

Helios 2: Anne Pasek on Changing Methods in a Changing Climate

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Helios is an *EH* interview series about new research in the energy humanities and the creative processes that bring it to life.

Our second interview features Anne Pasek, Assistant Professor and Canada Research Chair in Media, Culture, and the Environment at Trent University in Peterborough, ON. Anne's wide-ranging research interests include the cultural politics of climate change, environmental communication, and rethinking academic research norms in a warming world. In addition to multiple book projects, she is currently founding the Trent Low-Carbon Research Lab.

EH editor Caleb Wellum sat down with Anne over Zoom on June 10 to talk about the methodological concerns, approaches, and experiments that inform her work. During the hourlong interview, they discussed critical making, the materiality of digital tech, and the importance of critical empathy in divided times.

Caleb Wellum (CW): Your research draws on insights from several academic traditions while also reflecting on how and why we do research. Can you take us through some of the key concerns that inform your work?

Anne Pasek (AP): I wear many hats across the university. For the humanities crowd, I'm someone who works on science and technology studies and the environmental humanities (the energy humanities being nice bridge between the two). To my more quantitative colleagues, I am a climate communications specialist who teaches science students how to best engage with different publics.

This mix of science and culture also shows up in my research. Right now, I'm collaborating on an empirical study of the energy intensity of the Internet and working on book projects about the role of energy in digital media theory and the changing role of carbon in climate politics.

CW: You also do some more hands on work, too...

AP: It's good to mix things up! I'm part of a critical making group working on [solar-powered media](#) and I'm developing a larger research group about the prospects of 'low-

carbon methods.’ The gambit in both projects is that building alternative tools and practices will tell us a lot about the world as it is and as it could be.

CW: What makes making something *critical* making?

AP: [Critical making](#) is a turn of phrase coined by Matt Ratto to argue that critical thinking isn’t just something that happens with thoughts and words. It’s a conceptual neighbour to [research-creation](#) in this sense; they both challenge academia’s textual bias. We often presume that being a scholar means that you just read and write a lot—that erudite Republic of Letters thing. But, of course, there are many ways of thinking through ideas and communicating them, and how we do so is entangled in the kinds of knowledge we produce. Research-creation is a way of saying that aesthetics can pose and answer conceptual questions. My zine [Everyday Oil](#) would be an example. Critical making is much the same, though it focuses more on technical systems. So, you could make a machine that helps you think about a [process in your research](#). That machine needn’t be something that you’re shipping to market. It can just be another register in which you’re generating and testing ideas.

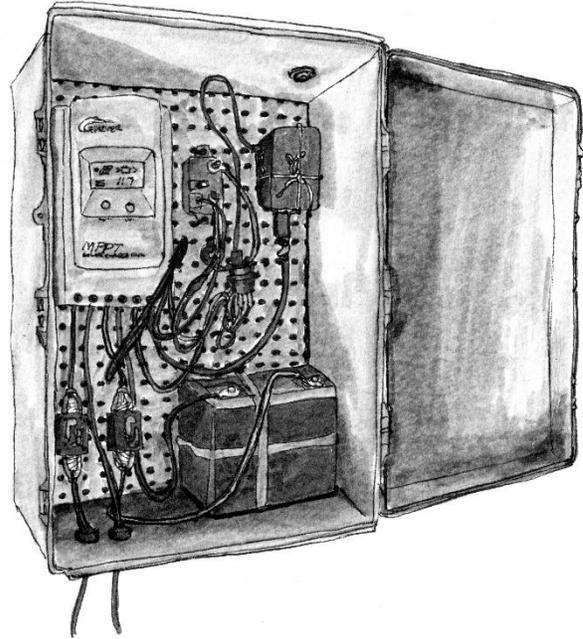


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CW: How has working on solar and internet technology helped you work through such questions?

AP: I’ve done so with wonderful collaborators; this is by no means a solo thing. I’m a steward in the [Solar Protocol Network](#), which was set up by three researcher-artists—Tega Brain, Alex Nathanson, and Benedetta Piantella—who were inspired by [Low Tech Magazine](#)’s efforts to run its website off a single, residential solar panel. Brain, Nathanson, and Piantella took that idea and said, “why don’t we see if we can make a network like that?” So, they’ve fostered a global group of servers. I host one of them, which is currently the only node in Canada.

The way the Internet normally works is that, if there’s a group of servers with the same data, you’ll be sent data from whichever one can reach you the fastest—typically the nearest one. This makes the Internet a pretty seamless experience, but at the cost of building heaps of data centres with redundant information and sizeable energy needs.

Solar Protocol’s provocation is to instead send you data from whatever server has the most sunlight at that moment (or, at least the highest battery charge). It’s a way of asking what

forms of connection could work with the intermittency of the sun, or the fact that it's always shining somewhere.

Actually doing this gives a very different sense of how solar energy works than just writing abstractly about energy. One of the overarching hypotheses in the energy humanities is that energy transitions will have huge effects on social life—that an oil and gas civilization works in different ways than a solar one. But as we've gotten more and more solar on our grids, we haven't seen a parallel set of social transformations. And where solar is dominant it tends to be overbuilt to overcome the intermittency problem. But building something small in your backyard, where overbuilding would be an absurd proposition, makes you think with the affordances of the technology in a more convivial way. It's not a problem to be solved, it's something to think and live with creatively.

CW: So, the goal is to create a solar network that isn't trying to replicate a network that runs on fossil fuels, and to see what that might be like.

AP: Absolutely. One of the things we've been asking is, if a local node goes down when a battery get drained overnight, what advantages could this bring? There are obviously some contexts where that would be terrible, where we probably do want to overbuild. But there are many that we might not want to hold so tightly. Running, say, your work email or a social network on intermittent solar could actually lead to genuine opportunities for rest.

CW: Like when TV stations used to sign off at night...

AP: Exactly!



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CW: Your dissertation and one of the books you're working on both focus on carbon. I think many people can understand how or why a physicist or biologist might study carbon but not why someone in cultural studies is doing so. What do you bring to the study of carbon?

AP: I love your question because this is exactly what motivates me. Humanities scholars have a lot of tools to dig into topics that have evident cultural meaning. But carbon doesn't have evident cultural meaning. And so, my research looks at how people go about building that social foundation around an element—and how this is changing.

Looking at the coming few decades climate politics, we're on the cusp of a significant shift. We definitely need to continue to focus on mitigation: How can we put less carbon into the sky? But we also urgently need to think about what to do with the carbon that's already there. We need effective and just forms of [carbon removal](#). And so, as some of my informants say, we might need to switch from thinking about carbon as the enemy to carbon as more of a resource or even the foundation of a new circular economy.

Such propositions are all rather speculative at present. A lot needs to be worked out politically and technically, and much is up for grabs in both respects. But I'm interested in what the history of climate communications can tell us about the challenges ahead and the political horizons that are inevitably tied up in how we make carbon meaningful.

CW: In my reading of your work, I see a lot of empathy in how you try to understand the people you study, even if you might have a hold a diametrically opposed view. I'm thinking of your article on [data centres](#) and your more recent piece on [climate denialism](#). Could you comment on that orientation of your work? Is this a methodological choice?

AP: It is. One way to talk about this is “critical empathy”—the notion that part of your analytic goal is to appreciate why things are meaningful to people you vehemently disagree with. This is useful in the context of climate change because it brings you to questions of desire, identification, and community. Polarization has been a recurring roadblock to climate action. But humanities scholars can study these subcultures and bring insights back to the coalitions we want to support in the climate fight. We can say: “Here's what this group cares about. If you want them on our side, or at least not directly against us, this would be a really useful way to make that pitch.”

CW: That approach in many ways runs counter to popular discourse, which feels extremely divided and dismissive. Does that approach work its way into your teaching? Do you see any unique payoff there?

AP: I hope so. I wrote a [book review](#) recently that was in part a reflection on having a climate denier in my climate communication class. We can't afford to ignore skeptics because they are both inside the academy and beyond it. So, it's strategically valuable to learn how to meet and move forward in a way that at least enriches our understanding of each other.

Here again critical empathy is important because it often all comes down to emotions and in-groups. Our goal shouldn't be to shame students into making better decisions because those options are quite frequently just not on the table. For my interlocutors who bristle at global warming, it seems pretty evident that they're doing so out of a fear of being seen as a bad person because they live in a fossil-fueled world. It's a defensive posture. And so, it can really help to meet people on the level of anxieties and experiences, rather than only their rationalizations. For me, this means stressing that we are all already ethically compromised by the worlds we live in. Thinking through that difficulty together gets easier if we start from this acknowledgement.

CW: There's power in being collectively implicated in something, rather than posing as righteous messengers.

AP: Yes! The environmental movement has not always been great on that front and this often precedes us into the classroom.

CW: Another major concern in your work has to do with the specificity of place. Why is place so important?

AP: This preoccupation developed out of my curiosity with how abstract systems and categories are actually lived. One interesting way to 'ground truth' global or controversial claims is to look to communities that are trying to negotiate how this all works in practice.

To give an example: I work on network infrastructure, and the global picture we have about these systems is generally good. We've tripled the amount of data on the Internet over the past five or so years while the energy demand of those systems has stayed pretty flat. This is miraculous! There's no other industry growing by leaps and bounds that isn't taking up a commensurate share of resources. It's a kind of decoupling.

But if you step back from the global and you look on the ground, the situation is remarkably different. It's true that data centres are incredibly efficient, but if you have one in your community, it still has impacts. It's going to draw down as much, or more, energy as a large factory and it comes with public health concerns, whether through backup diesel generators or the tendency to sometimes sustain or create new life for coal and gas plants.

These are all very different from the global picture of green growth. So, it's useful think about the contradictions that emerge across these scales, as well as where the points of leverage might be.

CW: Why do you think it is that so few people are aware of the materiality of the online world? I think for many of us, it's not something we give much thought to.

AP: One answer is that the sector historically came with a lot of hype. IT surged while manufacturing in the Global North was moving offshore. So, we associate digital work with intellectual labour rather than manufacturing, even though this work requires an awful lot of materials, extraction, and maintenance 'offstage'.

I think that story gets repeated in a more technical way with data centres themselves: they're often built in old factories or deindustrialized spaces because of legacy electrical capacity and cheap land. This puts them in fairly remote areas—often towns that lost out on globalization. Tech companies like this; they can get tax incentives from hard-pressed municipalities and it's good for security to take these systems out of the social sphere.

CW: It's kind of poetic thinking of the digital economy as superseding the industrial economy but placing data centres in older industrial regions...

AP: Much has been said about data centres as the factory of the 21st century! But on the flipside, we could also look at consumer experiences. Over the course of my lifetime, we've gone from clunky desktops to tiny smartphones. This is in large part because of Moore's Law: year after year our technology has gotten cheaper, more powerful, and more energy efficient because of the uncommon economic and material scaling properties of silicon. However, this pattern is slowing down, which poses a looming crisis in the tech sector—how will we keep improving the consumer experience of computation? One answer is to shift things to cloud (and so to data centres). This keeps the material and energetic work of computation offstage to maintain the appearance of technological innovation in everyday life. This works for now, but it can't last forever. We're eventually going to start bumping into more and more servers. That may be politically interesting.

CW: Will that have implications for the promise of electrification, for example? I'm thinking of hype around electric cars, solar power, and smart grids.

AP: Jennifer Gabrys has a really good turn of phrase when she discusses the paradox of “[electric environmentalism](#)” with Internet-connected environmental sensors—whether that's smart grids or smart homes. You end up having to weigh the energy savings of these devices against the additional demand in both the sensor and the cloud where all that data is stored and processed. The more I've dug into this research, the more I've been surprised to find that experts really don't know if we'll save energy or require a lot more. Rebound effects are very hard to assess comprehensively. So, I think we need to keep ground truthing global claims.

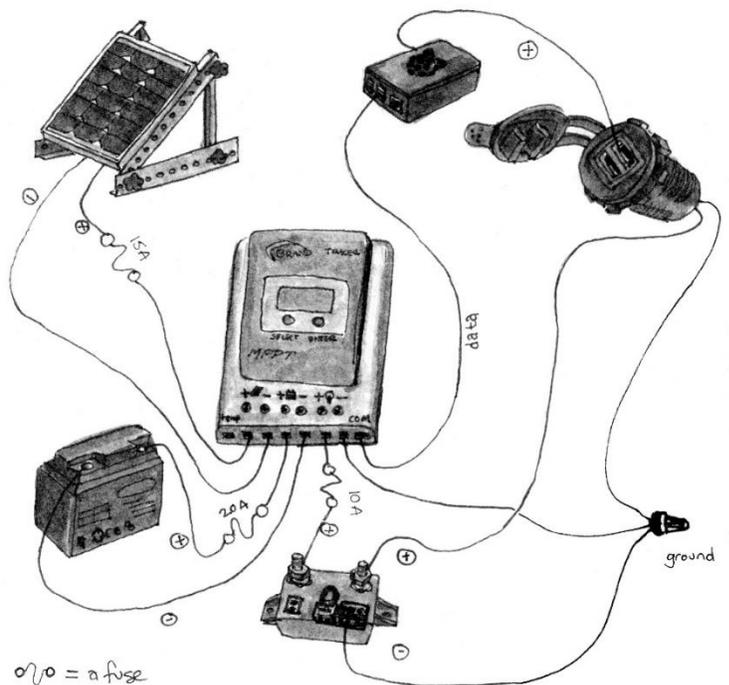


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CW: In some ways, your work suggests a Latourian strain of ‘following the scientists.’

AP: True! I like to look at both things and concepts as they circulate and come to do different things in different contexts.

CW: On that note, in your recent piece on climate denialism you interviewed key figures in what you call the carbon vitalist denialist network. Why did you choose the interview as a research modality? Did you face any resistance?

AP: I felt it was important because humanistic methods sometimes risk reducing us to our internal interpretations: you read a bunch of texts and then you explain how that text works or why it’s wrong. What I wanted to know was how the text gets made. So, I reached out to people and explained that I was both interested in how they communicated and that I wasn’t going to dismiss them as paid puppets of fossil fuel companies. That got access to some really interesting informants.

Having that proximity to my subjects helped work against the temptation write them off as crazy. What good is that? Being in a room with someone and trying to understand how they think plainly shows that people are complex, people are intelligent, people are tactical, but they are also caring, fragile, and vulnerable all at the same time, even if they’re your enemy. Both ethically and strategically, I think it’s imperative to recognize this.

(Of course, it doesn't escape me that my interview subjects were all older white guys and that, as a younger white woman, I was probably read as someone quite properly asking for advice from her elders. Other people will get different mileage from this kind of approach).

CW: You mentioned at the beginning of our conversation that the development of low-carbon research methods is a core concern of your work. What do you have in mind?

AP: I see low-carbon research methods as a natural extension of the energy humanities. If we suspect that the energetic base of a society has some structuring effects on power and desires, then it makes a lot of sense for us to apply this analysis self-reflexively. How does access to jet fuel influence the kind of research that we do? Or the pace and reach of ideas, or the kinds of people that have the privilege of doing this work?

We certainly need to invent ways of producing and circulating knowledge without getting on so many planes. This might have the benefit of being more collective and equitable. If we can’t casually drop into distant conferences, field sites, or archives, then we will need new partnerships with institutions and researchers abroad.

I developed some of these questions in an early [manifesto of sorts](#) but, interestingly, I think the pandemic has already opened the door. Alternative infrastructures popped up pretty quickly while others that are still struggling to be born. Going forward we need to think about how to build back in ways that are attentive to all the inequalities that the pandemic exposed. We need rest and depth of connection. Prestige will not sustain us.

CW: This brings me to the last question. What is the biggest or most exciting challenge in your work?

AP: Well, in the humanities we like to produce new concepts. Sometimes this looks like neologisms at every turn—it can be a kind of status game. But I think, more optimistically, our work does lie in generating ways to see the world differently.

There's a fundamental tension to this task: on the one hand, you're necessarily creating abstractions, moving from the given to the speculative. But you can definitely go too far, producing a concept that is so far removed from common experience that no one else will find it useful.

So, I'm coming back to climate communications here and thinking about our responsibility to produce work that can act on the world at the scales and temporalities we need. Much like this publication, I think we have to ask how our research outputs could meet different audiences where they are. This will prove challenging to academic merit systems, but there's clearly a world beyond them making ethical demands. How we respond while still doing the kind of generative work that we're best equipped to do is the challenge I'm sitting with today.