

## Facing the Synthetic Age with Christopher Preston

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**Christiane Wisehart:** I'm Christiane Wisehart. And this is Examining Ethics, brought to you by the Janet Prindle Institute for Ethics at DePauw University.

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**Christiane:** We're in an age known as the Anthropocene, an era in which humans have been the dominant force on earth. We've impacted the climate, we've shaped the land and in recent years, we've made changes on the atomic and genetic levels. Today's guest, Christopher Preston, explains that the technologies that make these changes possible have the potential to impact almost everyone on earth. It's for that reason that discussions about these technologies should be more democratic and need to happen now.

**Pull quote, Christopher Preston:** Now is the time to talk about this. The time wasn't a hundred years ago. That would have been too soon. The time will not be a hundred years from now. That would be too late. The time is now. This is a different sort of future that we're facing.

**Christiane:** Stay tuned for my conversation with Christopher Preston on today's episode of Examining Ethics! And later, we hear from the philosopher Joel Reynolds again, who answers a great listener question about his work.

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**Christiane:** Christopher Preston's book *The Synthetic Age* explores technologies that have the potential to radically reshape the world as we know it. We're attempting to cool the surface of the earth by brightening clouds. We can introduce traits into wild species through gene drives and create entirely new organisms in the lab. While these new technologies are interesting and in many cases, potentially helpful, Christopher writes that we need to see them for what they are: a "deliberate shaping" of the earth and the organisms in it. He wants us to think carefully about what it might mean for humans to live in a world that they have intentionally manipulated.

As I prepared to interview him about his book, I didn't have future manipulation on my mind. I was thinking about the mistakes we've already made.

**Christiane (in interview):** There've been a bunch of articles that have been released lately that say we've got 12 years to figure out climate change or we're going to be facing catastrophe. Given that, are the questions that your book raises still important for us to think about now or are they the kind of things that we should kind of hold off until we figure out this climate change issue?

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**Christopher:** Figuring out this climate change issue is part of what the book is about. The book rests on the premise that we're entering a time of planetary significance. We're in a period now where things are starting to look dramatically different at a number of levels. And so what the book tries to do is to say, "What is this new period? What are the challenges? What are the possibilities? What sort of attitude should humans take towards them?" There is no sense in which we can postpone this book until after we've figured out the climate crisis. My thought is that some of the ideas in this book will be part of what it is to figure out the climate crisis.

**Christiane:** According to Christopher, part of understanding the climate crisis is acknowledging that we've already lost the planet as we know it.

**Christopher:** We are past the point of no return. We're past the point at which you can go to someplace on the planet and say, "This place has never been touched." Once we're passed that point, we got to think hard about what sort of future that we want to create. One of the reasons to write the book was a concern that some people were saying, "All right, now that we're past the point of no return, anything goes. Any sort of management, any sort of human redirection or What I noticed in my own work is if you look at some of the ethics of emerging technologies that range all the way from the atom with nanotechnology up to the atmosphere with climate engineering -- If you look at the people who're working on those technologies in each and every one, there is this sense that our science enables us now to do things that we couldn't do before and some of those things are dramatic. They are planetary in scope and they take place at a level that is deeper from any kind of level of manipulation that has happened before. For example, we've got 3.5 billion years of history of life on Earth and something roughly like a Darwinian natural processes have shaped that history. Now, just now, in the last couple of decades, we're able to step in and say, "We don't need to rely on Darwinian processes. We can go into a lab and manipulate genomes. We can actually go into a lab and build genomes. We can start doing something that the planet was doing by itself for 3.5 billion years." For me, that's a deeper level of more profound-type of change where one species kind of gets beneath the surface and into the Earth's metabolism and starts redirecting it according to a certain design that it believes is desirable or possible.

**Christiane:** Big changes like the ones Christopher describes prompted me to consider the big structures that have played into these changes.

**Christiane (in interview):** It's not just something you could write to your senator about, it's not just on a political level, it's on a geopolitical level and then there's also the role that capitalism and commercialism have to play in this and the role of a big business have to play in this too, right?

**Christopher:** Yes, there's a global geopolitics at work here. There are global economic forces at work, but I'd like to add, there's also moral forces and religious forces. There's questions of meaning. There's questions of identity. There's a sense of who are we and what sort of

relationship do we want with this planet? So part of the purpose of the book is to say, "This stuff is complex. This stuff is big," but it's worth knowing about. It's worth participating in this. I'm trying to show why people should have a personal stake in these things because they're too important to just wash over us and ignore.

**Christiane:** And Christopher argues that we shouldn't be talking about these changes just because they're big and important. We should also be talking about things like, for example, synthetic biology because they prompt philosophical questions.

**Christopher:** We all know that we've had some influence on shaping organisms, particularly in the last couple of thousands of years of agriculture; especially in the last 150 or so years of increasingly industrial production of food. What we have never been able to do until now is to go into a lab and not shape an organism but design one, to build one from scratch according to a blueprint that we come up with, and when this was first achieved at the Venter Institute in California where a bacterium was literally built from its constituent chemicals in a lab, the leader of the research team said, "This is as much a philosophical breakthrough as is it a technological one. This is the first organism designed on a computer and built by humans." It crosses a line where whole new organisms are constructed by their human designers.

Now for me, that's a religiously, morally, ethically significant moment. We've stepped over into a world where living organisms are not just found but they're made. So, we don't just emerge into a biology and ecology that is the product of billions of years of evolution. We instead say, "Let's set those billions of years aside and let's go into a lab and let's start doing something else." That's profound to me because rather than accepting a biological world, we go and build one and we haven't been in that role before. I don't offer a strong recommendation about we should or we should not adopt that role. What I say is, if we're going to adopt that role, we should recognize how important that role is, how importantly different that role is and we should make sure we have all of our social and cultural and moral discussions in place before we head off down that that path.

**Christiane:** Because these new technologies are prompting philosophical questions, it makes sense that philosophers like Christopher should participate in the conversation. His role in these discussions involves asking questions no one else has considered.

**Christopher:** As an ethicist, a part of my job I think is to get into that discussion and say, "Look, here's a difficult piece of the ethics here that you didn't even think about. Think about it!" Sometimes, the job is literally to be a gadfly in that traditional sense in philosophy where you just go in there and you ask the difficult questions. And regrettably sometimes that irritates the scientists, and sometimes you find yourself getting slammed in various chat rooms or on various listservs, but that's the price you pay I think from being an ethicist, where your job is to raise the difficult questions and try and bring the new angle and try and make sure the people are thinking about elements of a problem that might be invisible to them.

**Christiane:** Some of the most pressing questions of ethics present themselves in genetic advancements and diseases. Malaria, for example, is a disease transmitted through mosquito bites that kills around 450,000 people a year. There's a technology called a gene drive that has the potential to prevent this deadly disease: the process basically involves genetically altering mosquitos in a lab to create a population that can't transmit malaria. You release those altered mosquitoes and they breed with wild mosquitos, which reduces the number of mosquitos that can give malaria to humans.

**Christopher:** What you're doing is you're designing a change potentially in every individual of that species in the entire world. So you're literally changing wild populations according to human design. That has never happened before. Now, malaria is an enormous public health crisis. It would look like we have a moral obligation to do something about that crisis but at the same time doing something about that crisis would involve driving a trait through the whole of a wild population, changing nature in a way that we have never been able to change nature before with consequences that we could not be entirely certain about. You'd be wanting to address a this serious public health crisis, but you would be addressing it with a technology that creates a risk that you probably couldn't reduce to zero, so this sort of balance of risk versus benefit becomes incredibly important and incredibly difficult to solve. For me, gene drives, they look like a powerful and potentially very valuable technology, but they raise big moral issues, risk-benefit types of questions, questions about what the proper human role is, questions about what the proper human relationship is to the world outside of us, questions about how much control of wild processes can we really have. There's just a lot of things raised by technology like gene drives, and I think there's a risk that we can miss some of those questions if we just say, "Hey, malaria is scourge. We need to get rid of it anyway we can."

**Christiane:** Technologies like gene drives have the potential to significantly shape wild populations. Christopher explained that these new technologies, and the impact they could have on *nature* and *wildness*, means we need to rethink those terms completely.

**Christopher:** One does have to start asking, is the concept of nature ready for these sort of changes, ready for these sorts of challenges, or is there an outmoded concept of nature there that dominates this discussion that needs to be updated for these kinds of challenges? This whole discussion of the Anthropocene has prompted a whole lot of rethinking of the concept of nature. The book is definitely located right in the middle of that discussion. What part of the idea of wildness is still useful? What part of the idea of nature is still useful? If I may just quickly add a little sort of biographical piece here, I grew up in England, and in the UK, people don't really talk about wilderness. We don't say, "Let's go out for a hike in the wilderness." We actually say, "Let's go out into the countryside," and the countryside is just this term that refers to the green and verdant land that has been shaped by grazing animals and has planted oak trees in it. In the UK, the countryside, at least at first appearance, has nothing to do with the concept of wilderness. But that's only at first appearance, because when you look a little deeper, what you find is that even in the UK, there is a thirst and a hunger for some that's being called rewilding where humans step back and they let unpredictable things happen again.

**Christiane:** We might long to bring back wildness, but it's the very unpredictability of that process that is potentially dangerous and in many ways still uncontrollable.

**Christopher:** I hope what the reader will get is the impression of more and more layers in which they find wildness cropping up, unpredictability happening, more and more warnings about how attempts to control will ultimately not be successful. And the book actually ends with a recounting of a very tragic story in the Yellowstone involving a human fatality by a grizzly bear. I picked Yellowstone particularly because there's been a lot of discussion in environmental ethics about how Yellowstone is so heavily managed. It's so manipulated to create a certain type of experience that Yellowstone is no different from Disneyland insofar as it being a human creation. So, on the one hand, you got this idea of Yellowstone as Disneyland, and on the other hand, you got a person going out there and getting fatally mauled by a grizzly bear. To me, that's not Disney Land. However Disney-fied we think these landscapes are, they're still very wild and they're wild not just because they contain wild animals. They're wild because the cultures that shaped them are still unpredictable. Cultures are wild. People are wild. Social and political events happen that you could never have predicted. In our attempts to control or manipulate nature, we better remain aware. We better be cognizant of this wildness that we can't completely control that will always remain beyond our grasp. And when we're thinking about these powerful technologies, we shouldn't just be thinking about the natural world and how the natural world won't necessarily be obedient to these technologies. We should also think about the social and political world and how the social and political world won't always lay down and treat these technologies in the way we hope that they would treat these technologies.

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**Christiane:** In Christopher Preston's book, he describes many more examples of the huge changes humans are making to ourselves and the world we live in. I have to admit, I was pretty overwhelmed after reading some of the chapters. It can be hard to figure out how someone like me could even begin to get involved. Christopher wants us to understand that even if you're not an ethicist or a scientist, you are capable of being part of this discussion. He also argues that you're morally obligated to be involved.

**Christopher:** To sit back and to imagine, "This is too difficult for me to participate in, I'm just going to hand this over to somebody else to choose my climate future, to choose my genetic future," I think that would be morally problematic. Because these decisions are planetary in scope and because they're such deep decisions, we shouldn't sit back and let the direction be chosen by commercial interest or engineers just because there's money to be made or just because it's technologically interesting.

So if it shouldn't just be those with commercial interest and engineers, who should it be? Well, the broadest possible coalition of people who have a stake in the issue, and frankly the people who have a stake in issue are everybody. So climate change for example, that's a 7 and a half

billion stakeholder group. Rather than say, "Let's let climate engineers decide what our climate future is," there ought to be a democratic, participatory discussion about what the interests of people really are. To not try to have that discussion would be a moral transgression.

**Christiane:** If we want to have a truly democratic discussion about these new technologies, it needs to be more inclusive.

**Christopher:** It's not easy to do and I've been to a number of conferences where people are talking about being inclusive and then you look around the audience and you say, "Hmm. There's still a long way to go." So, in the course of my work on the ethics of these technologies, I've had the good fortune to meet a number of the people who are on the cutting edge of the research and what's striking to me is how in most cases these are good people working on solving serious moral and ecological dilemmas, and they're pushing their fields in directions that are morally desirable. That being said, it's notable that a lot of these technologies are being developed in western countries by a certain sort of highly capable technological demographic at institutions that you might be able to predict, institutions like MIT, Imperial College London, Berkeley, so it is true that the subset of people on the cutting edge of these technologies represents a rather limited demographic.

One of the reassuring parts of the ethics discussion that I've observed across many of these technological domains is the recognition that these technologies are so powerful that the shaping of them needs to be informed by a much wider group of people than are currently responsible for shaping these discussions. And, you know, I would encourage people who are aspiring ethicists, people who are environmentalists, concerned about social issues, concerned about political issues -- you need to jump in and be involved in these discussions. Because the discussions are already taking place, and it's no good standing outside of the discussion and watching it be too narrow and watching it be too optimistic about technological management of the future. You can't stand outside and watch that happen and complain about it from the outside.

**Christiane:** It can be hard to muster up the spirit to make this conversation more democratic and inclusive, especially since some of the biggest man-made changes--like climate change--happen in such an undemocratic fashion. The day I interviewed Christopher, I had just read a report from *The Guardian* stating that just 90 companies are responsible for two-thirds of global-warming emissions.

**Christiane (in interview):** I guess I'm going to ask another-- I'm going to end on another impossible question: I'm going to ask it even though I know it's impossible. If the Earth is being destroyed in such an undemocratic fashion, I'm wondering, what hope is there for us to even begin to try to answer the question of how to democratically shape our future?

**Christopher:** Humans are experts at trying to address the impossible. It's a consequence really of being mortal. We will all die. None of us will live forever and somehow transcend our

predicament, but somehow we keep trying to solve the difficult problems. We keep trying to make the world a better place. We keep trying to build a better future. We got these undemocratic seemingly impossible-to-stop processes that it seems like we're just subjected to them with no power to influence them. And yet we try.

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And yet we throw ourselves at these challenges. We live at a time where hope and optimism is essential because without it, what else do we have? Unless can throw ourselves at these problems, we would face a very grim future indeed, but that is what humans do, is they throw themselves at these impossible problems. If we can keep that attitude in mind, keep that noble sentiment burning inside of us, then there always remains some hope even in the face of challenges that can appear absolutely catastrophic and absolutely unsolvable.

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**Christiane:** If you want to know more about Christopher Preston's book, *The Synthetic Age*, check out our show notes page at [examiningethics.org](http://examiningethics.org).

Let us know what you think of today's show. Record a voice memo on your phone and email it to us at [examiningethics@gmail.com](mailto:examiningethics@gmail.com). Be sure to include your first name and where you're from. Or, if you're shy about recording your voice, send us an email with your thoughts and we'll share it with our listeners.

### **{music out}**

**Eleanor Price, producer:** Hi, this is producer Eleanor Price with some great listener feedback from last month's show about care ethics and responsibility with the philosopher Joel Reynolds.

Listener Cara responded with these questions:

**Cara:** Hi, my name is Cara Hunt and I'm calling from Brooklyn, New York. I have a couple questions, so one is: I wonder how this idea about ethics and caring for others would change if you weren't caring for a family member. Because a lot of people and caretakers are paid, it's a job, and so what are the differences in, sort of, demands of care for somebody who is not linked by family to the person that they're caring for? Obviously, if you're hiring somebody to care for a parent or grandparent or a child, you want them to adopt this attitude, this sort of ethic of finite responsibilities with infinite hope. But, a lot of these positions are underpaid and so I wonder, I guess, what your thoughts are on that. My second question is maybe a bit more random, but if the other is infinite, if they're overflowing and they cannot fully ever be known, could we not say the same thing about ourselves? So, thank you for an amazing show, bye!

**Eleanor:** Here's what Joel Reynolds had to say:

**Joel:** Hi Cara. Thanks so much for your great questions. Regarding caring for a family member or a close friend or a loved one versus someone you don't know, I think you're absolutely right that it's different in really important respects. And when caregiving is a form of employment, whether it's for a family member or not, it's also quite different from unpaid care. But I think that the general interpersonal structure of attention, leveling, and interruption stays the same. What changes is how we think about the larger systems and structures that hinder or encourage the expectations of the one being cared for and the ability of the caregiver to successfully balance those moments of care, and to at the end of the day, end up caring well.

Regarding the question of whether or not we are also ourselves infinite and forever unknown just like the other person, for Levinas, there's a fundamentally asymmetry between oneself and others. If someone's hungry, you should feed them, even if it means giving them the food out of your own mouth. And I think it's important to remember that Levinas is working out of the Judeo-Christian tradition, so I think of what Jesus says in Matthew 25: "For I was hungry, and you gave me food. I was thirsty, and you gave me something to drink. I was a stranger and you welcomed me. I was naked and you gave me clothing. I was sick and you took care of me. I was in prison and you visited me." Jesus goes on to say that the quote-unquote righteous, the people who pretend to be religious and pretend to be believers, they'll say, "What do you mean? You, Jesus, weren't hungry or thirsty or naked!" And Jesus responds, "Truly, I tell you, just as you did it to one of the least of these, you did it to me." The focus is entirely on the other. Now, having said this, as a caregiver, I think it's important to also care for oneself, because at a certain point, you can't care for others well if you don't do that. And if others mistreat or otherwise degrade you, you also won't be able to care well. But: the primary ethical focus, both for Levinasian response ethics and for care ethicists, begins and is ultimately oriented by the other, an other who is above and beyond our knowledge and for whom we should care, and care well, with all of our being. Thanks again for your questions.

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**Eleanor:** Keep these voice memos coming! We've really enjoyed listening to your words. Remember to subscribe to get new episodes of the show wherever you get your podcasts. But regardless of where you subscribe, please be sure to rate us on Apple podcasts--it helps us get new listeners, it's still the best way to get our show out there.

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