Constellations Assemblies: Climate Empowerment

Transcript

0:10   Elisabeth Del Prete

Hello, everyone. Good afternoon and welcome to *Climate Empowerment*, which is the second of our *Constellations ° Assemblies 2023* curated by UP Project in partnership with Flat Time House and in association with Liverpool Biennial. I am Elisabeth Del Prete, Senior Curator at UP Project and I'm a white woman wearing a mustard jumper and glasses with long brown curly hair. And my pronouns are she/her. So, I'm very thrilled that today's event will be moderated by Alice Sharp, the artistic Director at Invisible Dust, and I'm also very excited that she will be joined by Dr. Julie Freeman, an artist working with natural systems and emergent technologies. And by Zoë Palmer, also an artist, writer and human ecologist. Alice sharp as Artistic Director of Invisible Dust, her recent commissions and projects include *Breath* by Dryden Goodwin and *Forecasts* with Ben Okri, Raqs Media Collective, Samson Kambalu and Gavin Turk, as well as scientist and international partners. Invisible Dust is currently curating *Wild Eye* in Yorkshire, *Climate Clock* for Oulu European City of Culture 2026 and Forecast India. Alice is also a prominent international speaker on the importance of the arts and science to climate, including in 2023, presenting at the British Council's Circular Cultures in Athens, as well as Columbia University New York, previously 'Insider Magazine' USA event attracting 85,000 viewers worldwide, Davos and the UN Development Programme. Alice will shortly introduce Julie and Zoë. And for more information on the speakers today, you can find the link in the chat that Jack has just added - Jack, our Producer at UP Projects. But before I hand over to Alice, Zoë and Julie, I just want to mention some brief virtual housekeeping. So, if you experience any technical issues, please use the chat button at the bottom of your screen to chat privately with our dedicated tech support. Also, if you want to ask the speakers any questions during the event, please submit them via the Q&A button at the bottom of your screen to ensure that they get answered. And also, just to note that the speakers will only be picking up questions from the Q&A and not from the chat. We do have closed captions available and if you would like to read along or have access to a live transcript, please select the CC button at the bottom of your screen. As you've also heard at the beginning, we are recording the event today. Now I'm very pleased to hand over to Alice, and very much looking forward to the discussion today. Thank you.

3:38   Alice Sharp

Thanks very much, Elisabeth, and welcome very much to this really interesting opportunity to explore climate awareness and art projects and what artists are doing in this field. The actual title of the session is: how do we transition from climate awareness to climate action? There is much we can do to tackle the climate

emergency, including challenging the governments and corporations causing the problem. What role can art play in developing narratives, stories and emotional connection to empower more effective climate action. And I'm really thrilled, I'm Alice sharp, as Elisabeth has said, I'm the Artistic Director of Invisible Dust. And we were set up in 2009, I set Invisible Dust up so quite a long time ago, looking at how artists can really have a real big influence and impact on climate change. And I think it's really interesting to look at two particular artists here who've got quite different practices and actually how, although they've got different practices, they might actually collaborate in some way today together to asking some of these really important questions of what art can actually provide in terms of looking at climate change. So, the two artists we've got here, which I'm delighted to introduce to you are, firstly, Julie Freeman. Julie works with natural systems and emergent technologies. Her large-scale installations and online artworks have since the 90s, pioneered a conceptual and critical approach. She works a lot with real-time data as a living and malleable art material. So be really nice to ask her a few more questions about that, because that's quite a big statement of using - using data in that way. She often translates big data from natural sources, and she forms these into kinetic sculptures. And we actually worked with her on a piece in *Forecast* in May, in City Hall, which was very much like this. Physical objects, images, sound compositions, her work explores the relationship between science technology and the living world questioning the use of network technology on the way we connect to nature, obviously, really, really important things she's worked. A lot of exhibitions ICA, V&A, Lowry, Science Museum, and won awards from people like the Wellcome Trust, Arts Counsellor Nesta, and she also has been very involved with the Open Data Institute's art programme, *Data as Culture*. So welcome, Julie. I'm really looking forward to hearing more about your practice and your thoughts on the whole area we're going to discuss today. And then Zoë, welcome, Zoë. Really nice to have you in the conversation. You're an artist, writer, and human ecologist, whose award-winning work spans live performance, installation, text, and participatory events. Your work has been shown internationally at Carnegie Hall, Royal Opera House, being strictly about that, and the National Theatre of Mannheim. Zoë's regenerative practice explores embodied ecologies, spirituality, wellbeing our relationship with the more than human world through the decolonial lens. She is currently developing multispecies collaborations, centring care radical kinship and mundane rituals for dangerous times. Definitely be very interesting to hear lots more about that. You co-created the dreaming field lab, a retreat for women of colour, and more recently, as collaborated on Black Earth Resistance, anti-racism and environment. And then you've also done presenting, which could be interesting to touch on as that kind of relationship between media and this area with artists you've done, *Fierce Earth* I noticed with CBBC, and also *Planet of the Apes* for Discovery. And last but not least, you're also beekeeper, which is really interesting. We just did a project with Simon Faithful in the Royal Docks with about bees. And you're cultivating an afro futurist apothecary. So, I think there's some

really wonderful contrast between the two of you. And I think I'll pass over to Julie, to start us off and give us a short introduction. And then we'll go over to Zoë.

8:14   Julie Freeman

Great, thanks. Thanks, Alice. Good to see you, Zoë and Elizabeth, thanks for asking me to join you today. So really nice to chat about stuff that I'm really passionate about and interested in. So yeah, just as a little intro, I guess, Alice has done a really good job of saying it all. So, I thought I'd just say that really, you know, I've been working in this sort of space of technology and nature for about 20 years now. And I've always been interested in how we can use technology to understand the environment, and the climate, and the non-human species around us, and how we can give that and those voice to us, you know, so we can understand the world better, but also to sort of like to decentre ourselves, you know, we're not the most important or interesting thing on this planet. And so, my work has been caught up in this - in that kind of narrative, or really quite some time, although, over the years, it's taken me awhile to sort of see the framing of it. And that - and that changes. One of the pieces of work that I think will give us a good insight into how I work, and I was going to talk about today is a piece of work called *Active Living Infrastructure Controlled Environment*. And I think I'll show you a bit of this work and talk through it because I think it gives, it includes so many things that I'm interested in. That it is a - I'm just going to share my screen. It's a good example of how I like to work. And, you know, and what motivates me what am I what my kind of drive is as an artist. So, this is just an overview picture of the it's the way to see the world through the lens of data if you like. Like everything that can be sensed or measured gives us gives us its feedback in the form of data. So, I become really obsessed with data as a communication message / messaging system from the very beginning of my work because it's how machines communicate with machines, how machines communicate with humans, and often now how humans communicate with humans. So, it's really central to the way that we understand ourselves and our world. *Active Living Infrastructure*, we call it *ALICE*, for sure, because it's quite a mouthful. It was funded by the EU, which is hence the acronym and name because they always insist on that. And it was a really deep collaboration with Professor Ioannis Ieropoulos from University of Southampton and Professor Rachel Armstrong from KU Leuven. And I've been working now for five years, maybe five or six years with both of these professors who are extraordinary in their fields. Ioannis is kind of like has been pioneering something called a microbial fuel cell, which is a way to convert waste materials using bact - microbes, and to generate electricity. And Rachel Armstrong is an experimental architect, and she has been looking at how we can make our buildings and the world we live in the built world, a sort of more than living a living infrastructure, so things that rather than having a passive house, how could it be active. So, this piece of work takes on different forms. And that's been interesting in itself. But this, I'll just show you some pictures here. It's, it's a spherical globe, and it contains a sculpture that contains these microbial fuel cells, and we feed it with urine, human urine. And as

the urine is processed and metabolised by the various microbes in the fuel cells, it generates electricity, and it generates enough electricity to power a very small computer, something like a Raspberry Pi. It generates power to, to light up the LEDs. And then it generates enough power to power the sensors that can monitor itself. So, what it's doing is, power is – it's a self-powering artwork, that generates data that gets sent to the server, which then I've make data driven animation from. So, what you can see in the background of this picture is an animated soundscape with various values showing us how much electricity is being generated by the unit. This piece of work is it's a very deep collaboration, because it's got such technical that the microbial fuel cells are at a point technologically where they only generate a little bit of electricity. So, one of the challenges of project for me, and I really enjoy this about working with art-science collaborations is to how we can make that technology better how we can make it do what we need it to do. So, this piece of work, this view installation shot, which is from ZKM in Karlsruhe, and this show is open until the 25th of February next year, is generating more power than what we've been able to do in the lab before. So, Ioannis, we worked with Ioannis to really improve on his technologies. And we did that through this kind of artistic process. I find that really powerful that in an art-science collaboration, that the artist is really pushing innovation in the technology, as well as creating something that we can talk about, and we can have conversations around. And this is *ALICE* at the V&A, you can see it's a slightly different format. But this this piece of work is really political for me. This is about how can we - how can we make use of our own bodily resources and generate power? How can we step aside from the big corporates that are that control the energy infrastructures around us? And how can we claim that back? I mean, this technology, if it gets developed further than we can create, we can start to power our own homes, we could use some of the bricks that are used in the sculpture, to create a wall in the bathroom, filter our urine through it, and then suddenly, we're generating our own power. And so, this is this is a really powerful way of thinking about how we can, yeah, how we can step out of these infrastructures that we think are permanent and we think are essential. But actually, they can be disrupted. And I'm really interested in how art can do that. So, I'll leave it there for now.

14:41   Alice Sharp

That's wonderful. And really, really interesting questions that you've been bringing up, Julie as part of your presentation. So, thank you for that. And I think it's really interesting to kind of hear about that kind of body processes being connected to technology and artworks that really talk about the future. Particularly as we're all very aware of the whole kind of the role of artificial intelligence, and what's really going to happen in terms of our own bodies, and the way we relate to technology in the future. So, there's lots of really big questions here. And I think very much tied into this whole idea of climate change in the future. Because it's interesting, one of those things that we can - we can explore when we're chatting together that that role of technology where - where is technology going to take us in terms of climate

change? Sometimes it's seen as the real kind of panacea, you know, it's going to sort all the ills out. And other times it's seen as very much part of capitalism and going towards more, more growth and more, more consumption. And I think I'm probably know which way you think we're going! But it'd be really interesting to explore that with you and Zoë very shortly. So, thank you so much, and Zoë, but really lovely to hear more about your practice and what you've been working on.

15:54   Zoë Palmer

Thank you, Alice, and thank you, Julie, really lovely to be here today with you with you all. Just before we start, so I'm a brown woman, and wearing a blue jumper. And I've got brown hair. So yeah, I work at the intersection of art, health and ecology. I'm really passionate about facilitating multi-species collaborations and encounters, specifically for people who live in urban areas who don't have direct access to nature. I'm really also interested in exploring how we can take a playful approach to disruption and disrupting ideas about who has access to land and who has access to nature, and also ideas around who has - who can experience leisure in nature, and how from this really embodied place of experiencing nature and being in nature, we can start to explore ideas of care, self-care, collective care, and how from that place of care that can translate into taking action to care for the world around us. So yeah, how can we become more implicated in caring for the more than human world, particularly when we live in very degraded and polluted natural environments? We don't all have access to beautiful, natural spaces. So, I'm interested in exploring how we can come back into relationship, cultivate relationship, and what are the rituals, the daily rituals we need to sustain and maintain that relationship. Also interested in exploring ideas of intimacy - intimacy, with nature without proximity. So, as I've just said, when we're not actually close to wild expanses, and wild nature. There's a kind of link with Julie's work here around power, and obviously, there's lots of links, which I'm sure we'll discuss later, but decolonizing, and this idea of challenging structural power, and also decolonizing knowledge practices. So, alongside the science, thinking really about the role that perhaps intuition can play, and how we can return to a kind of, or cultivate a kind of plural knowledge system that accepts many different many different knowledges alongside each other, and doesn't place a hierarchy on a particular type of knowledge. And for the, for me, that manifests in my practice around creating spaces for people to dream, and rest together and honour - honour the kind of more intuitive knowledge and relationship with nature that comes forward when we share those spaces collectively. So, at the moment, I am artist in residence at Arts Admin, and I just speak a little to this project: *biome: experiments in radical kinship*. So again, I'm asking these similar questions, how can we feel our way into relationship with the natural world particularly polluted and degraded spaces? What does - what does kinship mean in this space? How can we extend our boundaries, and again, a link with what Julie was talking about to decentralise us as humans because I think the more than human world is, is really interesting and exciting. And how can we really decentralise ourselves and dissenter ourselves and

embrace the more than human and what does that look like practically? Importantly, what does that look like practically? And how does that translate into action? So, the work that we're doing at Arts Admin is I've installed a tiny forest – a tiny biome in the corner of the canteen, which has over 40 species living and dying within the space. It's co created and we've been exploring economies of reciprocity. So those plants were gifted to us, or they were grown by myself at home. I'm also drawing attention to power dynamics and the movement of plants and the unsustainability of plants moving across, moving across the world. Within that we have the ancient cyanobacteria, spirulina, operating in a kind of a little tiny, closed loop system. So, we're cultivating the spirulina, the spirulina is going back and feeding the forest and spirulina also, interestingly, can feed on urine, but we're not we're not, it's not being fed on your in this time in our version. So that's the immersive installation that's there until Christmas with over 40 species. And then we are hosting these evening events...is my connection okay? Sorry, I just experienced a lapse then - great, sorry. We're hosting evening events, which are all about bringing people together with species that they won't have encountered, necessarily. So, the first, the first event we hosted last month was called *biome ballroom: peatlands*, and it was about exploring the possibilities for connection with species that inhabit the peatlands and doing that through an embodied practice of scent, and taste, and sound, and creating really immersive experiences. And then using that as a starting point for conversation around how we can think about how we might care for those peatlands that aren't necessarily close to us, we don't - we're not actually in proximity to. Moving forward for the rest of the residency, we'll be thinking about growing possibilities, really practical, about how we can seed visions for a future of the landscape around the locality of Arts Admin. And yet again, returning to those rituals, what kind of rituals do we need daily rituals, daily practices do we need to keep us in relationship and to maintain the relationship that we've created with nature and the natural world and with ourselves, importantly, moving forwards? I'll stop there for now.

21:55   Alice Sharp

Thanks very much. So, it's really interesting to hear how you've been working, particularly sounds like quite integrated with local people and local communities, in that work of exploring new connections to nature. And I just think it's very, very important, I think that most people's way into understanding anything about climate change, and our environment is through nature. And I think those experiences that you have very, very young experiences are really, really vital to this, anything that's kind of getting children or young people involved in nature and opening them up to experiencing it in different ways, in our cities, but also actually, out of cities. I mean, there's terrible statistics, where, you know, I'm based in Scarborough, where children are not taken to the beach, you know, and the beach is free. And, you know, it's a huge, long, beautiful sandy beach, and children are not being taken by their parents to the beach. So, we really have got a difficulty getting people to connect to the environment, if they're not, you know, at a child level, able

to be playful and exploring nature. And I think that's really, really important. And if we come back to that kind of central question, I guess I'll come to you first, Julie, what do you see your role as an artist in in developing these stories and sort of connections in regard to looking at climate in a sort of wider sense? What would you say that you're bringing to that conversation through your work?

23:33   Julie Freeman

Yeah, I just want to say I was remiss, and I didn't. I didn't do a visual description. So, I just wanted to say, for people who aren't, don't have a vision on this, I'm a white woman with short blondish hair with a fringe and I'm wearing a jumper with foliage and mushrooms on and my background is a steel frame from an animation that's kind of like purple with like little moth-like creatures. Yeah, I feel like my role is very much to interrogate elements of the environment that I think are worth understanding more deeply. And then to build experiences, immersive environments, or other kinds of artworks around that to get people thinking - thinking in different ways and to get people even just talking about these, the subject matter. So, I mean, building if you can create an artwork that even encourages people to think for a second about something that isn't on their daily thinking agenda. That's a big that's a big part of why - that's a big part of what I try to do. I think it is important to maybe not to not be heavy with messaging, but to give, give suggestions to present something that is - that has enough ambiguity for people to fill in their own stories and to build their own narratives. Because I feel like if you can do it yourself, then it will trigger you to maybe research further. But also, it will make much more sense to the audience when they kind of internalise what it is you're trying to do. So, I think it's a fine line between telling a story and helping someone tell their own story through what it is that an artist and artwork presents.

25:31   Alice Sharp

Yeah, so Zoë it sounds like you agree with that idea that have not been to sort of dogmatic with the kind of messaging. Do you want to say something more about that? I can see you nodding there.

25:43   Zoë Palmer

Yeah, sure. Just, yeah, feeling that sense of really opening up and curiosity and, and that sense of giving people agency over their own narrative through an experience. And, and just agreeing with Julie, yeah, just feeling that that idea that, that actually, people don't want to be told, what they what really, what can - what we can offer people as artists is, is a place for conversation. And, and for opening up and for permission to, to think in different ways, and in ways that we might not have thought before, but not actually prescribing the nature of what those thoughts are. So, provocations I guess.

26:24   Julie Freeman

Yeah, provocations, and I think given people, you know, making things important, you know, taking things seriously, it is important to understand.

26:34   Alice Sharp

I think that's - now, I'm really pleased to hear that. And I actually think that things have moved on quite a lot in the climate movement. I think, initially, there was a lot more dogma and people sort of just almost just saying, you have to do it, basically. And I think that there is actually now a general understanding of climate change. And I actually think it's very, very important to bring those wider questions in and come up at it in a way that discusses, you know, not everybody agrees about everything. And actually, that's a good thing. You know, if someone has a different opinion about something, in fact, with climate change, we're going to have to make a lot of decisions about things. And some of them are going to be really tricky, because they're going to be ones where you have to weigh up, do we do it this way? Or do we do it that way? I mean, energy, you brought up the energy thing, Julie, in your conversation, actually, unfortunately, at the moment, we still need to use fossil fuels to power our world, because if we didn't, we'd actually stop, we wouldn't have any electricity. So, there are difficult decisions about how we go forward, of course, the resources, we would really like resources to be re-harnessed into renewables, but renewables are not completely without their environmental footprint as well. So, there's lots of considerations that are very complicated. And I think, if we start from the opinion of somebody actually asking them, what do you what do you care about what are the things that you are concerned about? And actually, take a very much a kind of attitude of listening to people and contributing ideas. I think that's a really positive thing. And I'm hearing that from both of you. And I love this idea of ambiguity. I think. We worked with an artist called Ryan Gander, when we're doing a piece up in Scarborough, and he said, you know, asked the asked questions, you know, if you think you know, all the answers straight away, it's not good art, actually, the art isn't, you know, to kind of think about those things. And I think that's really important. I mean, Zoë when you've been working, you're working a lot with young people. What are you finding their kind of questions are about nature. Are you working in sort of most of inner city, London, just to be clear where you're working with?

28:44   Zoë Palmer

I'm working in inner city, London. In fact, that was work I've done historically, with young people. I'm not working with young people on this particular project. But yeah, so I mean, back then, when I was working historically, with young people, there were general questions and fears around connecting with nature, because it will, because it was so unknown, and it wasn't within the experience of their of their families. But yeah, I'm not I'm not working with them on this project.

29:11   Alice Sharp

No, I would just do it. And I know, it's one of the experiences you've had. And I think it's just a really interesting thing, young people, bringing them into these conversations, enabling them to feel some agency and not to feel overwhelmed not to feel depressed. And actually, you know, I think one thing that Michael Rosen said to me one time, the amazing poet and a very sort of outspoken political guy, he said, "young people that have inherited this situation, they didn't create it". And I think that's just such a good point. You know, we are the generations that have you know, driven all the cars, powered the world with the coal power and the oil and going after it and actually young people are inheriting this situation. So how do we enable them to have a way through that they can challenge things they can say we want something different, you know, how do we give them some positive feelings? I don't know if either of you have got any observations about that, I do think it's a very important issue with, with climate because it's about the future.

30:18   Julie Freeman

I mean, it from, from my perspective, I think one of the things that that doesn't stop is the idea of people wanting to innovate and innovation. And there's always going to be a push for that. And one of the things I find interesting is that you can innovate on what we've got already. I mean, there's an assumption that we need to have kettles that are powered off of however much voltage from the current electricity system, we're sort of like, assume that the things that are in place that we use every day have to be as they are your washing machine, or your - the laptops we use, but there's no reason that you can't re-innovate around them to use a lot less power, for instance, if we're talking about electricity. So, I think there's there is potential for people to be curious and to invent new ways and sort of reset some of the existing, you know, the way that our world exists at the moment, and when you're saying we need to keep our world running. It's like, yeah, we do. But let's do it in a different way, build servers differently, build chips differently, build all the things. And so, I think that's, that's one thing that can be seen as a positive is like there, you know, there's a chance to take things in a new direction. You don't have to be stuck with this old stuff that is really inefficient, and really polluting.

31:36   Alice Sharp

Yeah, no, I think that's a really good point. I guess what I'm meaning by that is that we will have to give up a lot of things, we have a very, very high expectation of, you know, having a new mobile phone all the time and updating it. Having the latest computer - everyone expects everyone to have perfect Internet, we're all doing all these remote meetings. And if someone's internet goes down, everyone goes "ah!". And when we were actually doing a pre-meeting with you, Julie, when there was the storm, and your internet was bad. And people haven't got the tolerance for this

anymore than expected all to be absolutely on point all the time. Well, actually, if we are going to be looking and she considerations, it's not all kind of be like that. It's not all good. Because otherwise we're going to be in a problem, like you say, of over consuming. So, there is interesting kind of things there. And what I really like about your project Zoë' is you're kind of really going back to something really kind of historic with spirulina. Do you want to say a little bit more about that? I love that idea. I think it's wonderful.

32:36   Zoë Palmer

Yeah, well, it's just it's just about exploring how we can come into connection with small organisms that we that most of us aren't even aware of that are I mean, spirulina was, was one of the oldest life forms on Earth - blue green algae, and it's actually there's a kind of political slant to it as well, because it was, it was harvested and used by the Aztecs, it was used as a currency. It was then used in Lake Chad. But when the settlers went over to Central America, they deliberately drained the lakes where spirulina was being harvested so as to take the power away from the local people who are working with it and using it, were using it so and that spirulina was really nurturing them nurturing their health and their wellbeing. So that was one of the ways in which the colonisers punished people there. And so, and now it's become a very consumer driven product. It's a super - it's been marketed as a superfood. And so in a way the spirulina has been subject to the capitalist market forces. Yeah, the kind of colonial capitalism and I just wanted to explore bringing it back, having it there as an entity, and having it there resting and not actually having to be consumed in the same way, but when it naturally came to it, and when it needs to happen, just syphoning it off and feeding it back into the forest. So, it was a kind of a metaphor if there as a metaphor and as a way of just drawing people's attention to it.

34:02   Alice Sharp

Oh, no, it's absolutely lovely. And I think we were chatting before, we've done a big project and looking at algae in the past, which has this same sort of ancient context, but actually provides one in every two breaths from algae, but it's absolutely amazing in the sense that it's in our oceans, in fact, still vast amounts and provides us with yet a lot of the fresh air that we breathe, and I think going back to some of those kinds of ancient either other kinds of plants or animals that have benefited us, I think is a really interesting way of people understanding the nature of the earth actually, you know, the nature of us living as humans on the earth. What, you know, there's some really interesting work, for example, with things like fossils and prehistoric things, but relating to climate change. I remember I went to Manchester Museum and one of the first things they showed me there was some amazing coal fossils, you know, and sharing, sharing this kind of carbon cycle and really understanding, you know, because you kind of think of these things like coal and oil in this very abstract terms. And actually, it's really important to

kind of understand the whole processes of the earth and how that's going forward. So, I think there's some really interesting things there. And for you, Julie, I thought it was really striking that you're pairing it with urine. You know, that's, that's something, you know, I've certainly seen, I've seen things to do with sanitation and people, you know, using urine to fertilise plants. I've seen a few projects like that, but why did you go for that particular route with the way you were powering your, your, your artwork?

35:41   Julie Freeman

I think well, you know, we've you are in or the thing that's generating the electricity is the microbes are still these kinds of small organisms that are really basic, but the feed of the urine, and the urine is important that it was something that was very closely tied to, to us to the human. So, it's like, how much can you how can you bring the humanity into it? Some of the early prototypes were using sort of other wastes like leaf waste, or just general garbage, stuff like that. And then microbial fuel cells, they can break that down and still power electricity, you can make electricity from potatoes, or lemons or, you know, many, many things. But urine in was important because it was about us. And it means that you know, it's not, it's kind of like recycling our human waste, we've got a lot of power within us. And if you can collect your urine, and use it for something good, rather than just sending it down the drain, then that's got to be something that you can have complete control over. And I really like it, I really like that idea. And we've, we've got a fun relationship with what we think waste is, like human waste is something that is reusable. And yet we distance ourselves, we want it to go away down the drains, and yet it's causing huge problems where it's polluting the sea, it's polluting the waterways, the fresh waterways, it's a massive issue. And yeah, if we used it on a sort of personal level in different ways, that doesn't have to be there. So, it's kind of an it's, again, it's this whole idea of like disrupting the current assumptions of that's how it has to be, and thinking, how can we do things differently? Let's just feed in your own waste into your own - the walls of your own house, would be amazing. So yeah, and I think urine is important, because it is a way to tell a story that is captivating. So, if you've got a piece of artwork, and you're like, it converts, you know, it's pee, it changes pee into power, immediately. It's an interesting hook, if what if the artwork said we can convert in waste leaves as the degrade into power? That, you know, it doesn't have that same kind of like, provocation of curiosity, people are like you're doing what with wee? Yeah, that was why it's important.

38:06   Alice Sharp

Yeah, and I think that there's a lot of work being done in global south countries, looking at power, and different things that can be used from waste for this very reason that it is readily available. And there's certainly a need for all sorts of ways

of reusing those sorts of things. So, for the positives for people as well. So, I think that's really interesting. And I think, so go on...

38:31   Julie Freeman

...just to say the system, it generates power, but another product is that it will, it kind of filters the liquid as well. So, you end up with something that is then in and then you can use it to water your plants. And then the one of the other offshoots is a kind of like a high nitrate fertiliser. So, it's wastewater treatment, and electricity generation all in one.

38:54   Alice Sharp

And it also occurs to me that both of you work in a way where you work with collaborators. And I know that you've worked with lots of scientists, Julie, and I think that Zoë, you've also had a number of people like you just telling us about the spirulina, I'm guessing that you've had some, some input from people who are really knowledgeable about that. Do you want to say something about how you've sort of worked with other people in developing your work? Maybe Zoë, if you go first?

39:20   Zoë Palmer

Yeah, I mean, I'm currently I'm currently working with a sound artist, most of all. So, and that practice has really allowed me to explore, just creating very immersive, immersive encounters in a different dimension. So, we recently went up to the peatlands in Latvia and made some recordings up there, and then have used those in our recent piece in the *ballroom: peatlands* experience. So, it's just about again, it's about how we can then weave that back into people's experience in a very urban setting and really use - use that sound that we've collected to give people that something that they wouldn't normally experience in, in an urban setting?

40:05   Alice Sharp

And where did you say the peatlands where you were working in?

40:08   Zoë Palmer

They were in Latvia.

40:11   Alice Sharp

Oh wow, amazing, aren't they? Did you find it quite an extraordinary experience actually being there?

40:!7   Zoë Palmer

Yeah, I mean, it was, it was, it was, it's a very, it's obviously a liminal space. There's lots of water, there's lots of light, there's lots of echo. But actually, they're quite quiet spaces. So, the challenge for us with sound was - was taking very kind of intimate and close recordings of the landscape. Because actually, there isn't a lot of biodiversity in some peatlands. They're quite some, some are quite inert in some ways. So, and there are not a lot of birds, there are not a lot of small insects buzzing around. So, the challenge there was to actually find the textures and find the sounds that we could then use this kind of generative material for the for the work that we wanted to do back in London.

41:02   Alice Sharp

Yeah, I think that's I think that's something I'm very sort of passionate about is that experience when you're in nature, and what that gives you as a human being, and that's one of the things I think is really important, is really acknowledging what your senses are doing, when you're in nature, that you're very, very much more open. You think about it, if you're walking down a city street in London, and you're having traffic, you know, air pollution, all the things that people rushing towards you, everything that you deal with, as a human being and how that makes you feel. Now, if you just contrast that for a moment, for going like somewhere like you've described like peatlands, or by the sea or into a woodland, what happens to your senses? Some you calm down, you listen, you smell, you kind of, you're actually breathing in spores. So that's important to know, with nature, which looks like you know, as well that you are actually engaging it in a physical sense. And that does actually enable you as a human being to really engage with nature in a very, very different way than you have when you have a city experience. And I think I think there could, there's lots more to explore in this. And I think both of your work seems to kind of connect to those feelings about nature, which are about getting people to sort of connect, you know, to why it is important, you know, to why we want to preserve it, why do we want to conserve it? Obviously, it's not just for our benefit, it's for nature's benefit, too. But I think that first step of people realising what happens to them when they go into nature, and how beneficial that is to them is really a real important aspect. I don't know, Julie, if there's anything you want to bring out of that as well.

42:49   Julie Freeman

Yeah, I just think that that, I mean, one of the things I find fascinating about nature is that it's in constant flux and change. So, like the dynamic nature of it, the dynamic nature of nature for one of the better phrases like, is really important, because then you begin to understand that it is constantly shifting, like we, in ourselves and ourselves when we're never still, we're never static, and nor is nature, things are always moving. And it's mainly the man-made objects in the

world that we perceive to be rigid, but actually, you know, cells, you know, trees, or even, always kind of shifting. So, use - in my work, if I use real time data that is sensing these constant shifts, I think that really helps to it helps to sort of help people connect with the aliveness, and then the change that is going on continually around us. And if that change is happening continually, then it can be sort of a form of optimism say that that change is happening. And we can affect that change for the - I mean, we're affecting it for the bad, but we can affect it for the good. So yeah, the dynamic nature is something that I think is important that nature isn't is just to remind everyone, it's a lot. It sounds silly, but it is alive and it's not just out there.

44:07   Alice Sharp

Yeah. Do you want to say something about that in terms of your biome, Zoë? Because that seems very much you said living and dying straight away, didn't you? So do you want to just say a little bit more about that kind of sense of life with that.

4$:18   Zoë Palmer

Yeah, I suppose. Yeah, just, just, just really agreeing with Julie like around that sense of the reciprocity in the sense of things constantly shifting and changing and actually not being fixed. And, and that potentially, that that can be a helpful metaphor for us when we're thinking about climate change, change, obviously. But that sense of us not taking a fixed answer or a set of opinions to things and actually having the humility as humans to say, actually, we really don't know. We're embracing ambiguity, we're going into the unknown because everything is in a constant state of flux, as are we, as are our bodies because we are a part of nature. So, this is a constant dialogue between us the external - the external bodies and the outer body of the world or the body of nature. And then so how we navigate it personally, is constantly adjusting to, obviously, to what to what's going on outside in nature itself, and that we're not separate for that from that. And I think that the huge narrative, and narrative in terms of climate that's been really destructive for us has been, again, this term, this sense of separation from nature. And that it's not it's a problem without, without of us - outside of us. And I think one of the challenges and one of the exciting things that art can do is to bring us back into a conversation in a dialogue that says, well, perhaps, perhaps this is something within us, and what does that conversation feel like? And what does that open up in terms of how we imagine ourselves in the future? Or, or, for example, what data can offer us to imagine ourselves in the future - in a future we don't actually know - none of us know? Yeah.

45:54   Alice Sharp

Absolutely. No, I couldn't agree more. And I think that that whole sense of looking into the future, is very difficult for us all. You know, we have just had the pandemic,

if you had pre-pandemic said to anybody, even a few months before, we are about to enter a pandemic, and everybody's going to be on lockdown. Everyone thought you were mad; nobody would have even – even like a couple of months before. And yet, suddenly, we were all in that completely different world. And I think climate change is very like that. And I think you look at last year with the floods in Pakistan, you know, 30 million people affected. I mean, it's very difficult to even get your head around that amount of people being affected in one country. And so there are things all the time, I think that are taking place that are really infecting so many people and trying to find your way through yourself. I think in a way, like you said, Zoë is that kind of relationship between yourself and nature and seeing where you can find those positive links. And, you know, links that make you feel sort of, you know, but you can, can be sort of have agency and go forwards. And a lot of your work, Julie looks at sort of inequalities in the bigger sense of like, you know, the systems, they're kind of how the big data companies are operating. And I mean, really, let's face it, it's not just the big data of companies. Now, every company, particularly anything of any size is using data throughout its functions for everything it does. The questions that we've got in our question is, you know, looking at the government behaviour, the corporations, those kinds of things. What do you think in terms of climate change, and how you've looked at data, or how we could look at data going forwards? And that role of technology in understanding climate change? Or perhaps questioning, you know, how it's been used?

47:48   Julie Freeman

Yeah, I mean, data, I think one of the things that is becoming increasingly interested in term in terms of data is that we know that we can't always - we can't always think of it as evidence anymore, we can't always trust it. And there is, there's one thing too, because it's constantly being called into question, so depends on what you measure, and how you measure, and where you're measuring, you know, the biases implicit in the even that beginning stage of data collection, can cause problems. And we've seen that now with artificial intelligence systems where the data that is being used to feed them is predominantly from, from North America from the kind of like areas of the world that are very technologically enabled, and their people have chosen to measure and collect certain amounts of data, and it's not representative in any way of the wider world. And so that's, that's a problem. And I think we've, we've, with climate change, particularly, for me, I, I use this term "data as an art material", because I want to use it to show the essence of the data, like the shifts and the change in the kind of the more the sort of bigger, more sort of poetic side of what data is doing and as a living entity, rather than the kind of individual values. And with climate change data, yeah, it's really powerful, when in the IPCC reports, when, when some of the figures that are coming out are unequivocal. And it's, you know, everyone needs to sit up. But also, they're faced with this problem that people aren't believing the data. So, I kind of it still needs to be there. I think those the scientists still need to be measuring and understanding. But we also need to understand that what's happening outside of

our windows and what we're seeing on TikTok from other parts of the world, like you were just talking about the flooding there. That you know, do you really, you know, how much data do you need when that is going on? Right in this moment, and data is all about all of the measurement and everyone that is collecting data is all about prediction. It's all about trying to see what's going to happen in the future, it's all about then really trying to control what's going to happen in the future. And so, if you're trying to control something that's based on superstition, essentially, and we have to be aware that it is really qualified, sort of guesswork to some extent, but also, that there's some - there's some data that is, is so sort of - so sort of obvious in terms of climate change, that it can't really be argued with. So, I think one of the things I guess I'm saying is that data literacy, understanding which data is good, and which data is falsified, or which is sort of synthesised, synthetic, is something that we need to understand. And I'm in my work, I try and address that a little bit. But it's, you know, is a big is a big topic.

50:53   Alice Sharp

No, it's enormous. Is there anything that you want to come in on that Zoë about technology, or data or how you see the importance of it?

51:04   Zoë Palmer

I was just thinking about the narratives that you mentioned around control, Julie, a bit about that narrative. And, and that idea of thinking it was making me think of that writer Charles Eisenstein, who talks about the shift from a narrative of control to a narrative of, and how we shift sort of wellbeing from a narrative of control to a narrative of kind of participation and collaboration. And I was just thinking about the possibilities there as well, and what data can offer us - what data can offer us there?

51:33   Julie Freeman

Yeah, I mean, it's good. You know, you're offering a variety of different scenarios, I think it's really amazing to take us in directions that we hadn't necessarily thought about.

51:44   Alice Sharp

Yeah, and I think that, well, there's some very, very big questions really aren't there, I mean, data is now being used in democracy to manipulate people's voting intentions, it's very clear that there's really, you know, big, big things at stake. And if you imagine, as we all know, climate change is unequal, it doesn't affect everybody. But you know, in our cities, it's affecting, you know, people of colour, people who are living in poverty, much more than other people. And so that's really important to kind of consider because it is very, very tied in the effects to people

living in poverty. And then worldwide, obviously, the countries that are in the Global South, are affected much more extreme. And when you talk to people I'm working a lot in in Global South countries at the moment, and people are living climate change, it's not when it's going to happen in the future, it's affecting people's lives. Now we're working at the moment with Raqs Media Collective in India, and we've been talking to them about the monsoon. And, you know, the monsoon it cost - effects 1.6 billion people, I mean, you know, and it is changing, because of climate change, you know, and it is becoming more intense, it's causing flooding, it's causing all sorts of different seasonal changes to their nature. And really, these things are really, really huge things, but they are all about us having a kind of say in those things. And if we, if democracy is being manipulated by data, I think there's some real consideration in terms of what's going to happen with climate change, I think it's really something very important. And when used, I think, use the word control, didn't you, you know, of course, the big companies, they're not going to be wanting people to unite together and, you know, campaign for things that they're going to want to be selling things to people and people consuming more or more of the things that they want them to have. So, they're making the money. So, I think there's, there's a really kind of big agenda behind some of that big data. And when you were saying North America, it's obviously also and one of the big problems, which I'm sure you're very aware of Julie and Zoë is with AI, that the way that they do all of the, the gathering of the data, they then make these huge assumptions, you know, this area or this area of the workforce is all you know, people. Actually, they're getting these things wrong. And they're making really important decisions about health care about prisons, about people's lives based on the data that's gathered, which is inaccurate. So, it's really, yeah, that that's going to happen with climate change right across the board as well, isn't it? So? There's some very big things and I think it comes into that question that we've got about, you know, challenging governments and corporations, you know, with the right to data, what does data mean, as you say, of Julie, people being educated about data feels to me actually goes hand in hand with understanding climate change, you know, really important that we're all questioning that sort of data, you know, look at trying to get a hold of your doctor, your GP and how that's treated now. I mean, before the pandemic I could ring up and speak to my doctor now you can't you know, it's, it's, we become. I guess one of the things that I looked at recently is people were saying, it's not that that AI is going to take over in terms of taking over people's roles. What's happening is that people are becoming more and more like machines. Really, really interesting comment and have a think about that for a moment. So, it's not that we, you know, that AI will take us over, and we will suddenly cease to being, you know, be human beings as we are now it's more that we are becoming more like machines. And I think that's a really interesting way of looking at what's happening with, with AI and those kinds of things. I just want to see if there's any other questions, we looked at inequalities, is there anything else on inequalities that will question about inequalities from the audience? Is there any other things people would like to say about climate in terms

of? Yeah, I've just been asked to open up to the Q&A chat. And that's what I'm just doing now. I haven't got any. I don't know if there's anyone, anyone else. Elisabeth, do you want to put forward any other questions from the chat? The one I noticed was about inequalities. I'll ask you that both now anyway, is it? Because particularly I mean, Zoë you've obviously worked a lot you were saying about bringing together women of colour, discussing nature? What are you sort of planning things for the future looking at this whole area of equalities and ensuring that there are different voices being heard in climate change?

56:28 Zoë Palmer

Oh, yeah, I mean, I think it's an ongoing, it's ongoing work that lots of people are doing at the moment. And there's some fantastic organisations who really focus on this. But yeah, climate justice, health justice, and they're all, they're all interlinked, and really bringing to the fore, the voices of people from the Global South, and the voices of people who don't have who don't have access to nature, and whose health and wellbeing is being affected by the actions of these large-scale corporations. But yeah, who don't have agency over their own health care, particularly in America, for example? Yeah, I think this is this is ongoing work. And there's still a long way to go. But there's also remembering the fact that in terms of climate, obviously, it wasn't the these, these people, and these women, the women that I work with, they it's not their burden to take on the burden of this problem. So obviously, lots of their communities are suffering now and living in polluted areas and suffering from climate injustice. But it's not their burden to take it on. It's the rest of us burden to take on this problem, and to work, collaborate with people to try and find ways through it. And for people to take agency, particularly over their health, if it's affecting their wellbeing and their bodies and within their communities. And there's a lot of organising going on at the moment, in that kind of sphere around that is how we can - how these communities can take agency and nurture themselves through and an out of this crisis.

58:03 Alice Sharp

Okay, there's a question that I've gotten, I think it's probably more geared towards you, Julie, about the role of artists working with data, and what actually the phrase of that they've used is that they wish he or she or they is worrying about the role that artists might play in helping out venture capitalist, which is obviously as I know, your work completely opposite in what you're doing sort of legitimising AI? How could these tools help us as artists convert climate anxiety into climate action? So yeah, how can we how can we look at this data and enable people to kind of feel kind of agency and feel confident about sort of getting involved in climate change, yeah.

58:54   Julie Freeman

Yeah. that I mean, that's a very, it's a really interesting question. I've worked with technology, like my whole career, and I am, like, fascinated by it. But yeah, there is a sense that by working at the edges of technology, albeit critically, we are still kind of like playing into the whole. We've got to move forward, we've got to innovate more, look at this new thing that I've made out of an AI, an AI generated algorithm, but I think, you know, there is, artists play such a strong role in criticising the tech. And, you know, to a certain extent, the tech companies are going to be pushing forwards. And at least there's a critical role being played. I mean, we just at the ODI just last week, launched a video called *The Wizard of AI* by Alan Warburton, and it's a documentary it's a lot like a video documentary about AI and its impact on art and artists. And it's absolutely I mean; it's really eye opening. There'll be lot it's going to be launched probably next week, but he's really - he's made the whole thing using these tools, and he's directly criticising these tools at the same time. I think that's how it is. But I do think that some of the tools can be used to, to have an impact on how people can take action in the climate emergency because they, because they are new, because they're like catnip in terms of people sharing stuff on Instagram, they'd be like, oh, look, someone's done this, like, look at look at this dystopian vision I've created in AI of a world without whatever it might be technology, a world without power, a world without water. And these AI systems can sort of generate that. So, I guess in terms of fuelling the conversation, whether that then takes it into action? I don't know. I think that's the most difficult that that call-to-action bit and getting people to actually act is the hardest piece of anyone who is an activist or an artist or anyone working in this space. I don't think whether you work with technology or not, that you that makes it? You know, I think I think the technology is a question in that question. You know, what I mean? How good the work is, how conceptually strong it is, how powerfully it affects you emotionally, is the thing that's going to drive you to act, whether or not it's a technological artwork, or a piece, it's like a beautiful mini forest in the corner of where you're working.

1:01:27   Alice Sharp

Now, that's really good points. And Zoë there's a question, which I, I'll start with you. And obviously, Julie, if there's something you want to add, someone has asked how, how you've worked with communities, and artists work in many different ways for communities, some are community led, some are the artists comes up with an idea and then works with the community on the idea. And sometimes it's something where an idea is developed, and then afterwards the community. So, there's all sorts of different things as from the very outset of the whole thing involving communities. So just in terms of yourself, which - which way do you like to work with when you're working with communities? Do you like to sort of, you know, which, which parts of it will you involve communities? Or does it vary? How does this affect your work?

1:02:16   Zoë Palmer

Yeah, it really varies from project to project, sometimes, you're invited in to consider a specific set of questions. And to explore those within a community. Other times, you're invited to create a brief or a kind of more like an offering, and then for people to come in as part of that conversation, which is kind of how this project started in with Arts Admin, because they wanted specifically to explore biodiversity in this hyper urban and hyperlocal environment. So, I was invited into come in, and then work with the hyper local community to explore questions around biodiversity and possibilities for biodiversity. Then, linking through into action within the environment of Whitechapel in East London.

1:02:57   Alice Sharp

And how did that work? Did you? Did they already have relationships with certain community organisations? Or just say a little bit more about how that?

1:03:07   Zoë Palmer

Yeah, sure. So that's kind of ongoing is what we're doing right at the moment. So, we've just started in the summer building relationships with different organisations, I've got a fantastic Outreach Producer, who's working alongside and we're just forging connections in the local community, thinking about ways in which that can ripple out to the wider community as well. So, making a series of like in-person offerings, and then and then wider offerings as well. Yeah, and really trying to focus on community to they haven't been necessarily engaged with historically. So yeah, just trying to reach through to some of the Bengali communities there to work. There's - there's a quite a transient, homeless population based right there in the area that we're working in. It's how can we begin conversations with all the different communities that make up the locality?

1:04:02   Alice Sharp

Brilliant. Sounds really, really interesting. And what about you, Julie? Have you had different ways you've worked with local groups and your projects? I don't know. I don't know if you have that has a good part of what you're doing?

1:04:14   Julie Freeman

Not I mean, the communities have worked, we've all been nonhuman, I guess. Naked mole rats, fish stuff like that. So yeah, I'm not uh...

1:04:26   Alice Sharp

...you're not so socially engaged in terms of your actual practice. We have got a question actually, which is the somebody's asked what - what are the ethics of

working with the non-human organisms in an art project? So, I was just going to ask that to you Julie since you just volunteered you're working with some fish.

1:04:45   Julie Freeman

Yeah, that she that ethical question is, is my is massive, all everything I've ever worked with, whether it's the finish or their mole rats, whatever, always either working with people that have got home office licences to work with animals, or we're very careful to be non-invasive with the animals. There's also, you know, there's a, you have to weigh up, whether you think the work is important enough what the work will do. And it's kind of like the legacy of the work and the way that it will impact people. If that is worth working with the non-human entities. I mean, I've I feel that very strongly about sort of bigger things when I'm working with microbes. I don't I don't have the same set of moral and ethical questions that I apply to working with microbes. Maybe I should, but I don't it's more. Yeah, it's more the bigger animals that are have to be protected and we have to work really carefully with.

1:05:47   Alice Sharp

Yes, I think that I think you'd probably be alright, not considering them ethics of working with microbes, to be honest with that one, but you'll have somebody who's checking in with what about the bacteria? Yeah. Well, it's been really fantastic hearing from you both about your practices. And, and I hope that that's been something that you both enjoyed sort of kind of sharing things. And who knows, there may be something in the future that you - you both collaborate on, because I think you've come at things in quite different ways. And I think that's always really, really interesting. When, when, when speaking to artists and looking at how you're both kind of, you know, looking at some quite similar issues in some ways, cycles, processes, nature, you know, you know, the power and the control, but also looking at it from both - from two different ways. So, I've really, really enjoyed chatting to you. And thank you very much both for your contributions. And thank you very much to the audience for the questions. I'm going to say thank you to UP Projects for inviting me to host this and I look forward to, you know, doing new things with you and you guys in the future. And I'm handing back to Elisabeth.

1:07:04   Elisabeth Del Prete

Thank you, Alice, Julie and Zoë, it was really great to hear your thoughts in relation to the roles that art can play in transitioning from climate awareness and climate action. As artists and curator, and producers, telling stories about our relationship with the climate, we're also giving agency to the people, well, to people to tell their own stories and narratives, and how we do this in ways that are not too prescriptive and dogmatic. So that was one of my key insights from today, as well

as many other comments that came out from your discussion. And thank you also to Lizzie Wharton, our BSL interpreter, for this event. And thank you so much to our audience, for participating and for all of the comments and questions that you've shared. We do really want to listen and build on your feedback for future events. So, Jack Newbury has just added a link in the chat. And once you do exit Zoom, you'll automatically be redirected to a survey, which we would be very grateful if you could please take a few minutes to complete. We will also upload a recording of today's event in our YouTube channel that will include captions and BSL interpretation, which you will also be able to link to from our website. And as you saw on the slides at the beginning of the event, we're endeavouring to keep the *Constellations* programme free for participants and event attendees. So, if you are able, we would really appreciate it if you could, please make a donation to ensure that we can continue keep *Constellations* free, you should be able to see a link to donate and Zoom chat very shortly. And you can also use the QR code on the screen. We would really appreciate your support in this. And finally, another huge thank you to our amazing speakers Alice, Zoë and Julie. Thank you to the Arts Council, to Barrington Hibbert Associates for continuing to support our programme. To our *Constellations* patrons and up supporters for their fantastic support and also to our partners Flat Time House and Liverpool Biennial and Devon project and to the fantastic team at UP Projects. So, thank you very much and hope to see you at our next event in January titled *Conflict & Care*. Thank you.