

Audio Transcript: Capitalocene, Aerocene

Solana Chehtman:

Hello. Good evening. My name is Solana Chehtman, and I'm the director of creative practice and social impact here at The Shed, and I want to welcome you all to Capitalocene, Aerocene, our third encounter as part of our ongoing conversation series *Matter(s) for Conversation and Action*, taking place in conjunction with the exhibition *Particular Matter(s)* by artist Tomás Saraceno on view at The Shed through April 17.

I want to start, as always, by sharing the points of access that are available today: live, closed captioning is provided by Joshua Edwards. To turn it on, please click on the CC button at the bottom right of your Zoom window. We also have American Sign Language Interpretation provided by Dee Herrera and Selena Flowers who will be pinned by our team and therefore should be visible at all times.

Please feel free to connect with our team with any comments or requests regarding your participation through the chat feature to the right of your screen. And please add your questions for the panelists throughout the discussion using the Q&A button that's also at the bottom of your Zoom window and we will try to get to most of them towards the end of our conversation.

Today's dialogue seems to me critical and urgent in the current context and the perfect continuation to our last conversation around environmental racism. We are trying to delve deeper here into issues of individual and collective, corporate and government responsibility, equity, interconnectedness and interdependence, all themes that are central to Saraceno's work and to our lives and livelihoods. In this era of continuous capitalistic harm to the environment, human communities and other species. Our future panelist, the wonderful Maristella Svampa, who you don't want to miss in our last conversation of the series, was telling me yesterday how Tomás and his curiosity are, to her, one of the best examples of art Esperanto.

And she means by that, art that not only denounces, which by all means is really important, but that goes one step further into imagining alternatives. And he has imagined those alternatives to be collected and through situated knowledge and through continuous exchange and learning. And above all, respecting and following indigenous communities and nature. And that's how the Aerocene community was dreamt and it's how it's been enhanced daily. And it is in that spirit of possibility that I want to center us today for a conversation that I have no doubt will be rich and powerful. We have invited some key international thinkers tonight, keeping us always a commitment to different, sometimes additive, and complementary, sometimes conflicting, yet value aligned, perspectives.

And we couldn't be more grateful to them for joining us tonight. We welcome Michael Marder, IKERBASQUE Research Professor of Philosophy at the University of the Basque Country. Jason Moore, environmental historian and historical geographer at Binghamton University. Luisa Palacios, senior research scholar at the Center on Global Energy Policy at Columbia University. And our moderator, Andrew Revkin, Director of Initiative on Communication

Innovation and Impact at the Columbia Climate School.

Unfortunately, Andreas Malm, Associate Professor of Human Ecology from Lund University in Sweden, has had a personal last minute conflict and will not be able to participate. But before having all of them join, I want to take a minute to thank our partners, Columbia Climate School and Studio Saraceno, for being our co-conspirators in putting together this series that is hopefully key, both to provide different entry points and perspectives into Saraceno's work, as well as to expand on the connections between his work and some of the key contemporary discussions around environmental justice and the intersection of art and science.

And I also want to thank Ford Foundation for supporting in making this series possible. I want to invite you all to check out our website theshed.org for more information about upcoming conversations, for recordings on past ones, and to get tickets to come see the exhibition in person. And have your young people in your life join us for our for-teens-by-teens programs that we are doing in collaboration with Friends of High Line.

And now I want to introduce my wonderful, wonderful colleague Alix Schroder from Columbia's Climate School. And then I'll ask Alix that you pass it on to Michael, Jason, Luisa, and Andrew. Thank you everyone.

Alix Schroder:

Great, thank you so much, Solana. Hi, everyone. My name is Alix Schroder. I'm the Associate Director of Academic Initiatives at the Columbia Climate School. And I've had the great pleasure to work closely with Solana and The Shed team to shape this public programming series, which connects to and builds on the incredible and thought provoking art of Tomás Saraceno. So thank you so much to both The Shed and Studio Saraceno for your inspiration and hard work on both this exhibit and the event series. I'm thrilled to be here tonight on behalf of the Climate School. Our school aims to provide the scholarship needed to tackle the climate crisis and related problems, and provide potential solutions through interdisciplinary research, partnerships, education, innovative technologies, and the sharing of ideas.

This public program series and tonight's event are really a great example of the power of interdisciplinary collaborations and partnerships. These discussions bring together diverse panelists from scientists, artists, policymakers, philosophers, activists, community representatives, and more, to explore a range of critical topics related to climate change and environmental justice. So on that note, thank you for joining us here tonight, and I will hand it off to my colleague Andy Revkin, who will be moderating tonight's conversation.

Andrew Revkin:

It's a pleasure to be here. And if my guests, our guests will unmute and show their faces we can dive right in because they heard their introductions. I've been at the climate school at Columbia for about three years after a career in journalism, that's still going as well. And my beat has essentially been this question of looking at the models that have driven the human journey the last

several centuries. And that the evidence that has now emerged of momentous consequences, not just for the environment, the climate for other species, but for ourselves—in terms of the uneven landscape of who's thriving and who's not thriving. We're surrounded by curves that show great progress. You know, you go to our world in data. One of my favorite websites—you can see fantastic progress: reductions in poverty, reductions in mortality, but here we are.

You can also see pockets of incredible vulnerability and incredible wealth. And the uneven landscape generates pressures just like a plumbing system that's out of balance that can be explosive. And right now, even we're seeing this play out as the pressures in Europe, some of them going back centuries, some of them just recent decades, have created a tumultuous moment where capitalism is definitely in the mix, even though communism was part of what drove the structures that got built there.

And we're going to just get into this very quickly with this wonderful mix of people. And I thought I would start with Luisa, who, as you've heard, is at Columbia's Center on Global Energy Policy, not for global energy policy. For trying to probe what we can do in academia and with practice with this...It's a great organization that's trying to push for truly sustainable energy solutions.

And I thought maybe... I'm going to ask each of you to start with kind of a reflection on what brought you to this point, your personally and when. Then we'll get into what these words mean to you when you think about the tensions that are described in the idea of the Capitalocene and this prospect of an Aerocene.

But Luisa, what made you who you are so far?

Luisa Palacios:

So I'm originally from Latin America. I was born in a country that is an oil producing country, the most important oil producing country. And it's a country that actually has also experienced quite a lot of turmoil, crises, geopolitical risks. And to the extent that it has also experienced humanitarian crises, the worst in the Western Hemisphere. So when you asked me how is it that I arrived to this issue, is that I arrived to this issue from a point of view of somebody that has seen it from the inside – have seen how policies or – that did not take into consideration developmental aspects that did not take into consideration society – that do not take into consideration a wholehearted development – can arrive at climate disasters and humanitarian crises. And so to me, the country that I come from is a country that exemplifies what the world could look like if oil exporting and oil producing countries do not take this climate crisis seriously, and do not adjust, today, to the energy transition.

Because, although it might be unfair to give this as an example, it is a precipice of a man-made situation, of a country that used to be very wealthy, but because of not policies that took into account economic development and climate considerations arrived at a situation where geopolitical risk meant a significant decline in oil production and oil exports, and therefore, oil revenues – leaving its government, its people, the nation in a very, very bad situation.

And so I arrived at the Columbia Center on Global Energy Policy to try to think very seriously about developing countries. How do we finance the energy transition, how do we deal with the climate crisis, how to bring about development in the most orderly way possible? Because I've seen what this already looks like and how to make this assessment the most just transition possible for these countries to arrive to be on side.

Andrew Revkin:

Well, that's a great start. And the issues are so tangled you know, in sub-Saharan Africa, we can talk about this later. There are countries that are just plugging into their oil and gas resources that are deeply poor, that haven't contributed to the Anthropocene really yet as we know it, in terms of emissions of greenhouse gases, and the value of energy access – prompt energy access – and income is clashing with this global consideration around climate control.

So..but we can get into that a little more. The..and, of course, the idea right now, as you were saying, is what's happening in Ukraine, there's these pressures. Bill McKibben, my old friend from the climate movement, has a piece in The Guardian, today, that Tomás circulated to us that I was seeing too – calling for an industrial revolution where we all make renewable technology and get it over to Europe.

So we won't have these pressures for the oil and gas. But at the same time, you have oil and gas companies lobbying saying “Let's get the gas out of the ground.” Maybe one quick comment on that, Luisa, before we go on.

Luisa Palacios:

The thing that I think is important to realize is that energy resilience takes a long time. I think what is going on in Ukraine and with the Russian invasion of Ukraine, I think is a testament of the complications that come with energy transition in tandem with energy security and geopolitical risks. It might be really ironic that in the near term, what is going on and the realization of that dependence on natural gas from Russia, and the need to diversify away from natural gas from Russia, might mean a slowdown in other climate objectives, might mean a slowdown in phasing out from coal, might mean an increase in natural gas exports of LNG from other countries, because energy resilience and energy transition takes a long time. And we have seen how it requires significant preparation and how you have to think about how to phase out one type of energy so that another type – so that to give time for the deployment – for the financing of renewables. So I would say that to me, the Ukraine situation reveals many things – the first one is the realization that we have lived in the world where energy is based or is produced with oil and gas, where national companies represent 50% of the oil producing the world.

And it must be created. And so there is an issue of dependence. And to me, I think the article that was circulated underscores that we have seen energy transition as a function of climate crisis. I think we should also see energy transition as a function of energy security in the context of the political risks. The second thing, and it is something that is part of what I'm doing and the

research that I'm conducting is that in emerging market countries, the energy transition issues are confronted with the realization that energy systems and energy markets that have to change in these countries are pretty much dominated by state-owned companies – by the state, by governments. And so energy transition implies a different way to think about energy markets and actually it implies more private sector. It implies more capital going into this type of energy system. Something like this is institutional. So I am really doing, or most of my efforts, are in trying to unlock that capital that needs to go into investments in climate adaptation, mitigation into energy decisions, steps into new renewable energy because that is the way forward. The way forward will be a different relationship between state of markets, a different relationship between the ways in which we have produced and distributed energy supply.

Andrew Revkin:

All right. Well, there's a big challenge there...and let's talk to Michael Marder. I want to get a sense of your journey and philosophy getting into these practical questions. And what being in the Basque region brings to this. So how did you become who you are so far in this capitalizing moment?

Michael Marder:

Thank you for this question, Andrew. It's true that I am a philosopher by training, but for me, philosophy is not so much about the abstract questions and abstract issues. Philosophy is really everything that surrounds us and everything that is within our heads as well. So it is not just the world of ideas, but the world of the actual production of human reality and the way we produce energy.

We think about energy. So in relation to the energy question, I wanted to already supplement something that Luisa said earlier. I think it's important not only to think about the sources of energy in the ways of producing it, but also about the meaning of energy. What do we mean when we say energy? What goes into this very term that we tend to associate with the potentiality, with what is potentially usable or potentially deployable?

Right. So for me this is an important question. But having said that, so philosophy for me has always been about concrete issues and concrete realities, figures of thought, such as plants, fire, dust. And by the way, it was the work on – the small work on dust – that brought about the collaboration with Tomás Saraceno who was very interested in the same issue, also from the artistic side. And so I think that it is a false dilemma to just say we either interpret the world or we change it, as Marx put it in the *Theses on Feuerbach*. We cannot really change the world without carefully interpreting it, without asking, what is capital? What is capital? Not only in the usual trajectory of human history of historiography, but also within the history of Western metaphysics, because after all, capitalism is a production of Western metaphysics, and it responds to the same set of issues as the other older metaphysical concepts, such as Plato's ideas.

Aristotle's unmoved mover substance, many philosophical terms and capital with its postulation of value as overriding all other things in meaning and

significance, just continues this line of Western metaphysics and can be traced to a much deeper kind of stratum of Western thought. Then the modes of production, feudalism, capitalism that we usually talk about in the historical realm. So, this is the general kind of framework that they operate with.

Andrew Revkin:

That idea of the meaning of energy reminds me of the phrase that's emerged in recent years around focusing more on energy services than on energy production or consumption. What does energy do for you? And in what? And where does it come from? Like I've been in rural India, where the energy for cooking is, is a woman's hours of the day spending, collecting firewood and cooking and huge amounts of smoke coming, cleaning the pots...

That's all the energy. That's the energy budget of that household. And it's so different when I go down and turn on our electric stove. So, we'll get back to you in a minute on this. Jason, you've been very patient up in Binghamton. And, you know, the capital is the idea of the Capitalocene. And really, you're as dug in on this as anybody

I know. When I was writing about the Anthropocene, you know, there's this mélange of words, Capitalocene, Plasticene. I love Stephen Pyne, who says we're actually in the pyroxene, and we're burning everything. And my friend Carl Safina calls it the obscene. So, tell us a little bit about what drew you to this phrase in this and this conception, and then we'll get to where we go from here.

Jason W. Moore:

So unfortunately, my comrade Andreas Malm can't be here tonight, but I remember vividly talking with him in the hallway of the Department of Human Geography at Lund University, and he said it's not the Anthropocene, it's the Capitalocene Now, Andreas and I have since diverged on some crucial points, but for both of us, we understand and that the climate crisis is both the outcome of a long term, large scale class struggle in the web of life.

And the climate crisis is the terrain of the unfolding class struggle on a world scale. And that's not it. Andreas has a bit more of an unorthodox, old fashioned view for me, as some people know, the work that capitalism sets in motion is both human and more than human at every turn that the work is both paid. This is the classic question of wage labor and the proletariat, but also unpaid, the work of, to quote, Marianne Beale, women, nature and colonies.

So the Capitalocene is above all, a provocation. It's a geo-poetics, and it targets two great weaknesses of mainstream environmentalism, which make mainstream environmentalism a form of what Nancy Frazier calls progressive neoliberalism. One is that mainstream environmentalism from the first Earth Day, a deeply neo-Malthusian affair, a deeply pro imperialist affair, too. And we can talk about that in the era of the Vietnam War, that this was a momentum moment, popular mobilization that refused to name the system.

That's one point. So we need to name the system. We need to understand that

the climate crisis is not driven by human beings. It is not anthropogenic. It is capitalogenic. It is driven by people, institutions, governments, corporations, stock markets, financial markets, and much more. They have names and addresses and they need to be held to account. So that's one point. The other is that the whole environmentalist imaginary of man and nature is an imperialist construct.

It is an output of – this speaks directly to Michael's point about modern metaphysics. It is the output of a civilizing project in which some people became the thinkers. This is Cartesian rationality – the thinkers, the planners and everyone else. Humans and non-humans became part of nature, part of this – what I would call a ruling abstraction, a domain of nature.

Nature became – from the earliest moments of capitalism – everything that capital and empires did not wish to pay for. So the work of women, nature and colonies once again. And then finally, we need to understand that this we are living through today is not the first capitalogenic climate crisis. As we know, the invasions of the New World created a slaving induced dynamic of genocide which resulted in, as Maslin and Lewis call it, the Orbis spike, the low point of carbon dioxide concentrations over the past several thousand years.

This is the signaling moment of what they now call the geological Anthropocene event, and the Capitalocene does not substitute for geology. The Capitalocene understands that out of this first great climate crisis between roughly the years 1550 and 1700 emerged at Climate Trinity. And I'll end there because it speaks to the end to the questions of planetary justice, which this trinity is the climate class divide.

Climate patriarchy. Climate apartheid. These are fundamental moments of the capitalogenic drive. They are not the creations of a geophysical climate crisis today. They are its drivers. And of course the geophysical climate crisis is now amplifying all of the worst tendencies of historical capitalism. And this raises, of course, thorny questions of planetary justice, which I submit cannot be answered unless we deal squarely and immediately with the history of capitalism as a world ecology of power, profit and life.

Andrew Revkin:

That's a powerful vista you painted. It's kind of Bruegel. I would love to see what Bruegel would paint to illustrate what you just described. And, but this gets to this question of here we are heading toward eight billion people where even the structures required to just to fix the energy system. Let's just start that part of it...require a lot of stuff and or we what are the visions going forward now?

You know, maybe how do we get from, as Tomás has provoked, this Capitalocene to an Aerocene – his conception of an Aerocene. Right now this Aerocene is mostly a lot of particulate pollution floating in the atmosphere. And it's not – I don't think it's yet that vista. Maybe we'll circle back to Luisa first on this idea of when you think about, you know, the vision of a world with a distributed energy system where it's not, where everyone has access to the energy services they require and there's a population less division and all that.

What do you get up in the morning to do?

You know, and if you by the way, Luisa, if you, you know, differ in your vision from what was just described you can also just get into that a little bit, too. But, you know, where are the traction points for you to think about where the world is versus where it could go.

Luisa Palacios:

I guess, Andrew, I just look at this very much from, not necessarily...I would say the bottoms up type of approach. What is it that I'm looking in this country in the developing world and I see that we're dealing with very tough issues because the developing world is the most impacted by climate change and its effects and is already starting to see the consequences of the climate impacts.

But it's also less prepared to weather the cost of climate. I also see that they suffer disproportionately from the pandemic so that they're starting this very strong position in their ability, so addressing climate change for low income countries implies the need for significant access to capital and investments to bring resilience, adaptation and mitigation. So I look at it

how does capital, how does finance work, and the surface of our climate objectives. So, and these are the things that I'm doing research on is how do we finance the energy transition, how do we solve the problem, how do we unlock capital? And that includes what are the institutions that we need locally to be able to mobilize private and public capital alike?

How to expand the financial toolkit so that we can finance climate adaptation and energy transition, but look at different types of structures of public and private type of capital. I look at what multilateral development banks can do. I look at how development banks, locally and internationally. I look at the risk type of mitigating instrument.

So I'm actually looking at how the capital system can be of use. It can be at the service of the climate transition. So I'm looking at it's a completely different standpoint. And also I understand because the developing world is very different, that in some cases is, as you pointed out, we have to finance climate adaptation in other cases, how do we solve the issue of energy access?

It's not about climate change or about energy transition warming. It's about mere access to energy. In some other cases which I've started this discussion with is about what are we going to do with the energy transition risks that come from the oil producing, you know, restoring countries in Latin America, in Asia, in Africa, these are the livelihoods of many countries.

And so not having access to a world in which we live in the energy transition is so we will move away from hydrocarbons, which in some cases is the livelihood and represent the potential for development for some countries. Some of the African countries are claiming that in the concept of just transition for them, it's moving away from coal to natural gas.

Just a simple solution. So I'm just that in the world of solutions, of simple

solutions, of how is it that...now that we're here, how do we help this country?

Andrew Revkin:

Yeah, I want to get back to Jason and Michael on this question of...here we are in the systems that we have. And here you both are focusing on these visions and other definitions and ways and sort of illuminating pathways. And I'm reminded of a conversation I hosted recently with Chomsky, Noam Chomsky, and some colleagues here at Columbia and some students.

And, you know, it was the first time I spent an hour with him, virtually. And I really expected him to be very firebrand-ish, but he was very pragmatic. He said, you know, you have to work within the system and with the skills you have, you have to kind of be patient. I don't know if it's a function of age – here is a picture of us at that moment – how do you deal with this?

Maybe Jason first because you know, and also students, when they get all charged up and they're in the system that they're not happy with, how do you... what do you do?

Jason W. Moore:

Well, the first thing that we have to remember, I think it's a really great question. The first thing that we need to remember is the capitalism is in the midst of an epical crisis.

There's a three fold moment to this. One is the ongoing breakdown of its agricultural revolution model in motion from the 16th century and now clearly over as Bobea and her colleagues identify, eight years, fully eight years of agricultural productivity in advanced capitalist agriculture have been lost due to climate change. So that model's now over. Whatever comes next is not going to be capitalism, because the agricultural revolution is fundamentally broken.

The other is that after 50 years of being told that we're going to have a new industrial revolution and a new great leap forward in labor productivity, none has materialized. Instead of the robot factory, we have the global sweatshop. That's the model of neoliberalism and pragmatic you know, your pragmatic may not be my pragmatic. My pragmatic is dealing clearly with an increasingly financialized and increasingly militarized world system in which the two moments fit together in the most lethal and destructive ways.

So one of the ways that we can see this is the wave upon wave of regime change campaigns by the United States, its support for death squads, Third-World fascism, in the seventies and eighties, and gone, going all the way to the present moment. You hear the hue and cry, the righteous indignation of Putin's attack on Ukraine, which is clearly a violation of law.

But where did we hear the outcry about the Saudi Arabia with US licensing and backing and weapons engaging in one of the most...one of the worst humanitarian crises of our times in Yemen? And that's that. I just mean is the tip of the iceberg for every Exxon Valdez, there were the equivalent of one Exxon Valdez

spill in the Niger Delta for 50 years.

So we need to pragmatically assess what's going on. And let me just underscore that climate crises really do change everything and even a passing survey of civil of major moments of unfavorable climate change over the past 2000 years tells us that major climate downturns and we can go into the specifics of what that means are very bad for business as usual. No matter what social class is in charge.

Andrew Revkin:

Very brief follow up. Do you think that the changed information environment can help speed these cuts? The point. Yeah, but the point I want to make is right now, observational capacity on oil spills, etc., on human rights abuses is astounding. And, but as you say, who controls it? It cuts both ways.

Jason W. Moore:

But we're also in a horrific moment of centrist liberal censorship. And you see this above all with the behavior of big tech over the past few years, where that is going to seriously constrain this remarkable opening that you just identified.

Andrew Revkin:

And over to Michael Marder on this question of transitions.

Michael Marder:

Yes, I think that one thing that we have to be really careful about are the categories that we're operating with. So a category of energy transition or renewable energy. All of this has to be thought through very carefully because once we start paying close attention, for instance, to the meaning of renewable energy, we realize that on the one hand, what is included in it is solar energy, hydro. What I would prefer to call elemental energies, and this I think relates very closely to Tomás Saraceno's *Aerocene* and his idea of working with the atmosphere, working with the flows of and masses of the air, moving masses of air to derive energy from them without extracting anything. On the one hand, but on the other hand, renewable energies include monocultures that are cultivated for no other purpose but to burn them, to distill biodiesel from them and then somehow that is considered to be environmentally friendly, even though it unleashes huge, harmful effects onto the environment, often comparable to using fossil fuels. So this category of renewable energy needs to be questioned and questioned, needs to be interrogated very carefully.

And so my answer to this, my provisional answer would be that we should privilege what I have called elemental energies – energy as a kind of synergy, as a working with the world as opposed to against it, which means that we would not be extracting those energies, those potentialities from things that contain them by burning, be it the breaking down the atom in atomic energy or burning living or dead plants or long-dead plants as fossils or as this monocultures to steal ethanol by biodiesel from, but actually working

with the elements themselves of the movement of the solar energy, the hydraulic energy as well.

And there I think that the promises, really this prefix CIM in Greek, we also have in symbiosis. So this kind of living with coexistence with other forms, non-human forms of life has to carry over into the question of energy where there would not be an extraction, the kind of appropriation that the cost of breaking down and killing everything around, but actually plugging into the movements of the living world and obtaining energy from that coexistence.

Andrew Revkin:

Coexistence. That's one of those words. Luisa, when you look around the CGEP landscapers, look around the you know, the lock in still, I have to come back to this issue of lock in where, you know, we're surrounded by these structures that just seem kind of like a battleship, even as the reality is that Jason has identified, you know, changes in agriculture, cultural production, etc., play out.

We're still in a world that is run by the World Economic Forum and in these other structures and Columbia University and other big universities where the funding is from different sources, some are industrial and corporate, some are philanthropic. How stuck are we?

Luisa Palacios:

So I, again, I just come from a different world. So I, let me say what I see in the financial sector. I see that the financial sector is playing because regulators are not acting in the way that you would think that they would act. The financial sector has taken the role of pushing companies. Secondly, into a process that many criticize.

That is ESG because it is based on environmental stewardship, social responsibility, and corporate governance. And those are concepts that are embedded in the U.N. development, sustainable development goals that were approved by all U.N. member countries in 2015. So, that along with the Paris Climate Accord in 2015, has started a very significant movement that's like the UN, in which an ecosystem of financial institutions has been created and recruited pretty much to move in the direction of not only complying with the ESG principles but also having portfolios comply with that.

Portfolios of the companies that they invest in, comply with ESG principles. Coming from the developing world, I can tell you that in some cases, it's not the lack of regulations, it's the lack of institutions to enforce those regulations that limits environmental practices. And so to have foreign institutions or to have at least that access to financing or that access to stock markets or access to bonds is at least contingent on some kind of disclosures and transparency on what is your environmental footprint and what does your scope one emissions look like?

What are you going to do in relation to...how do you outsource your energy? What does your scope 3 emissions look like? How do you impact your communities? What is your corporate governance? What are the types of internal

controls you have to reduce corruption? And these are significant issues being resourced in countries where extractive industries are relevant. And we were talking about different renewable technologies and in order to create the supply chains of electricity from renewables, be it peoples or solar panels, you will actually meet the mining companies as well.

So you create other kinds of dynamics in which you have to be sure that these are being conducted in a sustainable and responsible way. So what I see is not that there were not issues before, is that what is going on right now is that it does seem that there is some movement, that is a U.N. ecosystem that has recruited asset owners, banks, stock market insurers to push corporations into a different kind of mindset where profitability is not the only variable, but your compliance with sustainable goals are also as equally important.

Andrew Revkin:

And Jason, to you on this, there are a couple of good questions that are coming. I'm going to start to get to the audience questions in a second. Maybe tell us a little bit about what students are saying. I would love to have a student in this conversation, but can you be a proxy for them?

Jason W. Moore

Absolutely, I can. In fact, I just came from teaching my undergrad seminar, which is full of really, really bright and courageous students. And Binghamton University, it's a public university. It's very much a working class university. And the students here, at least those who find me, granted a certain subset, now have no taste for environmentalism with a big E, they understand environmentalism as really the sustainability of the rich and they feel disconnected from it.

They feel insulted by it, and they understand that certainly in the United States for 50 years now, since the big foundations, Ford and Rockefeller, but especially Ford, really jump started this sort of courtroom vision, technocratic vision of environmentalism. Now, this is an environmentalism that has never had much concern for working class Americans, not for farm workers exposed to toxic pesticides, not for miners, not for the workers in Louisiana's Cancer Alley, not for Lois Gibbs and the anti toxics movements.

Michael Marder:

And that has since globalized. So there is a profound concern with climate change, with climate justice, and how that links to questions of class and economic justice. And so that opens up a whole set of questions about justice that departs from environmentalism's minoritarian, anti-democratic and occasionally, techno-authoritarian mindset, like, oh, we just need to fix the finance.

Jason W. Moore:

We just need to fix the technology. No, the whole system is broken and students are really starting to come to grips with that in a new way, along with the rest of America. Outside the academy, at any rate, where all of a sudden class politics matters.

Andrew Revkin:

Right. Any quick thoughts on that, Michael. Or Luisa? Over in Europe are students similarly...

Michael Marder:

So Europe, it plays out a bit different. Yeah, sorry. My bad. That's okay. Yes, definitely. In the European context, I think there is a lot of concern specifically about the future generations and intergenerational justice. There is the idea that not only do we need to fight for justice for people who are alive today, but that we are actually...the concrete decisions made on the corporate, governmental levels are depriving future generations of a livable future, of a livable kind of environment.

And so the intergenerational justice issue related to climate change and to climate justice is very big on the agenda. And they tend to agree with this because if we are projecting today's state of affairs into a not so distant future, we can see that the zones of exception, as it were, that are highly polluted, highly contaminated, are expanding.

And very soon the tipping point will be reached, if it has not been reached already, where what used to be the exception becomes the global rule. Of course, pollution levels are not going to be distributed evenly on the planetary scale, but nonetheless, the spreading of these non-livable zones for human and non-human species seems to be a trend that is very much in place. And this is a big concern in Europe for students and academics and non academics alike.

Andrew Revkin:

Yeah. Just today in Nairobi, the UN Environment Assembly, there was progress on what is loosely agreed to become a treaty, or international agreement with some binding elements, on plastics and not just the pollution, the waste that on production pollution and possibly even limits on production. I don't know if that feels like it's aligned with industry – and a big chunk of industry is supportive of this, and we'll swing back to Jason in a minute, but I don't know.

To me it feels like progress. To others, I think it does as well. I don't know, but also it's still working within the existing system. Luisa, I don't know if you track that. It seems consistent with your idea that ESG principles...industry is realizing that the old ways are not going to persist.

Luisa Palacios:

I see examples of this everywhere. So, and again, it's pretty...there's much more effort that needs to be done. But let me just give you an example. In Chile, which is a country that is an oil importing country, so the energy transition was very much in their infrastructure also from a development perspective. But also they have... they're sitting in one of the best places for renewable energy given their wind and solar capabilities.

Well, what's interesting is that they're also...they're a mining industry. It's also likely to benefit from the technologies that we need for renewables. But it is the mining industry that is also pushing for renewables as a way to reduce their own emissions. And so a lot of interest, not only from the government, but from the industry of having significant increases in renewable energy in Chile is a combination of government policy with an industry that understands, that needs to become much more sustainable.

It is an industry that has been driven by diesel generated electricity. So they're pushed to become, to reduce their emissions. It's also providing the demand, the market for renewable energy and in the process also converting Chile into one of the hot spots in terms of energy, the green energy revolution. So there are examples if we can find a way in which the industry, corporations, government, finance can work together to bring solutions.

It seems like that brings some solutions for many people. And so that's the kind of thing that I'm looking and doing research on.

Andrew Revkin:

Great suggestion. There's a good question that's come in that's right in your ballpark from Paul Raskin. Who I assume this is the Paul Raskin I've known for decades who is at the great transition initiative, the Tellus Institute. And he says the panel focuses so far almost exclusively on climate change. But addressing climate change through, for example, a transition to renewable energy is not enough.

Indeed, without addressing the underlying drivers: growth, consumerism, inequality, success in that one dimension would enable the continuation of other trends threatening the stability of the biosphere. For example, biodiversity loss, ecosystem degradation, resource depletion. So isn't the question how do we create a unified, transformative movement for an alternative, holistic vision for 21st century civilization?

Jason W. Moore:

Yes, precisely. An internationalist movement against the biosphere, a dictatorship of capital and I don't know how else to put it.

I would say that no matter what capital, a capacity to reproduce itself is now in question for all Luisa's talk about financialization and how that's going to save us, one would need to account, first of all, and maybe she has a compelling answer. I'm open to listening...to the historic collapse of investment in certainly in the G, whatever it is. 267 now. But in the rich countries of the world, the collapse in investment precisely as finance capital has become dominant and indeed hegemonic. And not only that, but deployed its economic power to treat the White House as essentially a branch office of Goldman Sachs. So and we saw this with the Great Recession, right, that at a time when the banks deserved and, Goldman Sachs included, deserved to be fully nationalized and to me to be made to suffer the economic losses of their criminal behavior, you know, all forces of the state were mobilized to cover their losses.

So, Paul, it's an outstanding question. Yes, we need an internationalist vision and one premised on a wider conception of working classes than either socialist feminists or environmentalists have been able to muster. Not only the proletariat, but the proletariat, and the proletariat if you will, the unpaid work of women nature in colonies has to be fundamental to that internationalist vision. That's going to be difficult in the era of climate change.

Climate is now fundamentally undermining the possibilities for the self reproduction of this endless growth model. I'll leave it there, but let's not pretend that capitalism is going to continue as we have known it.

Andrew Revkin:

It sounds to me like you're postulating that the climate breakdown will be the lever that can lead to this vision you're talking about.

Jason W. Moore

We're already seeing it, and we've seen it before. This was the case in the 14th century with the crisis of feudalism. This was the case with the crisis of the Roman West in the late fourth and fifth centuries. That really unfavorable climate conditions come in and they induce elements of instability into the civilization. That's not because of a climate determinism. Climate is not everything, but climate is in everything.

Andrew Revkin:

Yeah. That we'll have to have another session, by the way, we're getting toward the end here. But I do this weekly so we can continue this conversation. Build on this wonderful set of provocations here that The Shed and Tomás Saraceno has enabled through this exhibition.

There's more coming. This is what I do. And I sustain what platform and that's that's a heavy lift. We're talking about some very different visions of how the world is and how it can be. There's a couple of more questions here. We'll see if we can get one or two more..Paul says good to see you, Andy.

Let's follow up. You can be on one of my other shows. Carla R. here says – she's talking about plastics. Well, here, you know, this is a question we've kind of repeated. Can we use capitalism? Or as a capitalist system to solve the problems that it has created? Jason, just wait a second, because I know we could spend an hour just talking about that one thing, but Michael, you know, in your realm, this is a very old philosophical question. Right? Or even I'm not sure whether it's correct that Einstein said something similar, but can you fix something while you're in it?

Michael Marder:

Right. This is a very good question. And the example that I like to use as the example from psychoanalysis and from psychology, because symptoms, psychoanalytic symptoms are actually unconscious solutions to psychological problems, except that the symptoms themselves create further problems and

so on and so forth. And it seems that within the logic of capitalism, symptoms are very profitable.

So the idea is that you have the source of the problem that capitalism creates in relation to a livable environment. And then there is a capitalist solution, which is the kind of symptom that is supposed to solve this problem, but then creates further problems and so on. And so on. Of course, this cycle from the standpoint of capital itself is profitable because it's endless, because symptoms will keep creating new symptoms indefinitely. Except that there is an end. And that end is postulated precisely by livability, but by what a livable world, which actually has very fragile confines and parameters, can tolerate and can take. And I think it's where there is a clash between this desire of capitalism to indefinitely solve symptoms by producing other symptoms that are worse and worse.

And the fragile limits for a livable world. It is in that kind of contradiction and tension that the answer to this question lies. So once this point is reached, there's really no going back and no solving the problems on the grounds of capital and its logic.

Andrew Revkin:

Well, one thing I've learned is there's definitely no going back. There's this old concept of stationarity, that the norms that we grew up with are the norms we look forward to and come back to. And the end of stationarity was proposed in the paper about hydrology, like water managers in 2007 or so, 2008. It's everything around us, climate and health people.

A woman I know, Christy A., she says the last thing we need to think of is that there's a new normal. She says the new normal is change. And that's the thing she feels that the young generation who have come of age in a time of climate change, unlike me and some of the older folks here. They are in a situation of flux and trying to find a way forward amid that change and to anticipate and embrace possibilities amid all the direness and this is kind of... it's not like a generational moment. It's something that will be the norm henceforth.

Michael Marder:

If I may jump in. Actually, I think this is very well put also because capitalism itself is a system where the normal is change. Nothing, nothing really changes. The question, which is always the same. There has to be profit, there has to be a self augmentation of value and so on. But there has to be a constant movement. The constant circulation of money, commodities and so. Right. So it looks like there's really a fashioning of the world, of the outside world, of the climate itself on the model of capitalism when the new normal is change, as you are seeing. Right. And again, the difficulty and the contradiction is that this change cannot go on indefinitely outside the logic of capital. I would say this purely kind of self driving system because once you externalize it into the outside world, there are all of these things that used to be called externalities precisely in Marxist economics, but that are front and center now as environmental problems. And those would put a definite end to this kind of change that defines the system.

Andrew Revkin:

Well, where we are, unfortunately, at the end of this hour. Again, I feel like we're just getting into gear, and I do swear and pledge to everyone watching and anyone who watches this later. And there was a question about whether it will be available later. Someone came on halfway through. Yes, it will be on The Shed YouTube channel eventually.

And along with the other presentations that have been part of this seminar series around the remarkable exhibition. I do encourage anyone who is in the New York region to go and get out on the web and feel a little bit of arachnophilia through Tomás Saraceno's work. It's been an honor to lead this conversation here this evening, this morning, wherever you are in the world, with these wonderful people, Luisa, Jason, Michael and thanks to the team from The Shed for helping to organize this. And Alix Schroder from the Climate School.

Jason W. Moore:

Thanks, Andy.