” We need to spend resources conserving it so that it can be experienced in the future. I think that tension does exist between our two different disciplines. One way to think about it is that Carol and I both work in fine-art museums that have spent a lot of money on their collections, so we're charged with the responsibility of making sure that this investment lives into the future. We're coming to it from a professional ethic of honoring the object, as I mentioned before. It is a very different orientation. And I take what you say seriously, that we need to rethink some of that. Yet we're in this bind of being in an institution where these things have been collected, and we're charged with the responsibility of not only making sure they can be experienced in the future, but experienced in the way that an artist would want them to be experienced. I don't think we can just say, “Well, maybe we won't conserve it, let it go, because we've got the documentation in the archive, and so people can learn about it from the archive.”

MCCOY: Well, I guess in either case, you just can't assume. Like, you know, in the graduate department that I work in, my colleagues assumed that a digital artist wouldn't need a studio with a window. No one asked him, they just assumed, “Well, he works with computers, let's just give him the one without the window.” It all made sense to everyone in the room. And then the student completely lost his mind, you know, because he's working—you know, he likes natural light as much as the rest of us! So I guess it's just difficult, as we've been talking about. These case-by-case notions of speaking with living artists to figure out what their needs are, I guess, is important. Certainly I have a bunch of work that was produced in the moment, about a certain thing. And, you know, I didn't even show that part of it; it's gone. It really is. But other things, you know—you do have a different kind of investment into.

HWANG: And you know, I would caution against throwing the baby out with the bath water. It's useful

often to be able to—even if the context has changed or you have to spend a lot of time explaining the context, it's often useful also to have the thing and say, "Now that I've built you up to this thing, here's what it is and how it looks and how it works," you know? It's unfortunate that, you know, the *firmament* piece, the *firmament*.to which I have doesn't work because it's less effective to an audience—you or anyone else—to see it as static slides in a presentation than it is to see it as a Web site, where I could enter a thing, press "enter," and the form would work and I'd hit links, right? There are things that are worth illustrating. It's hard to know ahead of time. And I think a lot of times the function, sort of, of archiving is sort of an insurance policy. You don't actually know what you're going to want to do with it ten, twenty years in the future. And you may actually want to figure out how to emulate it, restore it, so on and so forth. I'm happy to have worked on Shu Lea Chang's piece *Brandon*, because *because* of it, it existed again, and other people could see it who hadn't seen it the first time around. And I think if you only rely on the work of critics and historians—though that work, of course is invaluable—but if you only rely on that, then history only has that one dimension.

WHARTON: Another question?

DAVE CAVANAUGH: Yeah. Well, my name's Dave Cavanaugh. I work in the technology sector for Sun Microsystems. I presented on Wednesday, on archiving movies digitally. Also, I do want to bring up a little background, because I think it's important to what I'm going to say. I presented at JTS and I was fascinated by the work that archivists and preservationists are doing with irreplaceable information, media stuff. I'm just going to refer to it as information. I also realize that a lot of the things that are being done are raising expectations that won't be fulfilled in the future. I'm not going throw a spanner into the works, I'm doing to throw a grenade in the campfire: digital data, digital information cannot be preserved. It can be conserved; it can be archived. But if the fundamental base of preservation is in a physical art world—I have a master: I've got pigment on canvas; I've got exposure on exposed film—what's the master in a digital world? Is it the instant of the CCD capturing the image as the electronic signal going down the wire

to the disc? Is it the magnetic field on the capture disc? Is it the magnetic field on the disc being transferred to? After I defrag my disc, is it the...there is no original bit; there is nothing to preserve. And as we look at, "I want to preserve this information over time, I want to keep this videotape visible, viewable for decades, centuries, or millennia"—it can't happen. Whether it's an analog videotape or a new digital-computer tape, you're not going to save that bit or that sine wave.

And I think the discussion I have with people sometimes is...I remember there was enormous hew and cry about, "Should we *resurface* or *clean* the ceiling of the Sistine Chapel?" And the same type of thing came up in your discussion this morning: "Do we keep it historically accurate—it's got smoke and stuff on it from centuries—or do we clean it and put it back to the artist's original intent?" A valid discussion. But if you send that discussion out—a thirty-year-old analog videotape that I can't read anymore would be the logical analog of the dirty Sistine Chapel. Which should we preserve? But if you look in the digital world, once that stuff's digital and I can do a bit-for-bit copy for millennia, I've got something I can conserve. But time spent trying to preserve a master that really never existed in the beginning, because of the ephemeral nature of bits...is a magnetic field on a videotape—why is a new magnetic field better than an old magnetic field? Because that's the issue. But time and money and resources spent conserving—preserving—what some people think are digital masters so that I can always watch them again does not seem to be time and money well spent if, indeed, we need to archive the original material.

Now, I wrote a paper when I went back to my office after JTS saying this is enterprise-class stuff, meaning in my world, these are the most important things, this is the highest level of technology. The methods and procedures necessary to store this stuff over time are: a) important, critical to this stuff; but b) out of the cost reach of the academy, the librarian. We need to close this gap somehow, whether in my company, with a foundation, or tax breaks, or something. But the idea that we can preserve a videotape from thirty years ago, or a videotape from ten years ago, or a digital file from this year, and somehow keeps those bits accessible—although the chipset instruction won't be there in five years, the operating

system won't be there in ten years, the application won't be there in eight years, and the media itself won't be readable in nine years—that we can preserve that for generations is just wrong. And if we set the expectation that that can be done, then we're going to lose a lot of data. We're going to lose a lot of irreplaceable information. Rather, if we understand that bits are ephemeral, and we know that migration can keep those bits bit perfect for millennia, preservation isn't the issue. Conservation through migration becomes where the focus of time and resources ought to be spent. We can't preserve digital data. And the concept of master is just—it doesn't exist in the digital world. Which was the master bit? So I really think we need to understand that any paradigm to preserve new media based on a master is just wrong, must be rethought, must be taught differently, or we will be in the situation that that PBS television show *Into the Future* talked about, where we're going to lose all this data. But as long as we recognize that, you know, a bit is a bit is a bit, and if I migrate it forward, I haven't changed the representation, then we will be preserving our heritage.

Now, I'll give you an example of something that happened to me about fifteen years ago. I was working with a major music label on: a) archiving their content—they have 20,000 hours of music content they wanted to archive; and they also wanted to use the archive to send the content to a CD manufacturing location. Sounds rather pedestrian. I said, "Fine. We'll get those bits, we'll transmit them over. And their golden ears can listen to the track. And if they like it, they can, you know, press the CD. If they don't, we'll fix it here and send them a new copy." They said, "No, no, wait. They need to send those bits back."

When I send a bit over a telco line, it's done when it hits its first repeater. That bit is not amplified and re-sent like an analog telephone signal, like a voice on a wire. It's just gone, and the system there generates a new bit to go the next fifty miles down the interconnect. So the concept of this bit...even the concept that it exists is fundamentally a wrong concept in the digital world. We have to get past the idea of preserving digital information, and get to the concept of conserving and migrating. It's the only way this stuff is going to last.

WHARTON: This is a very good point, and it's central to what—

CAVANAUGH: Oh, I'm sorry. Before I forget, I really appreciate the resolution issue, because it's a huge issue in Hollywood, where I work. But you need to know that analog TV is going to get turned off in February of '09 by act of Congress, and you won't be able to buy NTSC sets anymore. So then you'll need to keep a bunch of old televisions to make that happen—just f.y.i.

WHARTON: One of the differences between a moving-image archive and a fine-arts or museum collection is that they're one-of-a-kind works, or maybe an edition of five. So, yes, I think we have to accept the fact that there is no alternate master, that they need to be migrated in order to keep them alive—

CAVANAUGH: But I think this is [as] true in a scan of Ansel Adams as it is in a print of *Casablanca*.

WHARTON: My point is that the difference is that we need to establish a certain sense of authenticity about the work, or define what the work is, and its variability, so that when we re-master, when we alter the work, we're retaining whatever it is that the artist wanted the viewer to experience. There's a level of information there that I think is really critical to a work of art, that may or may not be critical to the vast amount of film and media, that many people here are probably worried about. But I don't know, let's ask the panel.

HWANG: Well, I mean, I mostly agree with your point. I can't speak really that much to people dealing with film or video. I think in the new-media world, and particularly in online art, you'll find that people are pretty promiscuous about the data. They don't really care where it lives. They might move it around servers, they might have it hosted at a place, they might, like, host it from their laptop, they might push it up to Rhizome or somewhere else that's being archived. New media forces those kinds of...I mean, if you

think about it, if it's something that you consider a concern, then you have to grapple with it fairly quickly. Things are being copied all over the places. Images also get proxied, right? Web sites get blocked. You know, all kinds of stuff can happen in between the points between the server, and so on and so forth. As long as nothing really, you know, confusing or unusual is happening in that layer, I tend to not think about it. I think that if the files can be preserved—and, you know, I don't mean the original masters, because Lord knows I've gone through, like, ten or twenty different hard drives in my life—but if you can hold onto it and keep copying it forward, then that's pretty much what matters. You know, I don't think...yeah, so I think the new-media world is pretty much already there. It's tricky because in that case, you are creating something that is digital. So you don't lose a single thing doing a bit-for-bit copy. You know, it's also easier if you, like, happen to write using open-source tools, so that you're doing a proprietary binary format. Most of the code for *firmament.to* is Perl and, you know, it's ASCII files. Yeah, so in those cases, you're pretty much okay. There's sort of these longer term, kind of, emulation and compatibility issues, which are, I think, a little different than what you're talking about.

CAVANAUGH: Yeah, I mean, emulation fundamentally changes the way the data's read and—

HWANG: Absolutely, yeah.

CAVANAUGH: So then it's no longer the original piece anyway, so—

HWANG: Right, but I guess I'm making the point that a lot of people in the new-media world don't care so much about the original piece.

CAVANAUGH: I agree with that. I'm not addressing that, because you and I, I think, are fundamentally the same. I think there's a misapprehension of the value of provenance in the world I discussed, because what we call metadata, or has been referred to here as documentation, is the information about the data

that's being stored, the information being stored. And there are standards being developed to make sure, "Who touched it? How many times? Where? When? Who owns it?" Everything you've mentioned, in literally thousands of other fields, is being dealt with in...there's something called the Hundred-Year Archive Project that the Storage Network Industry Alliance is dealing with. There are very active archive workshops and work groups going on within the I.T. community because of the recognition that data—that all this art, all these objects that are irreplaceable must be retained over time. And once they're digitized, they must be migrated. And we have to know the problems of each one of those. So we absolutely look at all of those things. I don't think it's accurate to make a differentiation on what problems we have on a media asset, whether it's a piece of fine art or a 100,000 feet of film in a film vault. Everybody in their industry considers their stuff completely irreplaceable and it's very difficult for anyone outside those industries to argue against that. So let's say all that's irreplaceable. All that needs all the provenance information about it.

My point, though, isn't that. My point is we can't preserve digital data. And the idea of preserving original media is based on the concept of preserving and the concept of original media. So then you get back to, "What's the original bit?" The one captured at CCD? Then go on through that chain again. There isn't a digital master. We can't look at this as a preserve paradigm. We have to look at it as a conserve and migrate paradigm, once it's digital, or we will lose this stuff.

BUTLER: I think what you're getting at is a philosophical distinction between the industry that you're in—which is driven by a certain technology, driven by digital technology—and then you have to compare that with the art world, and look at its reception, or lack of reception, of new media, because there is not an administrative way of maintaining authenticity, provenance, the administrative layers that are used to ensure notions of authenticity, originality, et cetera.

CAVANAUGH: I guess my point is that those, indeed, do exist. Those all exist right now. And not looking

outside of a particular industry, to the tools that have been built in other industries to keep digital images pristine forever, will hurt the fine-arts industry quickly. Not just over time— quickly. Bits don't last. But we need the content that they represent to last. We know how to do that, but it has nothing to do with preserving a master.

WHARTON: It's interesting. A lot of museums are really reluctant to collect electronic art and digital art and Internet art. There are some models out there. And I think it's because of this fear of transferring, sort of, traditional methods of operation to completely new paradigms, as you say, or accepting the fact that there is no original. It has to become a program of migration and, sort of, overseeing that migration to make sure that you're retaining whatever it is the artist wanted people to experience. Some museums are commissioning works of art, and even taking care of them, but not accessioning them. I'm thinking about—Dia, for instance, has an active program of commissioning Internet art. But they don't accession. What they do is they develop agreements with artists saying, "We will take care of it. We will keep it alive as long as we can or are willing to. And at the point where we can no longer take care of it, all rights and copyright will revert back to you, the artist." So that's one interesting model. Also thinking about the Walker Art Center, which had a program of accessioning Internet digital art...that has folded, I believe, which is really sad. And I'm not sure what the future of that program is. Anyway...Howard?

HOWARD BESSER: Okay. First, a brief comment on this last discussion and then I want to go back to the previous one and talk a little bit more about that. One of the things that we've developed over the last six or seven years within the digital library preservation-conservation community is the notion that what your master *is* is really a bit-order master. It is not an original object on a—you know, it's not a little card that I have in my digital camera, it is the point at which I turn it over to a repository or a museum in a particular bit order. And it is that bit order, it is not the actual medium on which it sits. And so that is what we call the master. And that is what we are trying to preserve. The other piece to this is that we also feel that it is critical to say, as we go through any transformations of that migration to make it work in new

environments, we always save the previous bit order. So that is our provenance. That's not the only provenance that we have; we also have metadata that tells what we did in those transformations. But we've found, just in the six or seven years that we've been operating these things, that we have made some mistakes in the transformation to make it work with newer software and we have to go back to the version before bit order. But there's a real distinction between a master as being an ordered set of bits and a master as being tied to some kind of physical strap.

Okay, so now let me get to what I think is the more interesting stuff, from the previous discussion. I think one of the ways in which we need to look at what we do in terms of—I'm going back to the discussion of, "Is it the art historian that writes the context and puts this context on it, is that the real value? Or is it the kind of transformations that we do or variability that we do to make the object work?" And first of all, I strongly believe that we've got to hedge our bets and go both ways. But another kind of piece to this, I think, is that we have to recognize that beyond a certain amount of variability, it's no longer the same piece. And though the artist may say, "I find this level of variability acceptable," it may be that the critics say that that level of variability is moving it outside of its context or its meaning or whatever. So in that sense, you know, both of those tracks really, I think, need to be followed—both the track of the contextualization and explanation of what's happening and the, you know, "let's try to make it work in a kind of different environment." But if we also look at some of the notions about saving the artifact—I think the saving of the artifact itself is also important to the historian kind of view, even if you can't make the artifact work. I mean, we have lots of examples of that. You know, telephones from seventy-five or a hundred years ago that we can't work, but it's really critical to have that as an object to help explain. You know, we can't make it function the way that it did. We also have—this is maybe a strange example, but we have species that have become extinct. And of those species, we have drawings or photographs, other things that help us understand that species. We have lots of documentation. And we have people who, in coming years, are going to try to resurrect those species with DNA. And we will probably—amongst us, we will have a lot of arguments whether that, in fact, is a realistic representation of that

species, when you take it out of its environment and you resurrect it with its DNA. So anyway...

WHARTON: Actually, it makes me want to ask Jennifer a question, because of the kind of work that she and Kevin do, about limits of variability. As we migrate and transfer technology to keep these works alive, can you ever imagine a time where you would want to withdraw authorship if it didn't work in the way that you want it to work? And, if so, how would you communicate that to museums to say, "You can do this, this, and this, but not that, that, and that, or it will no longer be the piece"?

MCCOY: You know, it's a really difficult question, because you really can't get yourself into the future or into people's mindset and realize just how badly it can go wrong. One example that I thought of was just this crazy day—and I think we just hadn't had a lot of experience with, you know, people other than us installing our work. Because when you're, you know, a young artist, it's really all about you and your efforts, you know? And anything—when you stop making effort, there is no more work. And then after a while, it's like, "Oh, other people are actually participating a little bit." And so there was this moment of shock because...actually, it was *Starksy and Hutch*, this *Every Shot/Every Episode* was being installed. And they're like, "God, I just don't know what's going on"—you know, this is on the phone—"it's overheating." And I was like, "It's *overheating*?" I'm like, "Well, it certainly has never happened in the studio, but I guess we should come take a look at it." And they're like, "Yeah, and you know, there's air holes and everything." And I was like, "*Air holes! What? Where are the air holes?*" They had put the whole piece inside a Plexiglas case and, like, punched holes in it so that the speakers would sound. And I was just...I just couldn't believe it. Because it hadn't even occurred to me that anybody would think to do that, you know? Or even just installation diagrams of how this could go. The suitcases all have this little handle, and there's a whole body of work that—they're much larger suitcases and the handle is fairly clearly, sort of, ornamental. Anyway, we had installed a hook that you were supposed to put the, kind of, "now playing" CD on. And they were trying to hang the whole piece from the hook. And so, you know, things that are...just my only point is that things that are just not—are obvious to you as [not] the way to

go, for somebody new to the whole situation, they may think it's a perfectly acceptable idea. And I think it's kind of fine, you know what I mean? Like, I don't know. I mean, I've certainly had the horrible experience of walking in and seeing basically my artwork being projected on a sheet flapping in the wind. But you know, if someone's excited about it and they—like, it's part of their space and their dialogue, you know, then that's something that is different. I mean, that isn't to say that I haven't walked in and been like, "We are not opening this show. We are shutting off the lights and starting over." You know, I've definitely been the more stickler, at least between Kevin and I, of having things installed properly. My biggest thing is projection. You know, if you're going to project the work, you've got to turn off the lights in the room. You just do. I mean, it's getting better and better, but by and large, you know, it's just standard. So things like that do bother me, and I've certainly, you know, stomped around a lot. But in terms of de-owning the work, I'm not sure what it would take. I don't know. Especially like the *Starsky and Hutch* piece. I mean, yeah, if you're going to ask a question like, "Would you rather have pristine video or artifact-filled video?" I'll pick A or B. But really, the essence of the piece is the labels on the CDs. You know, to me, as long as—that text piece is the conceptual heart of that work. You know, work that's more imagistic or about my biography or any of that is different. But there is a conceptual core that, you know...we've actually produced that as a printed edition, and just printed the text. And to me, that's the heart of it. And I'm sure, you know, artists who work conceptually, it can get very "think," you know? It can be really just a piece of—an idea on a paper. And if someone wants to reinterpret that—I'm not saying it's the same artwork, but I'm not sure I'd want to take my name off of it if the genesis of the idea was somewhat clear. I don't know. I didn't really answer you.

WHARTON: No, but you come from a very generous position. I'm not sure all artists would, sort of, have this notion that people can change their work, and if they're excited about it, that that would be okay and it would still be their work. I'm thinking of some of the cases—

MCCOY: Well, we're post-Duchamp, you know? I mean, once you're past the urinal with the signature on

it, it seems to me that you have to go where the world is going, you know? I mean, I don't think anybody who's using the tools of our time would really, really, really say that if new tools come up that somehow, "Whoa, those are off limits." You know? I mean, even Stan Brakhage, who called video "the evil blue light"—eventually he kind of came around, you know, and started using it a little bit, or at least watching it. So I don't know. I just think that, really, conceptual art was the thing that really changed it. And everybody else is clinging to things. And we're clinging to things, as well. But really, it's a...this idea of authorship has become very interesting. But I'd say starting with found objects, and not starting here, you know.

HWANG: Sometimes I think—and this will be my contribution to throwing a grenade into the works—that the concept of the single, fixed object—the holy thing that has to be physical and retained at all costs on a certain molecular level—is something that came about from a very narrow set of historical circumstances; that that is not actually the historical norm, but that it's a combination of wealth in the Western world as a result of industrialization. But industrialization wasn't moving fast enough to make all the things happen, so you had all these people commission all these beautiful works and preserve them, but...because when you look in broader culture, outside of the art world and outside of the world of archivists, I think, you know, there's kids just putting shit on YouTube. Every time you go to YouTube, by the way, like if you want to see Britney Spears in the V.M.A.—but there's, like, six of them up there. And, like, no one seems to have a preference as to which one's better. Like, some of them cut off the last five minutes; one of them, the video quality's really crappy. People just want to watch it and they're done. But even, you know, outside of that, sort of, messy world, like, they're going to release a new cut of *Blade Runner* in October. It's been twenty-five years that they've—I think it will be the third or the fourth cut. And Ridley Scott's involved, because he's like, "Yeah, this is awesome. I'm going to edit out these little weird special-effects artifacts and I'm going to remove some of the narration and maybe I can re-shoot this one scene in a studio quickly." And I think that you're dealing with a lot of—all of these funny manifestations of "it's cheap to produce things," you know? And so everyone does it. Public Enemy's first really big albums were, like, made—you know, you'd have a drum line that was like ten other drum sounds from some jazz

record, some funk record, blah-blah-blah-blah-blah. And so people have to kind of...you know, they have to be okay with the things, that there is no such thing as a final work in any real sense. I mean, that is slightly different from the authorship question, I think, but it's really related to it.

BUTLER: Well, it's definitely related to it, and I think it's part of the legacy of conceptual art. I think one of the big differences between conservation—what you do—and what I do as an archivist at Fales is—and this ties back in with what you were saying, Howard—at Fales, we collect all of the stuff that surrounds and contextualizes a final work without necessarily having the final work. And there are instances where—this came up in a class that Glenn and I were jointly teaching a week ago—there are archival objects and items in our collection that we feel are not appropriate for full museum-type conservation; it's not appropriate to save them. These items are heavily documented, and the documentation will supplant the physical object over time.

WHARTON: Museums will not be okay with that.

BUTLER: Glenn shudders when he hears me say that, but that's part of the distinction right here.

WHARTON: Occasionally, museums do allow works to die, particularly contemporary works that, for one reason or another, no longer represent what the artist had intended. But I think what I'd like to do now, since we only have a few more minutes, is go off on my little riff talking about conservation, the state of the field.

This has been a very interesting conversation, because I think what we've done is muddied the waters, which I knew we would do. We wouldn't come to any great conclusion about conserving new-media art, because there is no conclusion to draw, there's just the recognition that we're no longer talking about an authentic object. We're no longer talking about interventive conservation as we used to know it: cleaning

paintings, fixing broken sculptures. We're talking about rewriting software code; we're talking about a form of art that is infinitely reproducible, as we know, that must be reproduced in order to live. Fortunately, the field of conservation has well over a hundred years now of building its philosophy and its ethics, and I think that we can build on that—and we are, those of us who are addressing these issues in museums. As Carol brought up this afternoon...the tension that we want to do things. And maybe that's one of the differences between conservation and archiving. We typically are involved in putting up a show or preparing something that's going out to loan, and it's got to look good. It's got to be presentable. We have to act, we have to do things. If it's not gluing something back together, it might be rewriting a code or migrating it onto some new medium. It all comes back to the basic core of knowledge that we have to build on to make these decisions: what the artist says about their work. Which is why we're promoting artist interviews as a basic way for us all to work— conservators and archivists. And that was the point of putting this panel together, to demonstrate the kind of conversation that we have when we interview artists.

For instance, what I'm doing at MoMA is surveying the collection, which is what conservators traditionally do, to try to get a handle on what MoMA has in its media collection and what its condition is. In other words, for media art, "Is it analog? Is it digital? How long has it been since it was reformatted? Does it need to be migrated?" And eventually, once we get a handle on the collection—I say "I," but, in fact, I'm working very collaboratively with people in many different departments—we'll develop a program to start this migration. It's already happening, but we will budget for it and systematize it and start regular migration, improve storage...and then as new works come into the collection, establish the budget and a maintenance schedule for the works. This is a huge job, and very complicated. One thing that's happening at MoMA and a number of different museums is people are working more collaboratively. At San Francisco Museum of Modern Art, they have a group of people called Team Media. At MoMA we formed a group called the Media Working Group, in which curators, registrars, exhibition designers, A.V. people, I.T. people, and conservators get together. We're meeting once a month to talk about new

acquisitions that are coming in, to talk about older works, to talk about works that are going to be reinstalled, what the problems might be, and budgeting for any migration that needs to occur or any equipment upgrades.

I'd like to tell you about a couple of other projects, just so you know about them. One is the International Network for the Conservation of Contemporary Art, that's I-N-C-C-A, "INCCA" is the acronym. It's a professional organization of conservators that developed in Europe in 1999. And with E.U. funding, they've been able to do a few really important, big projects. One of them resulted in a conference and a book called *Modern Art: Who Cares?* Another one that they've just finished is called *Inside Installations*, in which the European Union funded—at the tune of one million Euros—to perform thirty case studies in museums throughout Europe for researching and documenting media installations. They're not all media installations. This three-year project has just finished and all of the projects are going up on their Web site. It's going to be an invaluable tool to help us think about different methodologies for different kinds of works.

Another project that INCCA sponsors is called the Artist Archives Database. I have the Web site here. We could bring up this computer....It's not happening. Well, if and when it happens, I'll talk about it. But the idea is that members of INCCA—and I'm inviting you all to join and find out about INCCA if this interests you—realize that we're all collecting information about artworks and about artists, and it's often just going into our files, or it remains in our heads, or it's on little Post-its—unpublished information. A lot of this is valuable. They've found a way that we can share this information with this database. If you're a member, you can enter metadata about a document that you have. It might be an artist interview or it might be scientific analysis of a work of art. Once it gets on the database...I, for instance, can enter the metadata for an interview I did of Jennifer and Kevin or Francis. And then anyone else in the world that's interested can find this metadata through search terms and learn that I have a transcript or a CD or a video, or whatever it might be, of this interview. They can then contact me and I can send them the actual

document. It's a way to share information that's not getting published. There's all kinds of copyright concerns that we're addressing, but we are addressing it. And we're forming a North American branch of this organization and creating a nonprofit 501-c-3, slowly.

Another project is called Media Matters. Carol mentioned it this morning. This is a project that's funded by the New Art Trust in San Francisco. And the four partners are MoMA, San Francisco Museum of Modern Art, the Tate, and the New Art Trust, which is a family foundation of collectors, to develop best-practice guidelines for owning and managing and caring for media work, time-based media works. And if you go to the Media Matters Web site, which is hosted by the Tate, there are documents for loaning works of art between institutions and for acquiring new...well, actually, that's not up yet. The phase we're working on right now is best-practice documents for acquiring time-based media. And there're going to be documents and templates people can download. For loans, there's a process diagram that walks you through the steps of making a loan from...each institution, what they do. And then all kinds of documents for doing condition assessments of time-based media, including downloadable templates, et cetera.

The "acquisitions" section of Media Matters—this isn't up yet, we're finalizing it right now. It's how to buy or acquire new-media art. And again, there's going to be a process diagram that takes you through all the steps, including, "Do we really want to acquire this work? What's the cost of ownership?" And going on down, after it's been approved, you go through an accessioning phase to verify what all the components are. You check the materials that come in, you exchange contracts. And we have actual contracts—templates for contracts—that can be downloaded.

And then post-acquisition phase, notify the artist we've acquired your work, pack, and store. And these are circles, because all these steps are overlapping and continuing: catalogue and inventory, organize the collected information, document the work, develop a conservation plan. If you click on any of these, you come up with sets of steps and documents that can be downloaded. Media Matters is an applied project

for how to own and care for time-based media works.

To conclude, there's a lot of movement in the field. I think it's a very exciting time to be either archiving or conserving the very challenging works that artists are producing today. And I think with that, I'm going to close the discussion. And next, we have a break. Then we reconvene here at 3:30. We've got about ten minutes to get up and stretch. So, thank you all.

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