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# Sabotage, Implementation, and Expanded Geo-engineering: An Interview with Tega Brain and Sam Lavigne on Collaborative Practice

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## ABSTRACT

Tega Brain and Sam Lavigne have made more critical interventions into fossil fuel capitalism than possibly any other artists or climate activists working with digital media today. In transforming digital tools away from their intended commercial use, they have calculated carbon offsets based on pipeline disruption (*Offset*, 2023–ongoing), made botnets that swarm climate change news articles (*Synthetic Messenger*, 2021), and redistributed grant funding to incarcerated climate activists (*Fragile States*, 2022). In addition to their visual projects, Brain and Lavigne have both published widely on their work, from creative re-envisionings of the LaTex white paper to more formal statements on their theories and methods ("All That Is Air Melts Into Air," *e-flux Architecture*, 2024). In this interview with the guest editors of the "Media and Climate" special issue, Brain and Lavigne discuss the aforementioned projects, as well as how their practices are informed by data activism, alternative methods for technology under capitalism, and providing models and interventions that reach beyond the art world.

**Rebecca:** How did you start collaborating around environmental topics?

**Tega:** My background is in environmental engineering, so I'm interested in engineering practices: how they structure imaginaries for the environment and assumptions that are made in these ways of working, for example, how much control we assume we have. I left engineering because I got frustrated by the narrowness of the field, and how many climate interventions and proposals I was

seeing framed the environment as a system to be designed and offered very techno-solutionist approaches. A lot of our current work is responding to these frustrations by exploring the transitions we have to make in very interdisciplinary ways. Our practice is often a kind of response to the mainstream engineering status quo.

**Sam:** But also, we've been focused on human attempts to make the world legible through data and what that does. We often take the idea of datafication to its most extreme degree and see what happens if you push it even further. It's like a classic movie: You explore what the middle or common reality is by pushing it to a logical endpoint.

**Tega:** Along with these explorations of data and quantification, we've also been focused on the economic dimensions of how environments are being shaped.

**Sam:** For example, in the *Offset* (2023–ongoing) series, we explore how carbon marketplaces mean taking the world and transforming it into data, where the data, rather than the carbon, becomes the commodity. So then the question becomes, "What does it mean if everything is read as data and commodified?" With *Offset*, we learned more about the widespread practice of carbon accounting and made our own modest proposals of what else could be counted and made legible through the lens of carbon.

Another work, *Synthetic Messenger* (2021), looks at what it means that algorithmic, AI-driven platforms are the way in which we understand the climate crisis. Our argument is that the fossil fuel industry understands that media plays a huge role in influencing the carbon cycle. A lot of climate offsetting work in many different companies is housed in marketing and PR departments. And these departments are super sophisticated. For example, with Hurricane Helene, some groups of people in the US have been getting hit with all of the hurricane content. They're shown what's happening down in those parts of the country, and other folks are just seeing nothing at all on their feeds. So how do we even cohere around a shared understanding of what is actually happening in this media landscape we're now in? I think it's a huge challenge—how do you do the difficult political work of arriving at the big infrastructural changes we need if we can't even get a shared understanding of that reality? *Synthetic Messenger* was really about that and the reform of our media landscape as climate work. Our media landscape is a climate technology: it's a form of communication and spectacle.

**Corinna:** For me, the throughline of your work is about data. As you mentioned in "All That Is Air Melts Into Air," (*e-flux Architecture,* 2024) the actual commodities behind carbon offsets are what can be measured. You need data because it can be quantified—measured—and made tradeable. So I like the idea you've presented that there *could* be a way to quantify sabotage—in fact, any sort of algorithm will do. That already seems to be part of the logic as far as what gets accepted by industry.

**Sam:** It's not particularly new either. The history of measurement is the history of inventing new commodities, right? The whole point is to find new ways of measuring things. Once things can be measured, they can be commodified.

**Rebecca:** I like what you say about how your engagement with *Offset* is a form of using the scientific method to calculate an environment. How does that change how we think about the

relationship between technology and the "bespoke environment"? You've used a term that I think of as being similar, "expanded geoengineering."

**Tega:** I guess we make work because we get cranky at what we're seeing happen in the world.

If you look at geo-engineering proposals, the work that gets counted as geo-engineering tends to be biophysical interventions like making a machine to suck carbon out of the atmosphere or shooting sulfur into the atmosphere to reduce solar heating. We feel that the cultural and social dimensions of the climate crisis are completely washed over in all these proposals, both from the point of view of their drivers and effects. Particularly in the United States, it seems so difficult to have a conversation about changing lifestyles to shift towards living within planetary boundaries. What sort of social transformation is necessary to reach zero or negative emissions?

**Sam:** I think also with some work in particular, we don't have to have the same exact opinion about all this stuff. I think that looking at climate change through the lens of individual action is wildly insufficient. But this trope of examining your personal relationship to consumption and production choices is such a common way of understanding the environment.

**Tega:** The idea of living with limits, degrowth, or changing day-to-day practices is still so at odds with political ideals in this country. All of the climate literature says the four-day working week is awesome for emissions—let's do it. But again, that's unimaginable in so much work culture. That was the initial motivation for works like *Perfect Sleep* (2021) and *Offset*.

**Rebecca:** *Offset* had a couple of different strategies of sabotage that were designed around appropriating the method of what an offset is and how it's calculated. I was wondering if you could talk more about those strategies and how you formulated them?

**Tega:** Through our earlier work *Perfect Sleep*, we started thinking about histories of worker sabotage. The work takes the form of a sleep app that messes with your alarm. It starts adding minutes onto your wake time every day so that you're actually getting more rest and being less productive—until you achieve total sleep.

The sabotage of the self is something that Sam has been very interested in as a potential lever, as a way of pushing back. If productivity is still so tightly linked to emissions, then methods of sabotage are ways to lower both. So what is that trajectory? Where does that take you? In another project called *Fragile States* (2022), we started reaching out to activists and folks who are doing frontline work. And we did a series of interviews with these folks, specifically choosing people who have been incarcerated for their environmental actions. We wanted to find a way to fund them through some grant money we'd been awarded. We felt that instead using the funds to make a "climate art" piece, the best thing to do would just be to redistribute them.

**Sam:** With *Fragile States*, these folks have been in jail from between six months to up to seven years for doing various acts of sabotage. We were thinking about how to leverage sabotage for its benefits for the carbon cycle, but still be on the right side of the law.

**Tega:** That led us into researching carbon markets and how to catalyze the redistribution of funds at scale. Through all that work, we started thinking about these sabotage methods as potentially akin to offsetting methods.

**Sam:** We've written two white papers. They emerged out of ideas from both *Fragile States* and the *Offset* project. "Time Theft as Avoided Emissions" analyzes industrial sabotage as a form of temporary carbon storage. We first talked to this amazing researcher—who needs to remain anonymous—who's involved in the carbon accounting industry. They mentioned that the most egregious example of carbon accounting is called temporary carbon storage and that this would be a good way to think about sabotage. The forestry industry has come up with a method to calculate carbon credits from delaying the harvesting of forests. So if you delay cutting down a forest for five or ten years, you can get a carbon credit for that. With industrial sabotage, when you shut down a pipeline for a week, you're effectively storing the carbon in the pipe for the duration of the shutdown. So the idea of applying this approach to these different actions started to make a lot of sense. The *Offset* website offers different case studies that analyze actions for their carbon benefits. The analysis are as rigorous as we can make them—definitely as rigorous as what's happening in forestry. There's a lot of wishy-washy math in there, but it's not any more wishy-washy than the math being done in industry.

We like writing white papers. There's something amazing about the LaTeX white paper: if you write something in LaTeX, then it immediately has this incredible legitimacy to it, like it's a design object. When we do these projects where we're appropriating a tool or a system, it's really important to us that we make a good-faith effort to do it in a real way.

**Rebecca:** The white papers are amazing because they mimic this format that allows us to understand how credibility is lent to method. They ask us to think about how science, politics, and economy are not separate modes. This is a way to reconceptualize how we think of points of intervention, agency, and the level at which politics operates. That's something I appreciate about these methods that you're proposing because they're not necessarily tied to the lone actor. They're ways to think about engaging in a system we're all enmeshed within.

**Sam:** With *Cold Call* (2023), we were also thinking about how an audience in a space can be involved. As a form of time theft, we asked audience members to call up oil and gas executives and waste their time.

**Tega:** In that sense, I don't think our work is speculative. Because we're always trying to make an implementation of whatever is being proposed, although on an extremely small scale.

With *Cold Call*, we were also reflecting on "climate art" as an area of work that felt siloed, where the conversation didn't spill over to people who are working in extraction or who are looking at the [climate] transition from a broader perspective. *Cold Call* was our attempt to break out of that echo chamber.

**Corinna:** We're enmeshed in these seemingly credible systems that keep ideas like net zero circulating around. Your work focuses on balance, equilibrium, and baseline scenarios, so I'm curious about why there's still recourse to net zero.

**Tega:** Unfortunately, I think net zero has created this kind of imaginary—involving the vocabulary of legitimate science—that we can offset things. There's not a lot of discussion about just ending fossil fuel use, which is actually the most effective thing to do. Holly Jean Buck has written a whole book on this called *Ending Fossil Fuels: Why Net Zero Is Not Enough* (2021). She argues the drive to shut down all emitting infrastructures hasn't been adequately cultivated, probably because that's a much more radical change.

**Sam:** Just on a conceptual level, reaching for homeostasis is a bit of a bankrupt thought process. It's not really a desirable goal, but it is interesting—that's why, in "All That Is Air Melts Into Air," I went into some silly equations that always end up being zero. The goal of net zero is that everything is fine as long as nothing happens and nothing changes—as long as there's stasis, right?

To go back to the previous question about credibility and method, I think that the jig is up for carbon offsetting. People are more aware now that this is some silly stuff and not legit. On the other hand, I don't *entirely* think net zero is over. What will be over soon is stuff like what happened with Lifestraw Carbon Credits, but whatever replaces it will be equally scammy—like 1 billion venture-capital-funded tech startups that promise to make a machine that sucks carbon out of the air.

**Tega:** A lot of that stuff is scammy. But what remains is that we need to remove carbon from the atmosphere and we need to do it fast. That requires funding in whatever form to reach that technological horizon.

**Sam:** This is one of our points of contention! *[Laughing]* I just don't think that in 2024 you can have an attitude toward Silicon Valley fixing the world. You have to be skeptical—

**Tega:** Of course. And look, if there were a business model that supported the work that needs to happen, we would see it right? To go back to Holly Jean Buck's book, she asks why we aren't seeing much bigger investments and innovations around carbon removal. Why isn't there much more concrete work already happening? And one problem is that there isn't a great business model for it. So like most waste removal, you need massive government programs to support it. Unfortunately, given our current political and economic situation, that's not happening.

**Sam:** I'm not against thoughtful research scientists looking into technological ways to deal with the climate crisis. I find it difficult to believe that any of these companies are going to be able to do what needs to happen at scale. I think the best-case scenario for it being done in the private sector is terrifying. Even if they did succeed a little bit, the amount of power that they would accumulate via this process is something that is fairly terrifying.

**Rebecca:** So much of what you're both saying is that this problem is capitalism. How do we separate technology from capitalism? Can we do that?

**Sam:** To get past associating technology with capitalism is a very difficult but exciting political project. That requires a level of solidarity and political consciousness—beyond, of course, what Tega and I are capable of doing.

**Tega:** The one example of mass solidarity we can point to is from the last century, when a global coalition emerged to prevent nuclear development. Nuclear is one of the few examples of a form of refusal to continue working on a particularly risky technology. But the way things are going, nuclear will be back with a vengeance.

**Corinna:** Even if, as you both say, change requires widespread shifts in cultural consciousness, what role can aesthetic or design interventions still play in challenging the dominant hierarchies that shape our experience in the world?

**Tega:** I often think about the work we're doing through the lens of agency and the types of opportunities that allow for intervention into these issues. In making that performative, we lay out how these systems work, then invite an audience into the intervention. *Cold Call* is a particularly obvious example of how art should do more than just be a place for reflection. If there's been some kind of historical consensus that has gotten us to where we are today, that can be changed, right? There's a malleability in the world that is often overlooked. I hope our work acts as a reminder, or as a pointer, to ways that action can be taken.

*Solar Protocol* (2021–2024) [Ed. note: Tega Brain, Alex Nathanson, and Benedetta Piantella] aligns here through questions of what a low-carbon world would look like, along with questions about what low-carbon media, tech stacks, and aesthetics can look like.

There is a link between the underlying energy infrastructure and then the culture that emerges on that infrastructure, particularly in the digital space. For example, we're familiar with AI imagery and NFTs, which are aesthetic forms that emerge from abundant energy resources. This relationship between the constraints of the infrastructure and the cultural forms that emerge from it gave rise to one goal of Solar Protocol, which is to explore what it would look and feel like to work in a different kind of energy ecosystem.

**Corinna:** I like how *Solar Protocol* forces you to slow down your online experience. Do we always need to be on the fastest website possible? There's no reason to have energy-intensive images flashing across your screen most of the time.

**Tega:** Sam and I also do that in our collaborative practice too, where we're really into default fonts and we don't want to make heavy 3-D, highly rendered worlds. We have a bit more of a raw digital aesthetic.

**Rebecca:** Tega, you said earlier in the interview that your practice isn't speculative. It involves the way that our imaginaries of possibility are grounded in what's happening now. Because it's an aesthetic practice, it becomes possible to speculate on the present as a type of political action to produce a certain horizon of what's possible. Instead, here's a model that's interested in implementation.

**Tega:** Implementation is an important part of my process.

**Sam:** I'm also interested in sharing the approach we're taking with other people and ways to pass along some of our approaches to intervention, resistance, and rebellion. Our approach to tactical

appropriations of different systems and infrastructures involves aesthetic objects, but you don't necessarily have to work this way.

**Corinna:** It's important to speak across disciplines, and to different types of people.

**Sam:** It's also nice to do this kind of work within an arts context because it's where we have a lot of freedom in what we do. You could almost imagine that some of our work, with a little tweaking, could be a business or a startup, but then we'd be highly constrained by marketability, the need to scale, and all the things involved in making a commodity. We have so much more freedom working under the banner of art. And maybe that's where possibilities lie.

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Tega Brain is an Australian artist and environmental engineer, born when atmospheric CO2 was below 350ppm. Her work addresses issues of ecology, data, automation, and infrastructure. She is an Industry Associate Professor of Integrated Design and Media at New York University and her first book, *Code as Creative Medium*, is co-authored with Golan Levin and published with MIT Press. She lives and works in New York.

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Sam Lavigne is an artist and programmer whose work explores issues around data, surveillance, policing and automation. He has been exhibited nationally and internationally at venues like the Whitney Museum, Lincoln Center, the New Museum, Ars Electronica, and IDFA DocLab. He was formerly a Magic Grant fellow at the Brown Institute at Columbia University and Special Projects editor at the *New Inquiry Magazine*. He is currently the Assistant Professor of Synthetic Media and Algorithmic Justice at Parsons School of Design.

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Corinna Kirsch is a historian of art, environment, and computation, specializing in systems and intermedia art practices of the 1960s and 1970s and their afterlives in present-day forms of digital

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Rebecca Uliasz is a scholar and artist whose work centers on the links between digital media, critical theory, and the history of technology and the human sciences, with an emphasis on environmental issues. Her academic writing, art, and performance work have appeared in Springer *AI & Society*, *Review of Communication*, *Journal of Networked Music and Arts*, *The Journal of Media Art Study and Theory*, and *transmediale*. She holds a PhD in Computational Media, Arts & Cultures from Duke University and an MFA from the State University of New York at Stony Brook and is one half of the computational aesthetics research collective *Governance*.