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How to Communicate Climate: New Experiments and Methods

Naomi Oreskes, History of Science, Harvard University, oreskes@fas.harvard.edu
Cymene Howe, Anthropology, Rice University, ach1@rice.edu
Dominic Boyer, Center for Coastal Futures and Adaptive Resilience (CFAR), Rice University, dcb2@rice.edu
Lacy M. Johnson, English, Rice University, lj14@rice.edu

With this four-way dialogue among climate researchers in the humanities and social sciences we attempt to unravel various techniques of climate communication. In aiming to reach non-specialist audiences, we discuss keeping the narrative focused and how to overcome the bad news-ism of the climate crisis while acknowledging our collective and deep imbrication in it. We describe structural solutions that complement individual actions and the importance of conveying what is already being done, effectively and collectively, in the present. When we can make visible the work that is already going into addressing the climate crisis we enter another communicational mode: communication through acts that speak not just to the trouble, but to the importance of visualizing alternative futures too. We acknowledge that there is no magical formula for effective climate communication but that emotional, affective and action-oriented pathways are critical, and they raise questions about how we open ourselves to really feeling climate change. Our discussion grapples with the persistent future tense of normative climate discourse and we speculate on different media and modes of communication, including listening to nonhuman forces. Fire and water for instance—when they come to us in the form of wildfires, superstorms and flooding events—are, sadly, already excellent narrators of the climate crisis. Ultimately, we leave the conversation convinced that we need to balance out scientific abstraction with strategies for putting emotional content back into an issue that is fundamentally emotional. That is, how we can move from the emotions of grief and panic toward the emotions of conviction and purpose, energized by communicating collective and cooperative solutions.

One of the perennial challenges of climate disruption is communicating its urgency and its impact, both in the present and in the future. Natural scientists of all kinds—from biologists and climate modelers to geologists and oceanic experts—have been conveying the news of crisis for many decades now. However, the "success" of climate communication has long been in question, both in terms of how the messaging has been able to impact global policy making and perhaps more importantly, change public consciousness about the gravity of the situation and what we can collectively do to change course (Schäfer 2012). In one sense, much of what environmental scholars, artists and activists are producing in response to climate disruption can be seen as a form of "climate communication" – that is, many contemporary projects are committed to messaging the challenges and possibilities of the climate conundrum. Publications and other creative works in environmental humanities and environmental social sciences often emphasize a "strong sense of the goals and commitments" that drive us (Luciano, Foote and Lioi 2024). However, in a more formal sense, climate communication and research about it—which has been with us since the 1990s (Chadwick 2017)—is specifically targeted to public awareness and to understanding how perceptions, cultural values and social norms shape both engagement and action around climate change (Howe, Diamanti and Moore 2023; Moser 2010; Nerlich, Koteyko and Brown 2010).

Public opinions do appear to have changed; awareness is up (Leiserowitz, et. al. 2023). But, we remain mired by political polarization and often, caught up in spirals of anxiety and apathy (Chapman and Peters 2024; Washington and Cook 2011). Much of the scholarly work on climate communication has been directed toward how to influence policy and, alternately, psychological factors that impact cognitive engagement (Center for Research on Environmental Decisions 2009). Organizations and educational institutions have also produced many "how to" documents that strategize best practices for garnering attention to the issue (Harvard T.H. Chan; Yale Climate Change Communication; United Nations, Climate Action). While quite useful, these protocols tend to speak to an activist audience, essentially providing the tools for advocates of climate action who are already oriented toward that goal. While lauding the organizational and academic work that has advanced climate communication, we want to broaden the epistemic range here, to recognize other audiences and other publics, especially those that we encounter through our work in teaching and learning, as well as within media spheres and the arts. While activist "how tos" and aspirations to shift ideological values and psychological states are important, one of our objectives in this conversation is to emphasize the humanistic skills and creativity that can be brought to climate communication.

We came together as four researchers working on climate issues in the humanities and social sciences—one historian (Oreskes), one narrative non-fiction writer (Johnson) and two anthropologists (Boyer and Howe)—in the hopes of unravelling some of the challenges of communicating climate disruption, its perils and its solutions, to a wider public. We sought to collectively think through novel forms of messaging that are sensitive to both the emotional and shared dimensions of our current climatological condition: one affecting us all but of course, not equally or evenly (Wallace-Wells 2020). As studies of climate communication have shown us, it is important to underscore spaces of possibility, optimism and renewal and not to be overly preoccupied with apocalyptic or doom-centered discourses (Figueres and Rivett-Carnac 2020; Johnson and Wilkinson 2020). This does not mean ignoring campaigns of disinformation (Oreskes and Conway 2010) or failing to register fault and causality to those corporations, individuals and governmental bodies that continue to fuel the crisis (Boyer 2023; Oreskes and Conway 2023). It is rather, an exercise in balance and in finding throughlines that are compelling to action (De Meyer, et. al. 2020) and to sentiment (Brosch 2021; Schneider, Zaval and Markovitz 2021). Good storytelling and narrative forms are, we find, critically important in this communicational project (Bloomfield and Manktelow 2021; Toivonen and Howe 2024). But so too is choosing media and language that seek to meet diverse publics half-way, to help them to feel differently about climate change.

We do not claim to have found the answer, but we do conclude that there are multiple, creative approaches that we ought to continue to develop—including allowing climate communication to be an act of ritual, or performance art, heard through the voice of more-than-human entities, or found through unlikely co-organizations of interests and priorities. We begin with an opening prompt and from there, unearth more than we had first imagined. First, we asked ourselves: what are the hurdles to communicating the climate crisis? And how are the challenges we experience related to our dynamic media ecology?

Naomi Oreskes:

The challenges are different in different contexts, and they do change over time. But I would say for me, the biggest hurdle is that it's a bad news story and nobody likes bad news. You have the challenge that you're trying to talk about something that most people would rather not be true. There's a lot of pressure to sugarcoat it. And there's a lot of pressure to be optimistic. I sometimes get invitations where people say: we really want you to come and tell us the truth. We don't want you to pull your punches. But we do want you to end on a happy note. There's a profound tension there.

So much of my work, particularly as a historian, is about telling the truth about both climate change itself and the history of climate change denial. These are inconvenient and uncomfortable truths. How do you find a way to tell this story that's truthful and doesn't sugarcoat the bad news, but can still make people not feel despair because it's hopeless? That's where I see hope in the political story because part of the argument of my new book is to say, look, people did *work* to make us believe these things about free markets. People did work to make us think climate change is not a problem. People did work to make us think technology can solve all our problems. This means that we can do the work to challenge *that* work. People didn't always think the things they think today. In the early 20th century, people recognized the social costs of capitalism. They recognized that child labor and workplace injury were deeply problematic, and they took steps and did work to address those problems. We can do the same thing. We can say, look, these things are real. These things cannot be denied, but they can be fixed. That's our challenge.

Cymene Howe:

One of the examples you give is that you're working with this coalition of people who enjoy the outdoors, Protect our Winters. When you put everyone together, not just the skiers and the snowboarders, but the runners and the equestrians and everyone who enjoys hiking, it becomes a huge population. Suddenly, you have assembled a lot of interests. You gather a lot of people whose hobbies are tied to the outdoors and they care about it. Then you can get them to make that next move and start to do the work of protecting the climate that they care about and enjoy.

Naomi Oreskes:

One of the interesting challenges of the present moment is how to get people organized. Consider the history of the trade union movement, which was very powerful for a period. Trade unions are organized by people who have a fundamental thing in common: they do the same kind of labor. They feel a sense of connection or comradery through their work. They also often work in the same places. The union movement in the United States relied heavily on organizing in factories. Now we're in a different situation. The workforce is much more dispersed. People in the gig economy like Uber drivers who don't even see each other may or may not feel a sense of comradery. They don't know each other. They don't clock in and clock out or have lunch together. There's a lack of common identity and physical presence, which makes it much harder to organize. So, what are the other kinds of commonalities that could enable us to organize? That's where the idea of the outdoors comes in. We might not work together, we might not live in the same place, but we have a shared love of hiking or a shared love of hunting,

something in common that can bring people together to say, "We're going to work together to protect something we all care about, which is nature."

Cymene Howe:

Back to the challenge of telling the truth yet finding a happy ending, one of the things that I've found, and I'm sure that all the three of you have found this too, is that after the end of every lecture, there are always several people in the audience who ask, "What can I do?" They are really earnest, and I really want to give them an authentic answer that has some hope wrapped up in it. But I find it really challenging. The other day we were talking with CNN's Chief Climate Correspondent Bill Weir and he said he gets those questions too. He said, "I just tell people, what are you good at? What do you know how to do? Are you good at running fundraisers? Are you good at doing backyard cleanup? Any skill you have can be useful in the fight against climate change." I thought that was a really nice answer.

Naomi Oreskes:

One of the good things about climate change is that it's such a big multifaceted issue that no matter what your talent or interest, you can find some point of connection to it.

Cymene Howe:

Another piece of advice we can give is that whatever you do as your environmental practice, try and multiply it. If you're good at recycling, try and get your whole building to do that. Move from individual to collective action. I'm not sure these answers are quite enough. But they're a start.

Naomi Oreskes:

They are a good start. The problem is that we Americans are so used to talking about action as what I can do personally. We are so used to individualizing these problems. Bill McKibben says the most important thing you can do is not to try to solve the climate problem personally, but to recognize that climate change is a structural problem. I often say: "I can change my light bulbs on my own, but I can't personally change the power mix in my electricity grid." That's where it becomes a collective action problem and we have to become politically engaged. So many Americans have been trained to think that politics is bad, messy, and dishonest. But politics doesn't have to mean what happens in Washington, DC. It can be what's happening in your local school board or your local city council or your homeowners' association. In all those places there are opportunities to be engaged collectively to think about structural solutions that complement individual actions.

Lacy M. Johnson:

And, at the same time, there are so many things that people are already doing. There are massive movements combating climate change and addressing these structural problems, lobbying, protesting, and direct action. This circles back to the question about communicating. Is it the fact that individuals don't know what everybody else is doing? Is that a failure of communication somewhere along the line? And how do we improve that communication to let people know what people are already trying?

Naomi Oreskes:

That's a good point. A lot of times people are not aware of how much is actually already going on. If they did know, they might feel better because they could feel like they could join into that. Maybe it's helpful to offer a list of organizations, different types of organizations like Artists for Climate Change, Protect Our Winters, and so on, engaging the problem from different perspectives.

Lacy M. Johnson:

A few years ago, the Society for Environmental Journalists had their annual conference here in Houston. I sat in on a panel about "solutions journalism,"and they presented some great studies that if you write journalism stories and only focus on the problem itself, it tends to produce inaction in the reader, and maybe even despair. But if you present solutions, even if they are failed ones, it tends to generate more action in that people are more willing to try things or join up with existing efforts. One of the things I've been thinking about in my current writing is how to identify the solutions people are already trying. It's just been a pivot for me about what my role can be as a writer and as a communicator of these issues. Yes, people need to know what the problems are, but most people are aware that there are problems. What they don't always know is what to do about them or what anybody else is already doing about them. In the book that I'm working on now, the glacier funeral that Cymene and Dominic created was one response. I don't know that it's a solution exactly, but it is a response. The grief is a response and a collective response, making space for all of us to collectively acknowledge this loss is a step toward acknowledging the scale of the problem.

I'm writing about prairie restoration now. And some of the things that people are doing are so simple, especially around here in Houston, which is a coastal prairie ecosystem connected to the three major prairie ecosystems of the north-central United States. The prairie ecosystem has been completely destroyed by agriculture and

homesteading and westward colonial expansion. But now people are replanting prairie grass and bringing bison back and doing all kinds of things. Whether those actions actually restore the whole ecosystem is a different question. But it is a way for people to get involved in restoration work by taking care of grasses and planting things in the ground. I don't think people realize how easy it is to participate in some of these efforts. I think they think that it's something that is happening far away or that there's some kind of knowledge or experience or club membership or something that you need to have to be involved.

Dominic Boyer:

That's what my rain garden work is about. It's a project based in Northeast Houston, which has been hard hit by decades of environmental racism, infrastructural racism, and huge flooding problems. Conventional infrastructure is not coming to the rescue anytime soon. So, some of these community groups have become interested in experimenting with green stormwater infrastructure, which is a response to flooding that can be done relatively cheaply with relatively more community engagement than engineering megaprojects, let's say. Digging rain gardens is the first phase and I find it personally quite meaningful work. It gets me in touch with this prairie legacy and the soil. And in a tactile way you begin to realize how much of Houston's story is also about living on clay, which you can't appreciate in all its intransigent glory until you try to put a shovel into it.

Cymene Howe:

What I take away from each of these examples is that there is a communicational aspect to these projects and peoples' involvement in them. When they are visible and recognized more widely, that is when others see the work that is going into alleviating the climate crisis, and then that becomes its own kind of climate communication. It is communication through acts, a way of messaging not just the trouble, but some of our solutions as well.

Dominic Boyer:

My question for the group is whether the media matter, whether it matters whether we are trying to communicate something through performance or nonfiction writing or fiction writing or podcasts or even digging, because all of those genres and media make different things possible. How much are you thinking about media in your projects and how much would you chase the possibilities of another medium to find ways around obstacles you have found in the ones you're practicing now?

Lacy M. Johnson:

I want to turn that question back to you, since lately you've been exploring different media in addition to traditional scholarly publication. Is that out of some sense of a broader set of possibilities in other genres and media?

Dominic Boyer:

A bit. I'm a master of no media, but an experimentalist in many. I guess I am attracted to the different potentialities of different media. While also understanding that none of them is perfect. There's no magical formula for effective climate communication. The thing that interests me about TV, for example, is the intimacy of it, which is because it's something that you typically watch in your home or even in your bedroom. I read an interesting neurological study that people's brain chemistry is the same when interacting with friends as it is watching their favorite characters on TV. Which inspires the idea that if somehow we could make really compelling drama or comedy, we could maybe help people to think a bit differently or just to get things to snap into place emotionally in a different way. Overcoming emotional shutdown and refusal to deal is a huge part of the challenge of climate communication. Once people are open to feeling climate change, getting people into a real conversation about meaningful change is much easier.

Cymene Howe:

Old fashioned TV watching had a kind of intimacy to it—the stereotype of the television in the living room and the whole family sitting around eating their TV dinners out of little aluminum trays—that mirrored the emotional experience with the families on TV. Now that experience has exploded into all these different forms, for better or for worse. So many people now watch shows on their phones and computers, often in an isolated way. Media have really metastasized in recent years across many different channels.

I was also wondering, going back to the projects you mentioned earlier: can a rain garden or soil be considered as mediums? Are those communicational forms? Digging in the soil or planting the prairie, are those ways of engaging with the communicative aspects of climate change? They are material forms that we work with, by the pure definition of "media" they are media, just like oil paint or clay or marble are media, or mediums, for the arts. The question is how elemental forms like soil or biotic beings like plants or animals can become a kind of language or communicational technique for addressing the climate crisis. Can a plant speak better than we do? The soil has a lot to

say to be sure; it holds all of these memories: chemical compounds, toxicities, previous plant life – the "humus" that Donna Haraway likes to remind us about. In that sense, soil, plants, and sky may be the best communicators of the climate crisis because they very literally embody it. They are made from, and of it, but they are also always aiming to mediate it, to adapt and adjust to survive. For that matter, fire and water—when they come to us as wildfires, superstorms and flooding events—are, sadly—excellent narrators of the climate crisis: they are telling the truth in very powerful, undeniable, if destructive ways....

The memorial, or funeral, that we held for the dead glacier, Okjökull in Iceland in the summer of 2019 was interesting in the sense that it became a highly mediated event, showing up in the news all over the world in places like CNN and *Le Monde* and *Der Spiegel* and even unexpected publications like *Popular Mechanics*. But it was first and foremost an event that was interactive and phenomenological. People were doing something with their hands and bodies and voices, hiking up to the top of the mountain and experiencing something that was both familiar and unique, comfortable and odd at the same time. Everyone knows what a funeral is, but no one had ever been to a funeral for a glacier. It had enough emotional and intellectual complexity that it gave the journalists a broader palette to work with.

Lacy M. Johnson:
I would say that the funeral is a medium, the soil is a medium and film and television are all media as well ... and the lecture is a medium. Where do you find yourself more comfortable? In the lecture space or in writing books and articles, which modalities feel more effective for you?

Naomi Oreskes:
One more thing though about the emotional connection. I've often thought that part of the problem with climate change is that it was a problem discovered by scientists. Because for scientists, emotions are bad, because they are viewed as compromising one's objectivity. Scientists consciously made efforts to talk about climate change in a dispassionate way, because that's what they thought it meant to communicate scientific information. If you watch Jim Hansen's famous congressional testimony today, it seems very dry. That stripped the issue of its emotional immediacy. A lot of what we're talking about here is this: how do you put that emotional content back into an issue that *is* fundamentally emotional? Because this is about our lives and our futures. We've been playing a catchup game for thirty years.

Cymene Howe:

That's a fantastic point. The origin story of the climate crisis and its communication was fairly affectless. Now we're trying to restore the emotion, kind of like restoring the prairies. It is not that the emotion isn't there because people feel strongly about the climate crisis, especially when they have experienced its effects, like with a superstorm. Or when they are reflecting on the extinctions of species. The question is how to move from the emotions of grief and panic and into the emotions of conviction and purpose. And, as Lacy has said to us before, to realize that joy itself is a form that justice takes.

Naomi Oreskes:

Without emotion, it doesn't work as a movement. I recently read Marshall Ganz's book, *Why David Sometimes Wins* about the history of the Farm Workers Union. I have to say, I found the book a little depressing because one of the arguments Ganz makes is that the movement worked because you had a group of people who were utterly disempowered, but their lives were at stake, and they knew that they were being exploited. Then, the United Farm Workers said, look, there's an alternative here. If we work together, if we organize, if we set up a credit union, if we get union representation, then there's a possibility of making our lives better. That was a powerful motivation, because the people had an intrinsic motivation to become involved because the connection to their own lives was obvious. The problem was existential, immediate, and clear.

Whereas with climate change, I feel that the intrinsic motivation has been lacking because in places like the U.S. we haven't until recently really felt how it affects us personally. For years, polls showed people viewed climate change as something that was far away, both in time and space, and scientists were constantly using the future tense to talk about it. I argued with my colleagues about this and told them to stop using the future tense. That's finally changing. But even now, there'll be some catastrophic event, like hurricanes Milton and Helene that devastated portions of the American southeast. Some scientists will be interviewed, and instead of saying, this is climate change happening, they say, "This is the sort of thing that we're going to see more of in the future."

Cymene Howe:

No, we're flooding and burning right now.

Naomi Oreskes:

Right! Climate change is happening now because we are seeing worsening effects from hurricanes, wildfires, floods, droughts, all of that. The opportunity to connect with

people's intrinsic motivation is there, but we're still having to overcome the legacy of talking about climate change as though it were something abstract.

Lacy M. Johnson:

It's interesting you say that because anytime there is a climate disaster, I see on social media that there are people in the central United States who say things like, "We don't have climate change here yet thankfully." We've got plenty of water and cool weather.

Naomi Oreskes:

But how long is that going to work for you, right?

Lacy M. Johnson:

I know. For some people it depends on where they live, because people in coastal communities, certainly people in California, experience climate change in the present tense. But for people where certain disasters may not yet have reached, they may not connect the dots even though there's terrible flooding or drought. They're thinking: this is rain, this is weather.

Cymene Howe:

The grammar of climate communication is important in terms of how the issue is framed, whether in the future tense or the present tense, allowing people to make explicit connections between local events like floods and wildfires and connect them to a broader problem.

Naomi Oreskes:

That's another thing that is challenging about climate change. Climate change doesn't create phenomena that didn't already exist. It takes existing phenomena and makes them stronger, more intense, more damaging. You can explain that of course. It's like we've always had colds, but if you're run down, you're more likely to get sick, right? It's not a concept that's *that* difficult to explain. But on some level, it does make it harder. If climate change created something entirely new, something that had never existed before in the history of the earth, in a way that would make the communication easier. You could say, oh my god, there's this thing we now need a name for—a wild new phenomenon—and it's because of climate change. Maybe that would be more compelling for people. But instead, as you say, it's always rained, so you have to say, yeah, it's always rained, but look at the intensity of this rainfall or hailstorm. A couple of years ago, there were these incredible hailstorms in Canberra, Australia, with record-

breaking softball sized hailstones. They did huge amounts of damage to cars. It was clearly climate related, this greatly exacerbated hail event.

Cymene Howe:

But people were saying, "We've always had hail! It's just bigger now." People in general (and I'll include myself here too) are bothered by the idea of having to change their habits or do things differently in their daily lives. But at the same time, changes to the environment and climate are already impacting our daily lives all the time. I'm not quite sure how we can get ourselves and others to make that connection. That, yes, things are the same but also more intense and dangerous. There is a communicational aspect to shifting perception too.

Dominic Boyer:

That brings us back to Lacy's question about modalities of communication. Did you mean which modalities of communicating we prefer—for example, the lecture or the book or the essay—or which do we find most effective in communicating with audiences about the climate crisis?

Lacy M. Johnson:

I would say for me, there's a kind of thinking that happens on the page that can only happen on the page. But there's a kind of energy that happens in a live space where ideas become activated. And I was just wondering how it is for you, how you think about those different kinds of spaces and their efficacy in communicating these topics?

Naomi Oreskes:

It's a hard question because some of it is just habit. We're in the habit of doing things a certain way. We were trained to write, and we weren't necessarily trained to do film or television. One could be trained in those things, as other people are, but we're not. For me, when you said something about "chasing" other media, I guess the idea of chasing media doesn't appeal. Also because of the question we raised earlier: What are your interests? What are your strengths? It turns out I'm pretty good at writing books, and I'm pretty good at writing books that dig into stuff that other people don't have the time or the patience or the wherewithal to do. I guess over the years, I've come to view this as my role. And I like writing.

I know that some journalists do use my work and people use it in teaching. If the work ramifies, because it's done in such a way that can be used by others, I feel good about

that. Take *The Collapse of Western* Civilization. I know of quite a few people using that book because it's short and sweet, a good conversation starter.

Dominic Boyer:

Also, a great title! But even in that book, you're playing with genre, right? As with *Merchants of Doubt*. Certain genres have broader resonance outside academia. In the nonfiction writing world, you've got certain genres that seem to be pillars of the public sphere. You've got memoir, you've got self-help, but history belongs to them too. People love history. In Barnes and Noble, you'll find the 75th book on the life of Thomas Jefferson for sale right now. A book like *Merchants of Doubt* builds upon that public thirst for history and mystery.

Naomi Oreskes:

I tell my colleagues that all the time. I feel that we miss an opportunity because, as you just said, airports are filled with books about presidents. People *are* interested in history. Now, obviously, we don't want to only write about presidents, but it shows that people are willing to read history if you do it in the right way. I often point out that we're the only academic discipline that has a television channel.

Dominic Boyer:

Well, economics has several channels...

Naomi Oreskes:

But there's no chemistry channel. And there should be, right?

Dominic Boyer:

In terms of getting into airport bookstores, do you think it has to be biography? Do you think it needs to be character-driven in some way?

Naomi Oreskes:

A lot of popular history is biography because people are attracted to stories of people's lives, and many historians hate that. But as you suggest, maybe there's some middle ground as with *Merchants of Doubt*. We did consciously think, how can we write this story in a way that will reach a broader audience? Because we felt strongly—very early on in the process—that this was an important story, one that we wanted to get out beyond the walls of universities. I do remember very clearly thinking: if we write this

correctly, this book could have impact. But what does it mean to write it "correctly"? Well, not too many characters, and not too many different competing arguments, but enough good characters that we can follow the argument through these key characters.

We made the decision to hang the narrative on characters. In a way we were lucky that there were these four guys, and they were all a little bit larger than life, and they were also pretty villainous. If we were writing *Merchants* as an academic book, we might have felt compelled not to let them become villains because historians don't like that either. But they are kind of villainous, so we let that come to the forefront. When people ask me, why didn't you talk about asbestos or radon? The answer is because those four guys weren't involved in asbestos and radon. Making the decision to focus on the key individuals was very helpful to keep the narrative focused. We didn't go off in a hundred million directions. And then of course, in terms of the language, we tried really hard not to use academic jargon.

Lacy M. Johnson:

I've been playing around with genre too.

Dominic Boyer:

I'd love to hear you talk about whether there are other capacities within nonfiction that we can still use for effective climate communication. I feel like you're working across several of them.

Lacy M. Johnson:

As I tell my students, nonfiction is a massive category. It's a really un-useful term actually, to describe the genre. It's too many different things because, as the writer David Shields says, it's like having a dresser with two drawers where one is labeled socks and other is labeled non-socks. Everything is in there. It's biography, it is memoir, it's autobiography, and those are different things. It's also travel writing, food writing, nature writing, environmental history. Nonfiction is so many things, and as a writer of nonfiction I can move across those different genres thinking about the importance of facts, the importance of storytelling. Narrative is key. And for me, I guess one of the key differences between the work that I do that's more scholarly—which is focused on argument and explication and evidence—and the work that I'm doing for a non-specialist audience, is that narrative is really front and center. That to me, is the main difference.

Naomi Oreskes:

That's key. There really is a difference between foregrounding the argument versus foregrounding the story. In an academic book, the argument is front and center, and then the narrative and the evidence support the argument. As opposed to narrative nonfiction, where the narrative comes first.

Cymene Howe:

I feel like it is a good habit to read fiction while you're writing nonfiction, the "non-socks" stories of people's lives. It's useful, I suspect, to be gestating in the socks drawer, the fictional side of things, so that more creative approaches get integrated into what we are trying to communicate in the nonfiction space. I don't want to say anything that would misconstrue climate science to be fiction, just to say that fiction often has ways of telling a story that can be more compelling and vivid and that is what I'd like to see more of in the climate communication world.

Naomi Oreskes:

You want to read good writing all the time. But just getting back to *Collapse of Western Civilization* you're right, it is a different genre. It was really about letting go of the argument. Part of the reason I wrote that book was because I kept getting invitations after *Merchants of Doubt* to write about why people were rejecting climate science. And I'd be like, didn't I just write a book about that? It's a weird thing that happens when you write a successful book. You get asked to write the same book again. But I don't want to write the same book again! It was bad enough writing it once.

Then, I thought, what is it that people are asking for? Maybe what they're asking for is for you to say the same thing in a different way. I started thinking, what would it feel like to tell the same story in a different way? Then I had this moment in my life that was either creative inspiration or a psychotic break: the narrative of that story, the narrator started talking in my head. I started hearing voices. I emailed Erik [Conway], and said so: I'm either having inspiration or I'm having a schizophrenic break, because I am hearing voices in my head. So that book almost wrote itself. I wrote the first draft in two weeks. I emailed Erik and I said, yeah, I've done something weird, and maybe you don't want to have anything to do with it, but it was based on a conversation we had been having about how ironic it was that market fundamentalism, by delaying climate action, increased the likelihood that we'd end up in a dictatorship. He wrote back and said: 'I'm in!'

Lacy M. Johnson:

That's the answer you want. Building on that, I appreciated your point that in scholarly work the argument comes to the fore. But for a non-specialist audience, the argument is still there, it's just that the narrative carries it forward. But I want to hear your thoughts too, Dominic, because your *No More Fossils* book also seems to be experimenting with genre.

Dominic Boyer:

Yes, that book is trying to prioritize narrative over argument, to tell the story of how we got ourselves into this predicament and what it will take to escape the quicksand of petroculture. There are moments of memoir and manifesto in there too, alongside what is for the most part history. More recently, I've been working on a series of climate horror short stories. One of the challenges of our times is creating really good petrohorror as part of the catharsis of extracting ourselves from the ecocidal trajectory of fossil fuels. I've been experimenting with other media too, teleplays for example. It's been a little scattershot. Where that urge comes from, if I might name the elephant in the corner, is that conventional academic writing—whether scientific, social scientific, or even humanistic—really isn't getting the job done. Every time I sit down to write an academic article now, I feel like I'm wasting everyone's time by writing for 200 (or if I'm lucky 2000) people who basically agree with me on 95% of the stuff I'm going to say. I don't know why we do it. Well of course I do: audit culture, obviously, institutional pressure, professional inertia. But I feel as though what we lack, even in the space of the university, are pathways for evolving ourselves as intellectuals, as writers, as thinkers, as media makers out of the feedback loops of academic professionalism into something where those of us who care about these issues can actually find broader audiences, engage broader movements, try to move needles that need to be moved in various ways.

I feel like there ought to be a program, maybe a detox program, for academic writing. A couple of years ago I had to write a conference paper for the annual anthropology meetings, and I sat down to write something about the Anthropocene and I just couldn't do it. I could already hear what I was going to say followed by a polite smattering of applause. So, I wrote a 10-minute play instead and then tried to convince three of my freaked out fellow panelists to perform it with me. During the time of the Great Acceleration after WWII, one of the more signature theatrical genres was that very spare mode of absurdism exemplified by plays like *Waiting for Godot*. I wrote the play in that style, and the subject is the sense of excruciating paralysis we often feel around the

Anthropocene. Nothing's happening, there seems to be no way out. The genre seemed right for the subject. But it doesn't have a message or argument. It doesn't even really have a narrative. It's just about trying to capture the ambient feeling of stuckness—the sleep paralysis of the climate emergency—in a new way.

Cymene Howe:

One of the challenges of climate communication is that we are hoping for an outcome. Or at least I am hoping that people will be spurred to action using whatever emotion they need to get there. For me, there's a certain activist property to the whole project of talking about climate. And so, I'm searching for something to give people, something for them to do, prompts to motivate action. That's a different kind of proposition than doing a research project. A research project says, "I'm curious about this, or I discovered that, or this theme happens to be in vogue in my academic discipline right now." But climate writ large has different stakes. That feeling of motivating action can work well in the classroom. In a lecture or a discussion, that vibe in the room can be inspiring: people are there and we are all listening and talking and feeling moved to do something, it inspires you to keep on going.

Dominic Boyer:

Just to build on that, I never feel bored by teaching. It's the academic writing part of it that feels increasingly pointless. But you three can talk me back from that.

Naomi Oreskes:

Two things. In the spectrum of academics, I'm on the activist side. But part of our job is also inquiring into the nature of things and letting the chips fall the way they fall. It's not that you don't have feelings or passion, it's that you are willing to accept results even when they turn out to be what you didn't hope for. In that respect, our role as academics is different and unique from journalists or other sorts of people. We have the luxury and the capacity to dig deep and to think hard about tough questions. Regarding writing, I feel the same way. I am not very motivated to do much academic writing anymore. I don't think I'll ever write another book designed simply for other academics. Yet, I still find that writing academic papers can be useful to work out arguments. There's a depth of inquiry and a kind of patience that our colleagues have. When I write for *Scientific American* or *The New York Times*, the editors are super impatient. They don't want to hear about the complicating details, the stuff that gets in the way of the main argument, the doubts you still have. In academia, not only can you indulge those details, you're expected to. And that's good.

Lacy M. Johnson:

Also, the academic editorial process can be really rigorous, it's set up to push back. It makes you rethink things and challenges you in a way that some of these other media do not.

Naomi Oreskes:

Right. The fact is, so much journalism is lazy and sloppy. I try to be compassionate and say, okay, well maybe they had a five o'clock deadline. But then it's in *The Atlantic*. And you think, no, they didn't have a 5pm deadline. The problem is they're not subjected to the kind of criticism we have in academic life.

Lacy M. Johnson:

There are benefits to the slow writing. I have written for *The New Yorker* a couple of times, and they do have a very rigorous fact checking process. *Orion* has excellent fact checkers. I'm very appreciative of my editors and fact-checkers. But it is a different animal from peer review. And so that's not something to completely give up.

Naomi Oreskes:

I agree. I am grateful for fact checkers, too. They are very helpful for us. And many editors are great. But it's still not the same as academic peer review. We need both.

Lacy M. Johnson:

I really like the idea of your play, Dominic. I do think that there is a place for the unexpected, because there's a kind of numbness that ensues when audiences start getting presented with problems that are sad and terrible, and they tend to disengage. I was at this writer's conference last summer at Sewanee, and when the time came for my reading, I read the piece from *The New Yorker* about the funeral for the glacier, which is 10 minutes long or something. I still had 10 minutes left so I read a second piece, which became a sort of play I guess, which staged an interview that I'd done with this botanist who was desperately trying to save these plants that are threatened by climate change. He's in a kind of bad, cynical, hopeless place emotionally. And there was this moment in the original conversation where things started turning away from plant science and became really emotional when he talked about his efforts to save these plants. I couldn't stop thinking about that moment. So, I turned it into a short play.

Cymene Howe:

One of the changes I've made to my classes is that the final assignments are no longer papers. They're multimodal assignments. And the students are very good at them.

Naomi Oreskes:

I've also noticed this with my graduate students. We grew up in a world where if you were a historian, you wrote a book, and there wasn't even a conversation about it. It was just the expected next step. Now the students, because they've grown up with social media, many of them have their own blogs or TikTok accounts, they're much more comfortable with the idea that they might do a video about their work or something like that.

Cymene Howe:

Yes, many of them are very talented with multimedia approaches. I had one student who made a perfume, which was meant to smell like Houston. She mixed all these chemical scents associated with different moments in Houston's history, like Magnolia blossoms and the odor of smoke for example, and one of the other students blurted out, "That smells better than CHANEL Number 5!" It was such a clever project.

Maybe we could close out by thinking about the next generation of climate communication. What's on the horizon for our collective conversation about climate and environmental futures?

I will throw something out. We already have short video platforms like TikTok and Instagram reels that are hugely popular and likely to become a more pervasive feature of climate communication. That's just a hunch. I'm not going to say it democratizes the climate conversation exactly, but I suspect more and more climate stories are going to be narrated in the first person where youth, and others, are going out and talking to their friends who've lost a house in a flood or speaking with people who are climate refugees from a wildfire. Even though those kinds of stories are going to be circulating more and more, I suspect, I still hope that experts will remain involved somehow. That's the ideal: to have real stories of resilience but also keep the deep science in the mix.

Lacy M. Johnson:

That would make sense. I do think there's a place for survivors. Survivors are experts in climate change in their own way. It's not the same way as a scientist who is thinking about carbon emissions. But I don't think it's any less valuable, especially when we're thinking about solutions. I was just looking at Houston's West Street Recovery and the Northeast Action Collective. One of their research reports that came out at the end of 2021 is called "Survivors as Experts." They went around and interviewed all these people who had been impacted by flooding in the Northeast part of the city in a very social-scientific way. They gathered narratives and recounted them, at least snippets

of them, and drew policy conclusions based on commonalities among these narratives. One of the things that was very interesting about that particular project was that they trained the survivors to conduct the interviews themselves so that they could become authors of the study. I thought that that was really moving and effective.

I think for my own part, I've been thinking about how to make my writing more collaborative and participatory. My interest in the individual voice, the individual mind and the individual perspective is maybe starting to wane a bit. None of us are going to find solutions on our own. I feel much more energized by the idea of collective and cooperative solutions.

Summing Up

This conversation took us in directions that we could have expected. But it also took us down rabbit holes and into other pockets of thought that none of us anticipated: digging into mud and rummaging through sock drawers, among other things. One dimension that resonated in the end was that when we can make visible the work that is already going into addressing the climate crisis we are in another communicational mode: communication through acts that speak not just to the trouble (Haraway 2016), but to the importance of collaboratively visualizing alternative futures (Johnson 2024). Our discussion left us with the understanding that there is no magical formula for effective climate communication. However, we also each came away with the sense that emotional, affective and action-oriented pathways are critical, raising questions about how we open ourselves to *feeling* climate change. Throughout our discussion, we grappled with the persistent future tense of normative climate discourse, and we found ourselves speculating on different media and modes of communication, including listening to nonhuman forces. Fire and water for instance—as they increasingly manifest as flooding events, wildfires and sea level rise—are, ironically, acting as poignant communicators of the climate crisis. Ultimately, we left our conversation convinced that climate communication needs to balance out scientific abstraction with strategies for putting emotional content back into an issue that *is* fundamentally emotional. Part of the task of communicating climate is to help create emotional pathways from grief and panic toward the emotions of conviction and purpose, energized by communicating collective and cooperative solutions.

Competing Interests

The authors have no competing interests to declare.

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