Posthumanism: An Introduction
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Lecture 23
Lec 23 : BioArt

This is Pramod Nair from the Department of English at the University of Hyderabad. And here, we continue our exploration of posthumanism in adjunct or adjacent fields. Posthumanism has had its influence on literary fiction and on practices such as nursing and medicine. It has seen its very valuable and tangible presence in discourses about, say, climate change. It has been part of many artistic endeavors and projects in the last 10 to 20 years.

It has been prefigured in art. It has been anticipated in art. But art has also contributed to posthumanist ways of thinking. So you can think of the transaction between posthumanism and the arts, which includes literary texts, as a two-way process, a transaction where posthumanism has influenced and impacted the arts, but it has also learned from the arts.

And as we have seen in the case of posthumanism's intersections with the Anthropocene or with feminist studies of science and technology, philosophical assumptions have been overturned or expanded, if you want to think about it that way. Literary critical approaches have been modified. Our attitudes toward, say, animals and plants have also been considerably modified. And this, as I said, is a transaction that has gone back and forth between the posthumanist critical theory school, But most of those who practice posthumanism have done so in the fields of literature, arts, architecture, and subfields such as animal studies, ethics, philosophy, and more recently in law, performance arts, and other fields.

In what follows today, we shall focus on what is called bio art. Bio as in the word biology, and art as one problematic term. Bio art is, as you can imagine from the name itself, biological art. And this arose somewhere in the 1990s and has now become more or less established as an art form.

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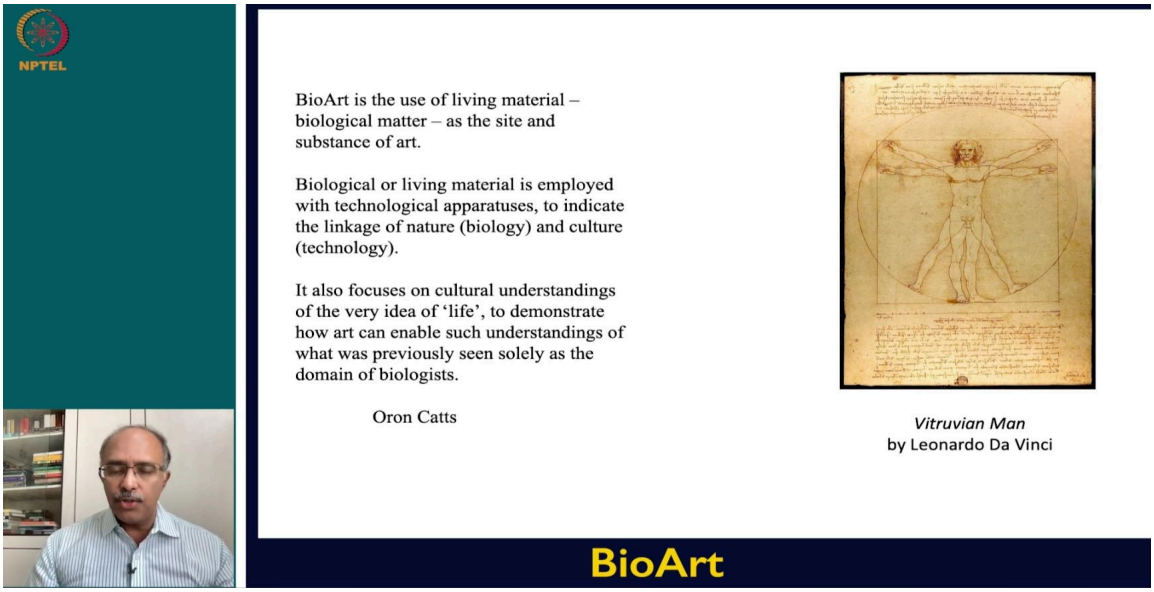

The precursors of these, as you will hear in the next few minutes, weren't thinking of their work as post-humanist. They were reconfiguring the human, and they were rethinking what the human is. And in many cases, they integrated technology into their artwork. They thereby questioned the boundaries of the human. They questioned what prosthesis actually means.

They wondered what the mixture of the human form and technology was possibly going to look like. So bio art, like I said, is the mixture of biology and art. In simple terms, bio-art can be defined as the use of living matter, living material, biological material as the site and as the substance of artwork. Now, biological materials, which include tissue, for example, are mixed with technology and technological apparatuses to show how 'nature' and 'culture' can be brought together. You will remember that we have spoken about the term 'nature-culture' as one term.

Following Jonah Hathaway. Bio-art is a living example, and I use the word 'living' in all its senses. Bio-art is a living example of nature-culture, where nature, that is, biology and culture, that is, man-made technology come together. As Oron Katz, one of the early practitioners of bio-art, puts it, it focuses on the cultural understanding of the very idea of life. And the point is and this is very important the ideas or notions or theories of life were for a very long time seen as the domain or as a promise of biologists alone.

Oron Katz and others asked, What kind of art is possible if you bring nature and culture together? And remember, nature-culture is a foundational premise in post-humanist thought. That nature, as we see, is not outside culture, as we spoke about in the fourth module. Nature is not something out there.

And culture is not something pure and segregated from it. Neither is nature. We need to think in terms of nature-culture as one continuum. Not even it will be uneven but it's a continuum. So, bio-art is messing around with the border.

Where does nature begin, and where does culture begin? Can we think of nature without man-made culture? And is there no nature in man-made culture? Can we see culture as purely man-made? Technologically constructed domain, or should we think of culture as assimilating, building upon, or being sustained by nature?

How are we supposed to envisage this? So, the point I am trying to emphasize here is that our cultural understanding of what we mean by life has always been the domain of biologists. But what about art? And you will remember here, of course, that human form.

The first images and diagrams of the human form well before photography and the digital were done by artists. And many of you will know Leonardo da Vinci's classic Vitruvian Man, right? The first complete image of the human was done by an artist. And the idea is to say: can we talk about biology? Or biological matter also providing us with the source of art?

Can art illustrate biology? Can art demonstrate biology or biological matter? And the answer is clearly yes, it can. So, Da Vinci's Vitruvian Man is, in many ways, the first instantiation of art meeting biology or art illustrating biology. So, that's the point.

The cultural understandings of life, which have always been seen as the domain of biologists, now produce art. Bio-art's interests include looking at the technologization of nature, which is, for example, genetic modification that we have just two babies in the beginning, and now we have stem cell engineering, we have the manufacturing process, clones. We have various methods by which gene manipulation can be done after the invention of CRISPR technology. We have all sorts of laboratories over the last two decades that have mapped the human genome, the Human Genome Project.

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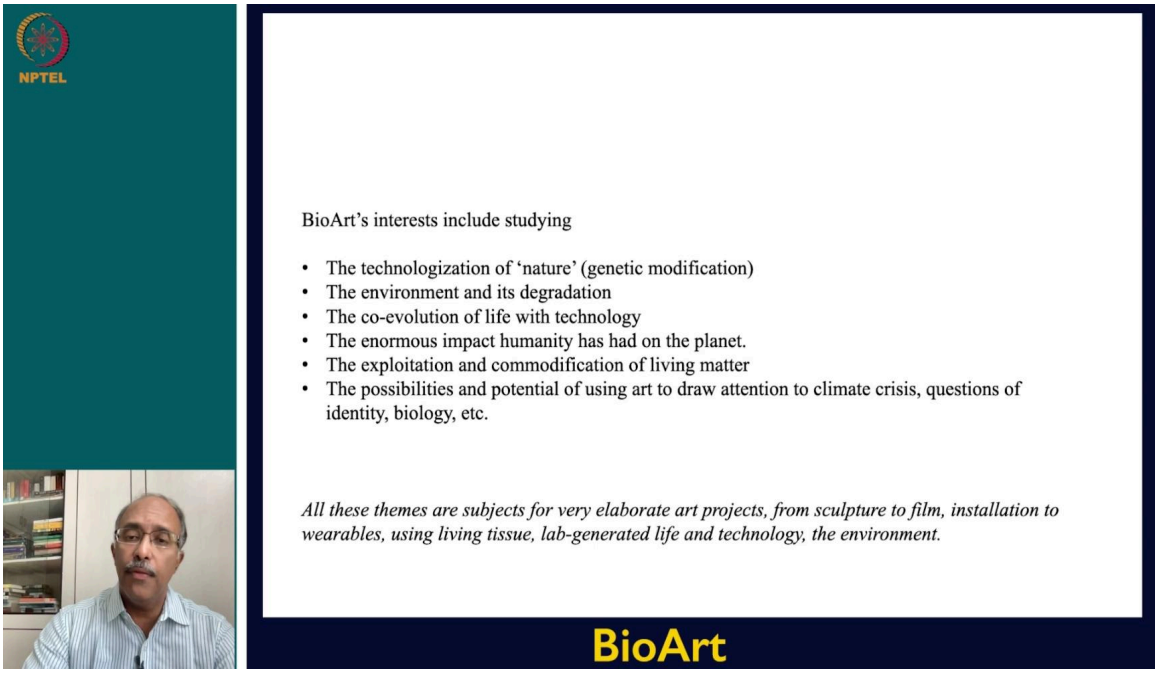

We now have the Human Microbiome Project and numerous other things. The question is, of course, whether genetic modification can be made to order as in customized. But the ethics of this is not really my subject here. I'm just outlining here what bio-art is, and I'm beginning with bio-art's interests. The technologization of nature.

It also pays considerable attention to the ways in which life, as in life forms, has evolved with technology. You will remember post-humanism's fundamental tenet, or rather one of its fundamental tenets, is that technology is not a prosthesis to the human. Humans and technology have co-evolved. That's one of the basic foundations of bio-art as well. Then it also is interested in studying the environment and its degradation, and here again, nature and culture come together because it's cultural practices that have caused the deterioration of the environment.

And from that, What has been the impact that humanity has had on the planet? What have we done to make the planet the way it is now? And you will remember some of the debates around post-humanism and the Anthropocene, which are related to this point here. There is also an interest in the exploitation and commodification of living matter, as in how biological matter has been manipulated, exploited, and made into consumer products.

Finally, the practices and practitioners of bio-art are interested in the possibilities of using art to draw attention to very specific problems or crises. Planetary crisis, the manipulation of identity, the question of biological ethics, including, of course, cloning and artificial reproductive technology (ART), as people like Sarah Florentlin and others have already discussed in considerable detail in their feminist studies of these sciences. So, these are some of the domains in which bio-art has its interests. All these themes are subjects for very elaborate art projects.

They are available to us in the form of film, sculpture, installation art, and all of this please understand using living tissue. All of these use living tissue. They use lab-generated light, the technology of the laboratories, and, of course, the environment. One of the first instances of art that tries to demonstrate, depict, and capture

genetic science was Eduardo Kac's GFP bunny, what he called transgenic art. The links are there for you to look up. I have not included the visuals here primarily for copyright reasons, but they are easily available online. Transgenic art is the subject of a set of essays in Eduardo Kac's book, and Kac used synthetic genes to insert them into an organism, creating a creature with a special trait.

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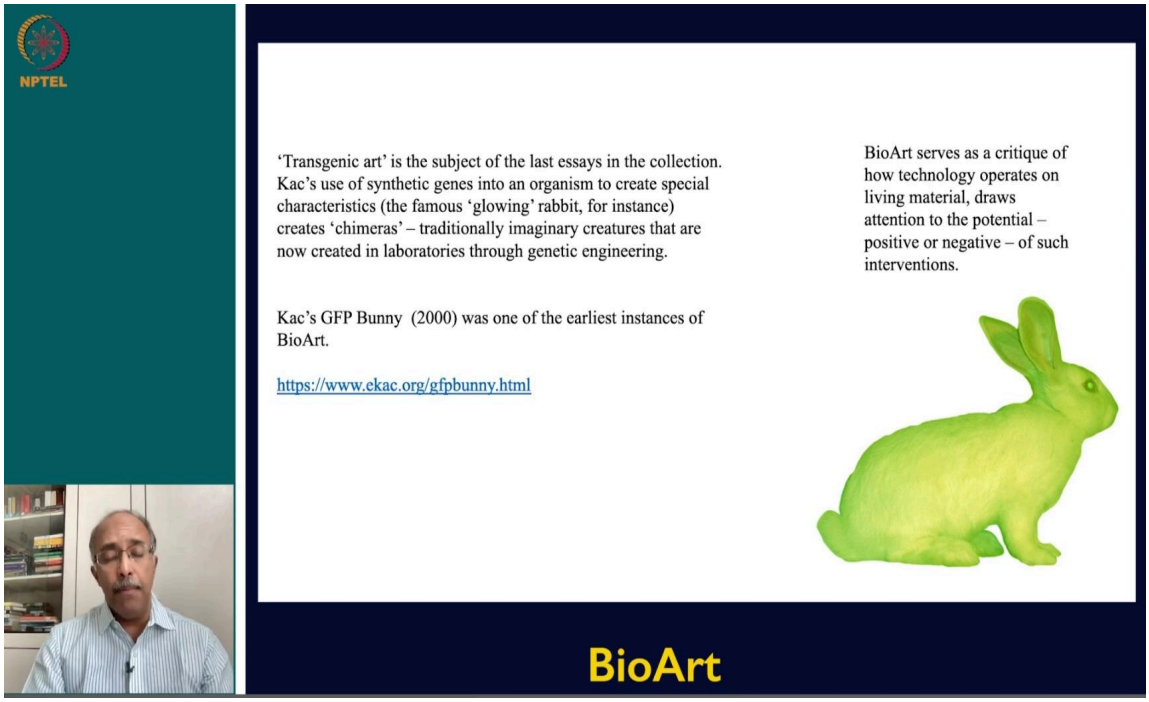

You will remember our idea of the chimera. He created a chimera, and the rabbit he created was a glowing rabbit one that would glow in the dark. What does this do? I mean, what is the purpose of a glowing rabbit? Bio-art is a critique of how technology operates on living material.

It shows that technology can be used for good or for bad. It can be used for positive results or negative results. Technology by itself is not the problem. As people like CAC have demonstrated over the years, Technology's ethical use is something we have to debate, something humans who create labs, who fund these projects, have to think about, have to consider, right?

So, bioart critiques technology. It critiques the employment of technology upon living tissue and asks, Is this what we are supposed to do? What are the consequences of producing artwork like this? What are the consequences of technology intervening directly in, say, biological processes or biological structures?

Do we need to do this? And if so, how? What are the ethical concerns? When the GFP bunny, as Eduardo Kac named this glowing rabbit, when the images came out, it was very clear that there had been genetic manipulation. Now, we do know of mythical creatures called chimeras, right?

The chimera, traditionally and mythically speaking, was a creature that was a mix of a goat, a lion, and a serpent. The chimera This mythical creature clearly had DNA from very different species. The lion, the goat, and the serpent. Very different, very distinct species.

And it was merged into one animal. Which means the chimera was the result of genetic crossovers. And this mythical creature and we have mythical creatures of chimerical

kinds in all cultures around the world. And the question is, what possibilities does this chimera suggest? If you look at Alexis Rockman's paintings about farms and Matthew Barney's Cremaster Cycle, those are explorations of

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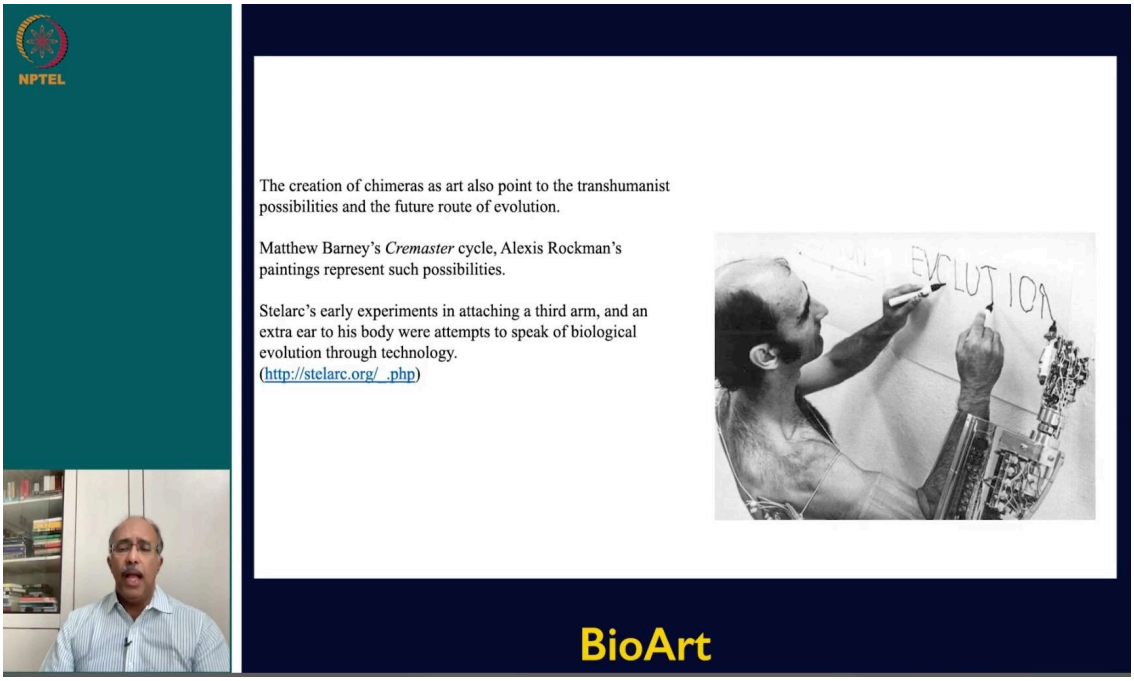

the possibilities of chimeras. What do chimeras represent? Chimeras represent a possible route of evolution. That evolution can also happen this way. And one of the early practitioners of this form of merging biology with technology in the human form was the Greek artist Stelarc.

Stellark attached an extra ear and an extra prosthetic arm. Using the three hands he had two, quote-unquote, natural hands and a third arm, which he attached from here. Using the three hands at his disposal, he wrote one word on the board. Evolution. Evolution.

What was Stellark trying to do? Stellark was saying that What stops us from improving ourselves? What stops us from adding things to ourselves? Why do we assume that human evolution could only happen in this fashion, in one particular way?

What if human evolution can also take different paths? The chimera represents the possibilities of evolution, of where humanity can possibly go. And the question Stellark is asking is, Why should we leave the processes, stages, and direction of evolution to nature? Suppose we can control it.

Suppose we manipulate it. Suppose we take charge of it. Remember, Darwin argued that the survival of the fittest is nature's way of ensuring evolutionary paths that nature will pick the most suited. Stalag is asking, why should we leave it to nature? Why can't we manage it?

Why can't we control it? Why can't we manipulate it? So, the point Stellarck is making is more akin to transhumanism than posthumanism. Remember, transhumanism says we can transcend our biological limitations through the use of technology or pharmacological interventions. Stellarck is asking, well, why should humanity leave it to nature to evolve in certain ways?

Why can't we be in control of our own futures? Because we have the technology to do so now. Now, Stellark and Eduardo Kac are the early practitioners of this. Later, a biological arts project at the University of Western Australia, pioneered by Oron Kac whose definition of bioart I've already quoted put together something called Symbiotica. Symbiotics, as you know, is a biological phenomenon where species coexist for mutual benefit.

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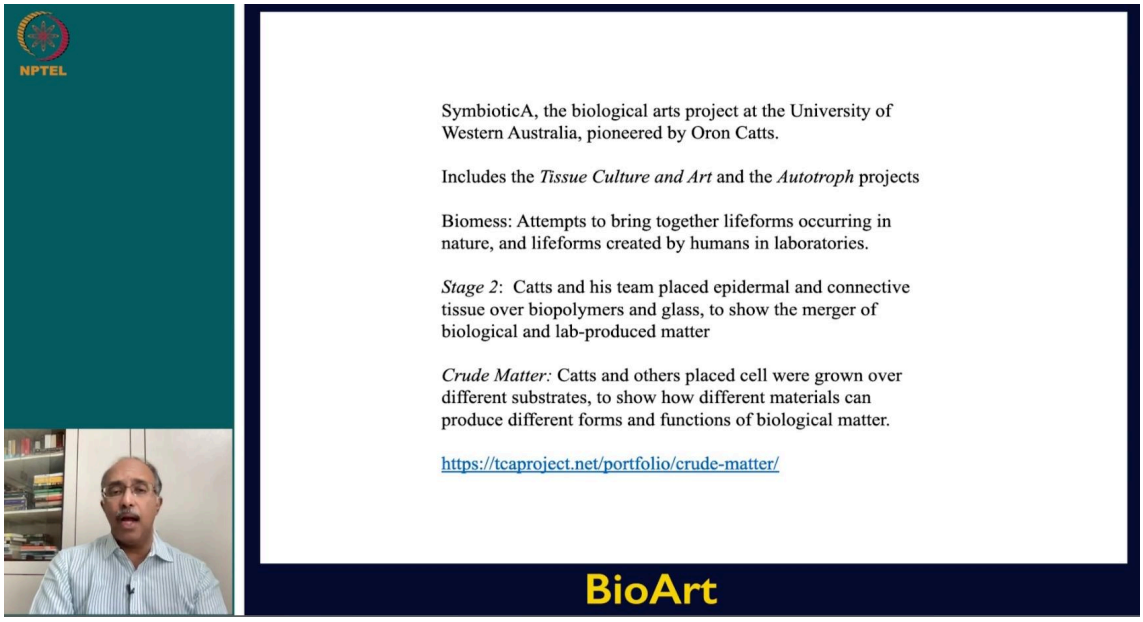

But Symbiotica I'm assuming there's no clarity on this A stands for art, symbiotic arts. This entailed things like the Autotroph projects and the tissue culture projects. And the idea in projects like these was: Can we bring together life forms that occur in nature and life forms that are created by humans in laboratories? As in, one is, quote-unquote, natural, and one is lab-created.

Can we bring those two together? In stage two, Oron Katz and his team placed epidermal and connective tissue from our skins over polymers and glass and showed how polymers merge with biological matter. So biological and lab matter come together. Which is why we now increasingly have organic materials for transplantation and artificial organs, where organic material is cultivated in the lab. In another project titled Crude Matter, I have given a link for you at the foot of the slide the TCA project, the Tissue Culture and Art project for you to take a look at.

It's called Crude Matter. They place cells over different substrates. And those substrates began to absorb those cells. Merge them. So that is one way of thinking about how nature and culture can merge.

But that's not all. Bio-art also sends out very significant environmental messages. For example, tissue culture and art created something called victimless leather. Victimless leather. Those of you who are aware of this will know that leather is

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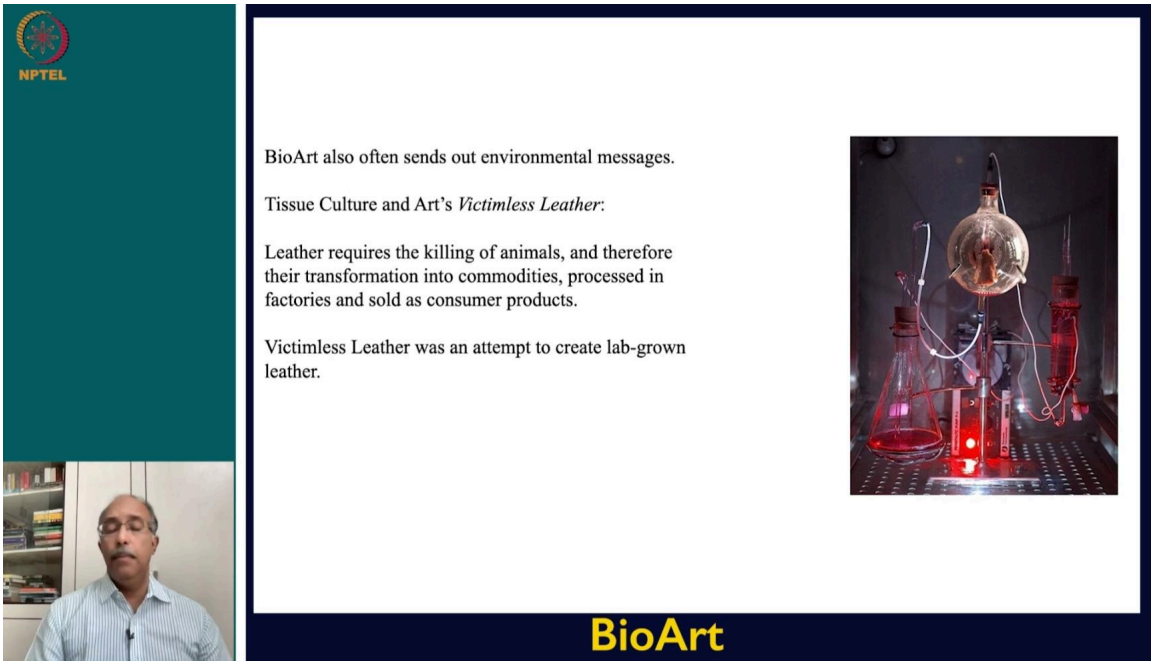

only possible through the slaughter of animals. Animal ethicists and animal rights activists have been emphasizing how, for fashion's sake, we are doing this. So leather essentially means killing animals and transforming them into commodities, into consumer products. These are produced in labs and factories and things like that. But Victimless Leather was an attempt to create leather grown in a lab.

This means there is no need to harm animals, but you can still have leather. It is organically produced, supposedly, but it is produced in labs. So, environmental messages. But much of this artwork also incorporates post-humanist concerns. To think about the Anthropocene.

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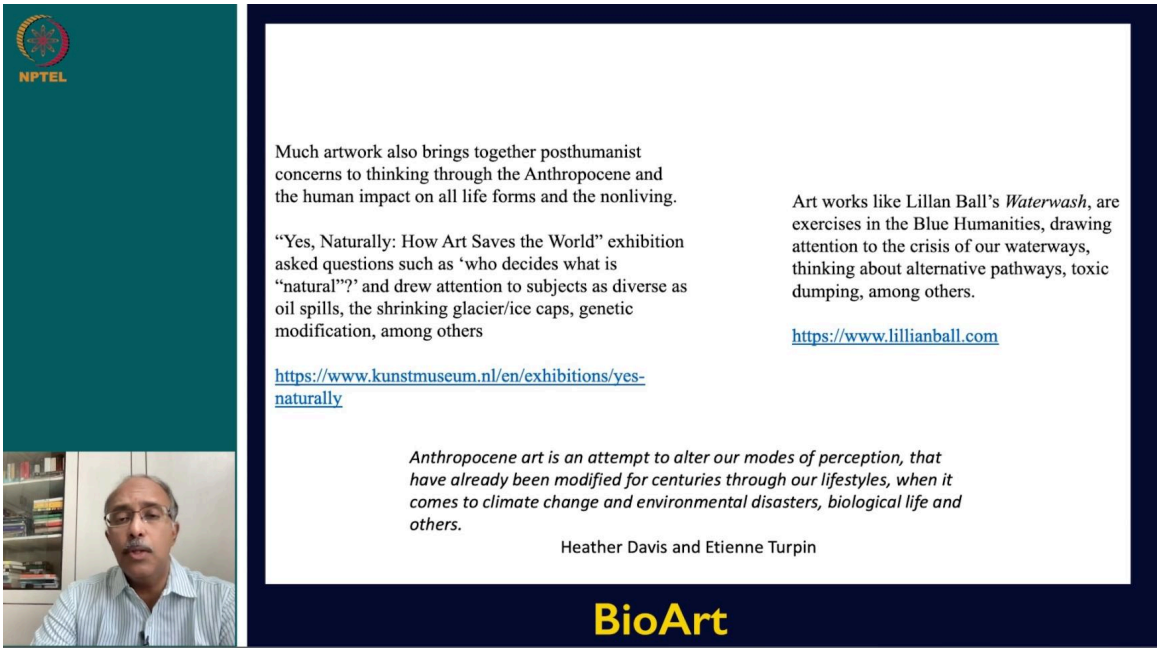

So people have asked about artworks like Lillian Ball's Water Wash, which are basically exercises in the pro-humanities. They draw attention to the crisis of water supply on our planet, which includes toxic dumping, the crisis of the waterways, the commodification of water, and things like that. And things like the exhibition Yes Naturally: How Art Saves the World ask questions like, who decides what is natural? Who decides that we need to make decisions about these things? As Heather Davis and Etienne Turpin point out, Anthropocene art, as bio-art is now sometimes called, is an attempt to alter our modes of perception. It alters our modes of perception about nature, about the way we use leather, the way we talk about animals, the way, for example, we fell trees to make them into paper, which then becomes something else, and so on and so forth.

So Anthropocene art, as bio-artists often call it, is an attempt to draw attention to the crises that are the result of what humans have done. Let's take a look at Cecil Merriton and Heather Leslie's project, Becoming a Sentinel Species. It is a project put together by Cecil Merriton, Heather Leslie of the Department of Environment and Health at the University of Amsterdam, and Joanne Garcia Vallejo, who is also at Amsterdam Medical College and is a specialist in immunological and molecular biological sciences. So, sentinel species are species that tell us that something is wrong. We know, for example, that canary birds are sent into mines to check whether there is toxic gas.

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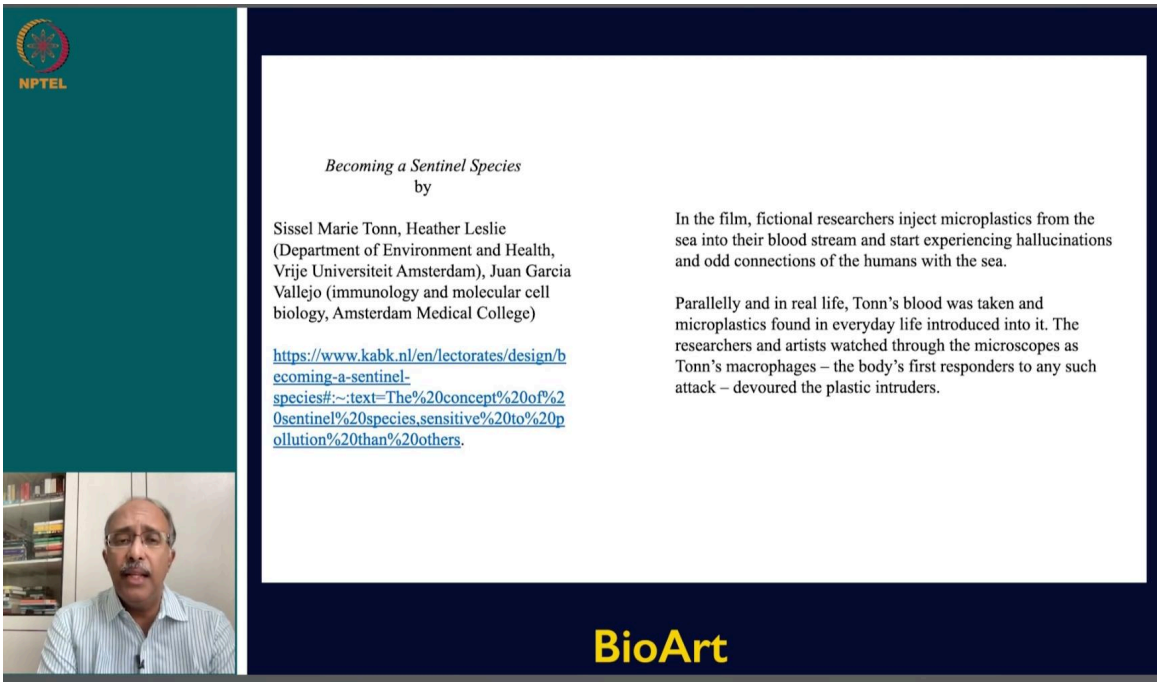

If the canaries come back alive, that means it's safe for humans to go. This means the canary bird serves as a warning system. But there are other sentinel species, and the disappearance of certain species is an indication that a crisis is at hand. You will remember, if you please, the previous lesson in which we looked at Charlotte McConaghy and Barbara Kingsolver, another novelist, who spoke about disappearing species and who asked, what happens when the animals disappear? We'll be left all alone once the animals go.

But the question that the artists in Becoming a Sentinel Species ask is, should only animals be sentinel species? Can humans also be? There's a fictional film made about it, and researchers here inject microplastics from the sea into their bloodstream, causing hallucinations about the sea, which is actually an attempt to show that we all came from the sea, as a blight came from the sea. She had her blood taken and microplastics injected into it. And they watched through the microscope how the acetyl meritons macrophages, often called the first responders to any attack in the cell, started attacking the invaders.

The point is, the artist's blood is the artistic material. The biological matter of the artist is itself the artistic material. Like some artists use mud, others use wood, and some use plastic. In this case, the artist used the blood from within the body itself and then asks, 'How do toxins affect my blood? What are the consequences of ingesting?' So, biological material here means toxic material. Microplastics are all around us, and people will tell you that there is a large quantity of plastics that we ingest regularly, which have very profound, dangerous consequences in the long run. So, Cecil Meryton's project here, Becoming a Sentinel Species,

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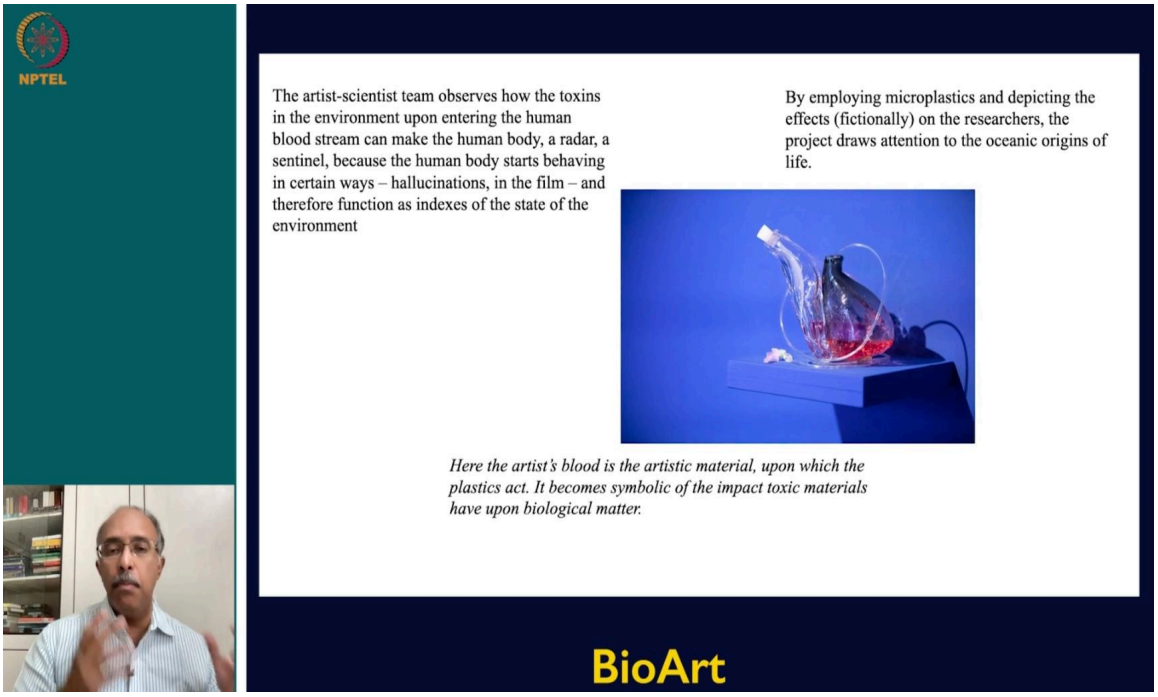

Our bodies can be sentinel bodies. Our bodies can be dangerously at risk, and that provides the context for a future where we can envisage what humanity will be or will become. This project is a critique of species exceptionalism, where we have believed that we are the prime species, that we are at the top. But are we? Are we really?

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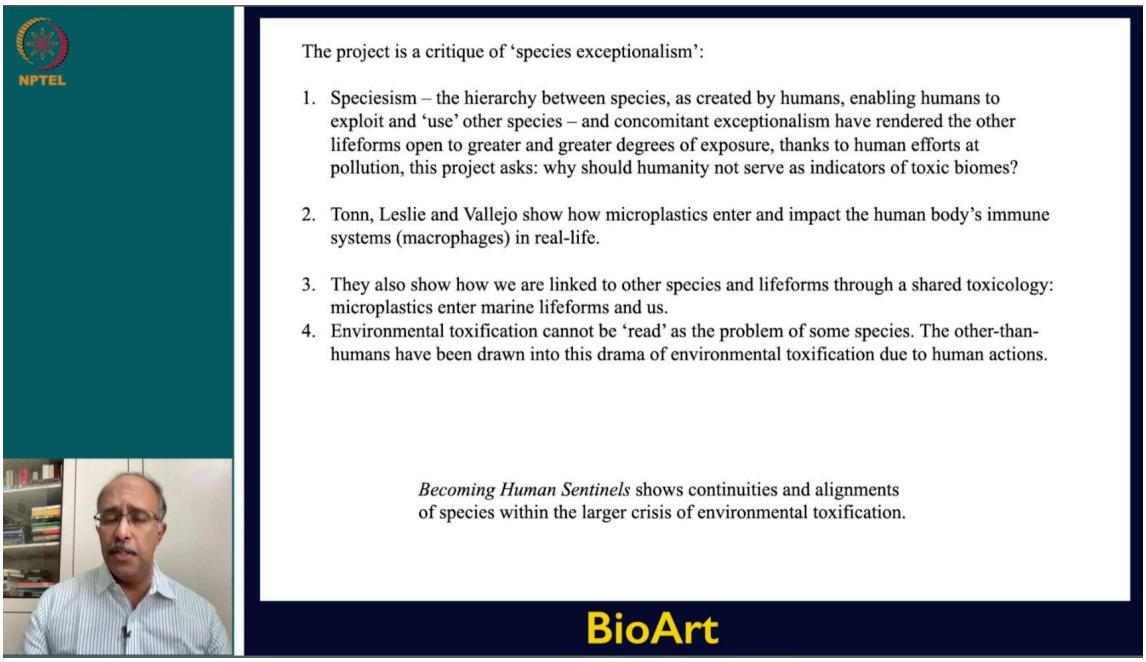

We have created this speciesism, as you know. This question and response reject the idea that we share a vulnerability with other life forms. And you will remember the previous

sessions in which we spoke about shared vulnerabilities. Environmental toxins cannot be the problem of one species. Several species, including humans, are part of this process of environmental toxification. The point that these people make as the artists and biologists do is that all species are subject to environmental pollution.

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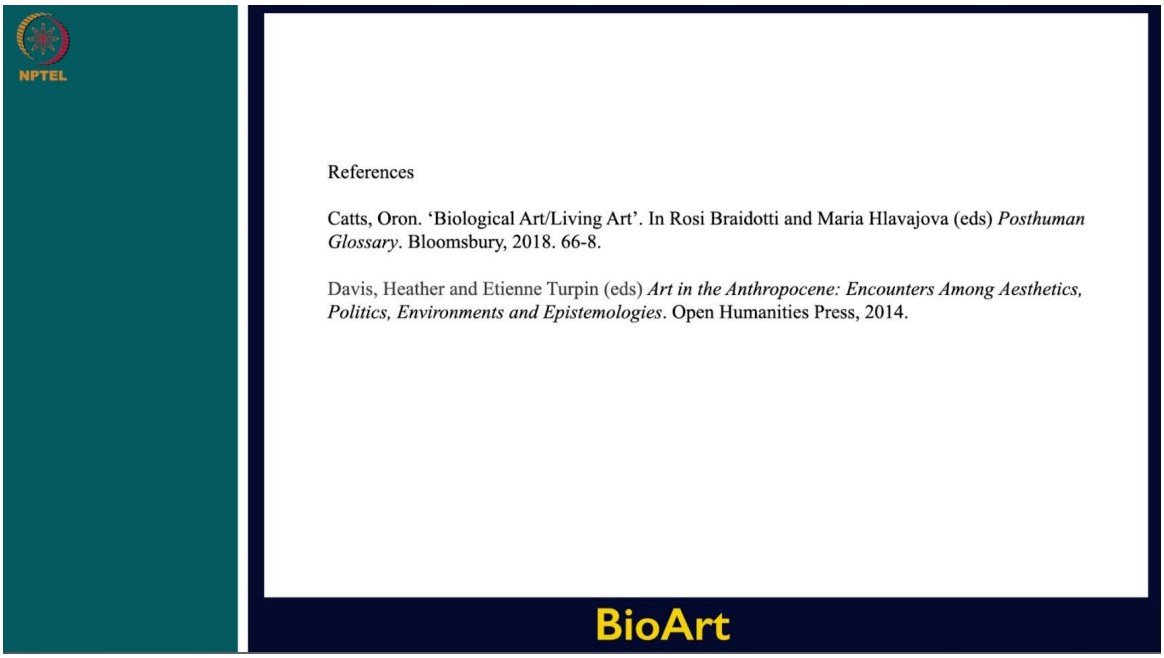

And it's our job to consider whether we are sentinel species or if we want to make some other species sentinels. In short, the entire process of using bio-art is to alert us to environmental disaster. Thank you.