

Oron Catts

Lynn Hershman interviews artist Oron Catts

2012. Founder of Symbiotica Las

OC: Not so regularly now as before. We used to...because he came twice to my lab and...

I did a couple of really interesting projects. I know he's very busy with _____ big piece. I think it's next month that he's doing a performance or something.

OC: So, and my father is Australian and my mother is Israeli and I was born in Helsinki.

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OC: I went to Israel and then...oh, actually, from Finland I went to Switzerland for a couple of years and then to Israel, and then I moved to Australia more than 20 years ago.

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OC: Yeah.

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OC: Yeah, well, my father...I always had a passport here.

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OC: I grew in a village in Israel. So, I...as far as I remember, I've always collected stuff. I collected stuff you find in a village, which is bones, and skulls, and whatever, and animals, and....and I started to try and rearrange them and put them back together in a sense. So, I always remember doing those types of...I suppose assemblies of things. And then, you know at that point I never really...or in high school I didn't really study arts as much. It was more of a _____ school. So, but I was always kind of drawn to that. I'd always done my own stuff without kind of being asked for or instructed. And then when I moved to Australia, I

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enrolled to do design, because I thought I should do something useful. And so I had done product design, but throughout the whole studies of the product design, of course I would...first of all, I was accused of being too much of an artist. And secondly, I constantly looked at the link between technology and biology and design, and got more and more interested in that area. So, my final thesis was about this possibility of design by technology interrupting in the form of a living surface. So, the idea was to look if I can cover domestic products with living surfaces. And then developed that project further by introducing _____ looking at possibilities. And when I finished, just after I finished, I approached scientists to start to develop the project.

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OC: Not...I didn't really see it as such. I think already recognized back then in the '90s that biology was becoming more and more engineering pursuits. And it's obvious that once the engineers are moving in the designers would follow shortly after to try and design those engineered products. And the reason why I chose to continue developing this project as an art project was that because I wasn't really sure if that's the right way to go. So, I thought that the arts can engage in much more open ended and developing contestable type objects rather than try and bring any resolve or closure to the idea of designing biological products.

?: OC: (clears throat) So, in 1996 I approached the scientists with this idea of using one of the specific technologies that I was looking at during my research was a technology called tissue engineering. And that's just started then. So, very few people actually discussed it. It was a little bit of stories in the media, but within the scientific community, there were very few people who were actually doing any type of tissue engineering as such, especially in Australia. And luckily for me (clears throat), the scientist I approached, she was very, very interested in this field. But she, like the rest of us, she knew quite little about it. So, when someone like myself, a young designer at the time approaching her with this idea that tissue engineering might be an interesting area to investigate, she was very welcoming. So that wasn't the problem. It was actually quite surprising (clears throat) opening...how open and...and supportive she was. And...and then she put me in contact with another scientists, who was actually doing stuff, which now can be considered tissue engineering. At the time he wasn't even thinking about it in those terms. And he was a material scientist that was trying to develop an artificial cornea. And (clears throat)...and again, there was very little convincing to do. It was very open...basically they opened up the doors and two of the post docs spent quite a lot of time with _____ and myself training us _____.

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OC: So, the interesting thing is that from the very beginning it was important for me not to use resources that were dedicated for scientific research. So I had to try and find my own funds. And we were able to get a very small grant from the Perth Institute of Contemporary Art to at least pay for the materials we were using. So I think that that was quite amazing that, again, that we got this type of support from the Contemporary Art _____. I think they were

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very, at the time at least, they were very open in trying to find out other ways of trying to support local artists and find ways in which local artists can engage in unique ways with **kind of the** subject matter and the materials. I don't think it would happen now, but at the time (clears throat) there seemed to be much more openness to those kind of things. But you're right. It was actually when we...so we established the tissue culture in art project in '96. We've done our own research projects with tissue engineering and then in the year 2000, we...or in 199 actually, we got funding to build a space that became the Symbiotic _____ Research Lab . And for that, convincing the art department to support the initiative was much harder than convincing the scientists, and there was much more openness from the science. And we are... so we are based still within the context of the science department, but we have full autonomy to do whatever we want. And it's just interesting to note that we are now the last place in our university that actually offers studio arts, because they just closed the studio arts program in the art school. So, the only place where people can actually practice art within our universities in our research lab within the science department.

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OC: I...you know actually the term bio art is not something that I like to use very much.

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OC: I refer to it as biological arts or arts in general. You know the fact that I think what we are doing is needed...is both urgent but also kind of timeless in the sense of the fact that what we are...the way I frame it is that my interest is in life and not science. And it so happens that the most radical shifts in the way we treat life, relate to life and do things to life, so those kind of radical, major radical shifts in our perceptions in our relationship to life occurs within the scientific context. So, that's why I parked myself there and that's why I'm really interested in seeing how life is changing, and shifting in front of our very eyes. And it so happens that it's within this kind of scientific and engineering context, and as an artist, I want to be intimately engaged with those issues.

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OC: We do very little of this type of molecular biology. I think there is a couple of reasons. We have a reputation of working in the level of tissues and cells, although, within Symbiotic Art, the 12 year history that we have and the 80 residents or researchers that we had since, we had few working with DNA, but also Australia is extremely strict in regards to genetic engineering and genetic manipulation. The types of approvals that are needed, are often very, very hard to get and quite lengthy. So, when an artist comes for a short residency, or actually the minimum residency time in Symbiotic is three months, but that's not even enough to be able to get the right approvals. So, it's tend to be almost like a self selecting process where those types of works don't tend to happen in our lab very much.

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OC: That's interesting, because I will be less optimistic than he. I would say what's happened in the last ten years, what...what's radical about what happens...happened in the last ten years, it's not so much _____ties of the outcomes, it's more the state of minds that we find ourselves in. And this is the...can be seen as the single engineering paradigm, that there is a shift towards **sieving** the world around _____ raw material to be engineered and it's going from the sub molecular of, if you want to think about it in terms of the fact that the promise of (stammering) nano technology, for example, is to try and engineer matter atom by atom. The promise of synthetic biology is to try to engineer life molecule by molecule. We see things like geo engineering, which is extremely large scale attempts to change the crust of the earth really. And then I think, and that goes back to your question about what will happen with humans, I think the scariest and most interesting and area that needs the most cultural scrutiny is the whole field of neuro engineering, because the very same logic that drives our attempts to control everything around us, is now moving also towards trying to control the way we think. And I think neuro engineering is...is a place that would seem more and more areas that we really as a culture, as a society, as people, we need to pay attention, because those things are happening at the very same time that we don't really have a cultural language to actually articulate and appreciate what's going on. So, I'm not...I don't think that I'm in a position to predict you know how our bodies are going to change, but I feel very urgent needs to question how we think that we are going to engineer the way we think. It's...I think that's the most interesting.

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[tech talk]

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OC: That's...yeah, that's one way of describing it. There is interesting research taking place in Israel at the moment where they are trying to inoculate people against post traumatic disorder, and they do so by forms of bio feedback. So, there is more and more of an understanding when _____ brain interface, and you have like those bands that pick up your brain waves, and you can actually, by forms of bio feedback, start to learn how to control those regions of your brain. And the idea with those post traumatic inoculation thing is to train people how to turn off those parts of the brain that might be affected during traumatic experience. So, the idea is to in a sense, you can read it as if the Israelis are now trying to develop psycho paths that will be able to go to war without ever experiencing the consequences of...of doing that. So you know they won't have the trauma associated with being in a war. You know and I think I don't know if it's going to work, but just this attitude that we can start thinking about engineering the brain

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order to do so and seeing that one of the very first applications for that is within this context. I think it's a warning sign.

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OC: I...I read about it about two or three months ago. So, it's...it's very current.

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OC: That's right.

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OC: Yeah, exactly.

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OC: Yeah. Yeah.

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OC: And this is a very crude way of doing it. It's just _____ self training, but once they start to get into the brain, so you have technologies like optogenetics, which is a way of activating brain cells using different light waves, and that's already been done with rats and mice, where they engineered the nerve cells in the brain to react and be activated according to different patterns of light that are being shined on those animals. And if that would ever be kind of transferred to humans, you can start to think about other ways in which there will be an attempt to control the way people think, the way people act and behave.

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OC: Yeah, one of our residents _____ did a project where he was basically trying to look at kind of how strange our bodies are the materials that our bodies produce, or the materials our bodies are made from, and he developed a very nice...not nice actually. A very interesting project dealing with the possibility of manufacturing explosives or components for explosives using human breast milk. And he was able to isolate certain ingredients, including ammonia from human breast milk and...and build this whole kind of scenario about this rogue state that for them to be able to produce the weaponry they need, they are using the people kind of as a production of the raw materials for those explosives. So it's kind of **a nice little** political statement about how bodies are being exploited, and...and used, and broken down and instrumentalized.

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OC: You know this dream of being able to kind of tap into those latent regenerative powers of bodies, (clears throat) and the idea of the salamander or the newt as kind of a model organism that we just need to figure out how they can regenerate their organs, and we will be able to do it ourself, is a really interesting concept, and I think you know it's...I think it's extremely exciting to see where it goes. And obviously, we have capacities, regenerative capacities within our bodies but also we can kind of try and push them further. The question I always ask as a designer, if... sorry, or as an artist, is if this is really possible, and I'm still...I'm yet to be convinced that we will reach such a capacity, but why stick to the original design, and that's where I think the issues will start to be more interesting in the sense of if you can reprogram and tap into the regenerative powers of the body, can you then manipulate them in some way?

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OC: Yes, so but actually I have a lecture I give when I talk about that, and I think actually the more...the better analogy would be slime mold and a salamander in regard to the way regenerative medicine operates.

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OC: So, salamanders regenerate their own body using their own kind of internal powers if you like, and using their own kind of tissue. What you see with regenerative medicine now is that it's much more fluid. So, cells are being taken from different individuals, they're mixed, they're being put together. There is this whole kind of much more, and that's why I think about it in terms of a slime mold. It's more just kind of reagggregates and then separation and then it's kind of come together again. So, life and bodies are much more fluid than in one individual body that

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does its thing. I think regenerative medicine and I think that's the direction where we see it more and more, is the notion of fluid bodies, that are kind of flowing into each other and fragmented than...

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OC: Yeah, and that's...I think one of the conclusions of the last 20 years of tissue engineering is that trying to manufacture an organ outside of the body, and then reintroduce it into a body is not as successful as actually trying to use the body itself as the mechanism that provides this regeneration, if you like. So, in a sense, when you think about the way we developed, we developed from one cell that grew you know throughout our time as an embryos and fetuses, and grew kind of in a sense from the inside out in a very complex way but in a way that also allowed whole kind of structure of the body to...to remain **intact**. If you are trying to do something outside of the body and then kind of stick it onto the body, or if you try to have a huge amount of cells that you put onto an artificial and **scuffle** and hope that they would then form something that would structurally be like the body, there is more and more evidence I think showing that that's not really the case. So (stammering)...and there is more and more evidence that shows that stem cells with the right signals within the body would do their thing without too much intervention. So you need to instruct them _____. So, this kind of **brute** engineering approach of the original kind of tissue engineering pioneers is now changing towards more of a ...this trying to understand how the processes within the body operate and then try to figure out how you can actually utilize them within the bodies as opposed to externally.

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OC: I don't like the _____ synthetic biology. I think that's quite a lot of what's coming out of synthetic biology, which is extremely interesting, and has some interesting applications, but it goes back to my fear of the engineering paradigm taking over any other approach towards the way we operate within the world. And it's becoming more and more apparent. So, the (Stammering) mind set of tissue engineer...of synthetic biology is where the problem lies. And because synthetic biology, the main they are talking about as the major shift from kind of traditional **modes** of biology, is the fact that it's being driven by engineers. And...and I had too many unsettling comments coming from the people who are pushing this technology like the fact that they want to make life into a well oiled machine, or that evolution is _____, or that life has too much noise and we need to remove the noise from the system so we can _____ design living systems. You know those I think...I don't think we'll ever be able to do that, because I don't think that life would lend itself to those very strict engineering paradigms. But I think the rhetoric and mindset that drives this type of approach with life is something that we need to kind of question. And I think we have too much historical evidence to show that when life is becoming instrumentalized and where this kind of _____ of life is...is driving the way we treat it, it goes all the way up. And again it goes back to my concerns about neuro engineering. So, this type of...if this mindset would then be kind of

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_____ onto tiss...onto neuro engineering, my kids would live in a world that I don't want them to live in. You know, so...

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OC: Yeah, I (Clears throat)...you know it's very premature to talk about it in those terms. And I think again, I think everyone...anyone who thinks about doing those kind of things, should read a book called Man, the Unknown by Alexis Carrell. So, Alexis Carrell was the scientist or the surgeon that started the whole field of tissue culture back...actually 100 years ago, actually. In 1912 he started...he had his first kind of chicken embryo, cell culture that lasted for 30 years. He was talking about immortality. He was trying to push this whole field of medical intervention as a form of creating at least a section of society which will be mortal and controlled. So, in _____, which is kind of his pseudo philosophical group, he talks about those things. And it's extremely scary, because he also...it's obvious that when you start to think about those things in those terms, and his conclusions were OK, the undesirable elements in human society would then have to be disposed of in economical chambers supplied with the right gases. Yeah, 1938 he writes that.

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OC: Yeah. Yeah. And he...

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OC: Yeah, actually...and _____ depends on which one of the Huxleys, but Julian Huxley.

[tech talk]

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OC: It depends which one of the Huxleys. Because Juian Huxley, the older brother of **Aldo**, actually liked Alexis Carrell very much and wrote a lot about him in his...his kind of science... popular science books, but also he...Julian wrote only one fictional story and that's called the Tissue Culture King, which in a sense is based on Alexis Carrell, but that's earlier than the 1938 (clears throat) **Aldo** I suppose obviously with the...you can see where he drew quite a lot of the information for Brave New World, but even for his other books, there is a book that he wrote in

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1936, which is called *After Many Summers Dies a Swan*, which is his first Californian book. And there is a character in that book which is a scientist that is trying to help a rich Californian guy to reach immortality, and he's actually based on...on Alexis Carrell. So...so that's...there are obviously...there are quite a lot of correlations there. (clears throat) Another story about Carrell is that when the Nazis invaded France and the **Vischy** government was installed, then they invited him from the U.S. to France to setup his Institute of Men, where he continued his eugenics and kind of scientific research for some years until the end of the war. And so what I'm trying to say here is that if you think about this idea of using those types of technologies you know that you create or try to achieve immortality or at least longevity, it can be and it often happens that it's a very selfish and narcissistic pursuit of very few people that willing that...you know, first of all, we all have to acknowledge that our existence is littered with corpses of others, yeah. For us to exist, there is no way we can survive without exploiting others. But the level of exploitation, how far and how...what resource we are actually using, or taking away from others in order for own existence, that's where the balance is starting to shift. And if you are starting to talk about investing large amounts of resources into trying to create a class of immortal people or people that would grow much older than others, undoubtedly, you would find yourself in a very similar situation of kind of 1938 and...

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OC: Yes, so when we...we started this artists kind of initiated residency. So, when we approached Miranda **Grounds**, the scientist back in '96. So, we...we, as I said, we got a little bit of funding and we...we developed a project, and we then started to get more and more funding for our own research. And so we started to understand how the context in which we operate kind of exists, and...and what is n needed there. And we started to adopt this rhetoric you know that we'll be able to then when we got funding to actually build the physical space, we started to adopt this type of language, adopt the idea of...because it was important for us that the type of people and the type of work that we want to have in the lab would involve access to some of those very expensive and restricted resources that were part of the school that we were Symbiotic was an integral part of...it meant that we had to struggle really hard to get our colleagues, our scientific colleagues, to recognize that we do is research and that our researchers should have the same type of access to all of those resources. And that's really... we're still a strange beast. So, we're still...we're not really here and we're not really there. We're kind of a hybrid or we're...we use quite a lot of the rhetoric the way the scientific lab is operating, but it's not that I'm the...I'm the in a sense, the director of the research center, but it's not only my research that's being pursued there. The residents come as artists with their own ideas and their own projects. It's not that they're working on behalf of the larger kind of research **at the end of the** lab. So...so there is like...we borrow stuff from both sides, and sometimes works. Other times it's...

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OC: I think it's, again, it's part of a larger problem. We refer to it as a neo lifeism. So, there is a...and I think the weekend I just spent in _____ in Mountain View with a bunch

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of amazing researchers and scientists, some people dealing with things life with the extinction, and people are dealing with kind of conservation and other issues. But because of the, especially within the context of that camp, which was all technology and scientifically oriented, the _____ization of those new technological approaches to life seem to take over the understanding of the context in which life operates. And I think that's coming time and time again. So, when you think about extinction of species and then you have someone says yeah, but we can de-extinct them by technology, by means of technology, it's obvious that the extension of the species is not just to do with their physical disappearance, it's to do with the disappearance of the context in which they operate.

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OC: And if you say OK, we can revive those things, but if there is no context in which...it's really...you know and as I told them, I think it's a great artistic project, but I don't think it's going...you know the rhetoric of large scale saving of the world type of thing, doesn't really operate within the way that they actually even talk about those de-extinction projects. They are very small scale and very symbolic.

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OC: Exactly. Yeah. No...and the other thing...but we need to remember that nature was never...is never an equilibrium. It's obviously...I have a project at the moment that looks at kind of...looking at things in different time scales. So, I'm working with a scientist who is one of the world experts in the second hand cycles of _____ bacteria and they've got a very precise kind of internal clock, 24 hours, but you can then tweak it, and change it, and manipulate it so those poor organisms will start to kind of engage with time in a very different way. And but that goes all the way. So, this project starts with that, but it goes all the way to one of the oldest places, undisturbed places on earth, and that's a geological formation up in the north of Western Australia, which is an undisturbed rock for...or rock that was undisturbed for more than 3 ½ billion years and it's got one of the best preserved geological calendars. So, when you start to kind of oscillate between human perception of time, biological time and geological time and you start to look back and forth, you realize...I talk about it in terms of looking at time as an (stammering)...as an instrument for humility.

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OC: For humility. So, far as to be able to understand the consequences or the un – consequences of our actions, we really need to figure out ways to relook at the scale of time and our perception of time. So when you think about nature being an equilibrium ,it's just because we happen to live in a very short kind of perception of the way nature operates. But

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nature is constantly dynamic. Nature is constantly shifting and changing and it's more like a flow than a kind of a rock.

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OC: So, in the United States I showed work here at Yerba Buena Center for the Arts in San Francisco. I showed work in the Museum of Modern Art in New York within a design context though. I showed work in some smaller galleries in Buffalo in New York and some other places around the States. And Europe, we are showing the work quite a lot within both the context of the art museums and natural history museums. And recently in the last few years we started to show work quite a lot in Asia in places like China and Japan. So, in Japan we've done it in the _____ Art Museum and in China it was in the National Museum of Art in China.

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OC: In China.

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OC: Germany, we showed our work in Berlin and maybe in a couple of other places. Actually it was in _____ as well. But you know from our perspective, we really want to show our live sculptures as opposed to the _____tion of the work, and that's...it's still difficult. But we just had a big retrospective of our work, which was in Poland from all places. So that was kind of interesting.

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OC: I think Poland is interesting, because obviously, the...one of the last optimistic nations in....in Europe in the sense that...

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OC: Yeah, they are accomplishing. Obviously their starting point was much lower than the rest of contemporary Europe, if you like. So, that the only way for them is up in a sense. And I think they're...they're really...the tensions, the political tensions within the nation is actually quite helpful for a very healthy kind of debate, and....and kind of philosophical approach as to where they're going.

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OC: And that was interesting as well that in...

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OC: Interesting. Yeah, because the show in Poland, we had two versions of it because of the way the funding operated. So, the first one was in a very experimental contemporary art space in Dansk and which was a great kind of...I think I really enjoyed working with the people there and also kind of installing work within this context. And the second one was in this...also it's a brand new science discovery center. So, similar to the **Exploratorium**, if you like, in Warsaw. And that's...the interesting thing with that it's a year old and it's now one of the most popular visit...or popular sites in Poland. People actually have to be on a waiting list for about two weeks in order to get in. So you can see that there is a huge need and want of the Polish people to go within and engage kind of within the context of science as opposed to churches or whatever. And that was interesting that this museum decided, because we were the first temporary show that they had, and they decided to go with such a show, and as opposed to many other science museums, they were not hiding the criticality of our work. So they were actually very, very good and also treating the work as an artwork that it is contestable, as opposed to using it as an illustrative vehicle for scientific principles wasn't really what they were pushing, which was...I (Stammering) was very impressed by their willingness to do it and take the risk. And I think it worked well. You know and I think that's a credit to them and a credit to the way they perceive the audience being sophisticated enough to be able to engage with such issues without being kind of washed away.

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OC: The future.

[tech talk]

OC: OK. You know I think that we need...I think something we need to remember is the fact that life is becoming a raw material, and I don't want to be overly deterministic about it, but it's... when you look around us, you see that life is becoming instrumentalized, life is becoming a raw material, and...and there is two very interesting outcomes from my perspective as an artist. It provides me and hopefully many other artists a new palate of artistic engagements. We have new materials, new ways of engaging with materials to deal with, and it so happens that this material is life. And then I think the second outcome is that we as artists find ourselves in a very

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unique position where we can actually engage in some of the most profound questions and directions that kind of humanity choose to work...to go through, and through this type of direct engagement. So I think it's extremely important for artists to be involved in that.

[tech talk]

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