© EUSP, 2020. ISSN 2310-3817. Vol. 9. No. 1. p. 128–143

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On Solarity: Six Principles for Energy and Society After Oil

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Abstract:
This essay critically interrogates the hopes, fears, and fantasies that accompany the future social and political projections of a transition to solar energy. It does so through the elaboration of six principles for understanding solar energy, with the aim of adding context and complexity to the principle energy narrative already emerging around this source of energy. Solar contains a double promise: energy without fuel and infinite energy. But despite the radical possibilities that might emerge from this fundamental redefinition of our relation to energy, solar also contains all manner of limitations — the weight of the materials necessary to create solar power; the blunt reality of existing forms of economics and politics that work to contain the changes solar might bring into existence; and the mechanisms of power that are likely to contain solar within (in Bataille's term) a restrictive

economy. Against the techno-determinist tendency to imagine that the introduction of solar energy will produce radical social change on its own, I argue for the need to articulate and struggle for "solarity," a politics appropriate to the coming challenges of the solar era.

Keywords:
Solar energy, energy humanities, environmental humanities, Georges Bataille, Olafur Eliasson, political theory

0. *Solarity* (sōˈlərĭ-tē)

n. a state, condition or quality developed in relation to the sun, or to energy derived from the sun. Examples: i. *She wanted to better understand this thing called solarity;* ii. *At last, after millennia tarrying with other forms of being-in-relation to energy, they found their way back to solarity;* iii. *If communism = the Soviet + electricity, then solarity = the work of building the common + solar energy*; iv. *While fossil fuels are derived from the sun, they actively impede anything resembling solarity.*

This paper has a simple aim: to identify and critique the core claims concerning solar energy as a replacement energy source for fossil fuels. These claims are not always directly or clearly articulated by proponents for or critics of solar energy, but are emergent ones currently developing alongside the increasing presence of solar energy on the globe.[1] To date, only a small handful of philosophers and thinkers have attended significantly to the theoretical import of solar energy (Bataille 1988; Groys 2015; Salminen and Vadén 2015; Stoekl 2007). At present, the conceptual and political claims being advanced in and through solar (as a synecdoche for all renewables) has been covered over or pushed aside for one simple reason: the hope that solar energy will save us from ourselves.[2] I present here six principles on solar energy in an effort to restart a discussion about solar — one initiated in distinct ways by Georges Bataille and Ivan Illich, if at historical moments defined by very different environmental

[1] A recent article in the Wall Street Journal reports that "in the past decade, solar has grown from less than 1% of the world's electric-power capacity to an estimated 9% by the end of this year [2020], according to the International Energy Agency, an intergovernmental organization focused on energy policy. By 2040, the IEA expects that to grow to 24%, which would make solar the largest single energy source." See Dvorak (2020).

[2] For a critique of techno-utopian hopes being attached to solar power, see Barney and Szeman 2021; and the final chapter of Malm (2016: 367–88).

and political concerns. These principles should be understood as not narrowly about solar, but about the social and political imaginaries and desires that solar defines and determines, both for the present and the futures still to come. I see these principles as providing the bases for an evolution in the energy humanities (Bellamy and Diamanti 2018; Szeman 2019; Szeman and Boyer 2017), which to date have focused more on unravelling the politics of fossil-fueled societies than on making sense of what comes next—solar.

1. Energy as Energy; or, Possibilities

When we commonly speak about "energy," what we are really referring to is fuel: matter that can be made to release energy (see Pinkus 2016). Every form of fuel we currently use demands the production of physical infrastructures to create energy, from fireplaces to nuclear power stations; in the process, as fuel becomes energy, it always leaves a physical trace, from ash and carbon dioxide to spent nuclear fuel rods. Every form of fuel, that is, with the exception of solar power: with solar, we appear to have found a way to cut fuel out of the picture of energy production. At its core, the promise of solar is that we can access energy as energy—energy without the need for fuel, and so also without the creation of any trace of its use.

Solar names the promise of clean energy; it is also the promise of infinite energy. This is due to the sheer amount of energy produced by the sun. More energy hits the surface of the earth in one hour and a half (480EJ) than all energy consumed on the planet in a year. (This equation speaks as much to the reality of the Anthropocentric impact on the planet as it does to the volume of energy produced by the sun: we are already at a point at which human energy consumption can be measured in hours against the production of a star!) And to add to the good news, there's no need to worry about "peak solar" in the way that some have fretted about "peak oil": we can count ourselves safe for the next five billion years, until the sun begins to transition into a red giant.

Solar thus contains a double promise: energy without fuel and an infinite amount of energy. Getting past the need for fuel opens up the possibility of using energy without environmental consequences. No fuel means: no spent fuel rods to bury; no carbon dioxide to manage; no flooded valleys from hydro projects to ameliorate; no torn apart and poisoned land to recondition. In the drama called "sustainability" (too quickly written and barely ever read with much attention to detail), solar plays the role of the hero that appears in the nick of time to save us from ourselves. Solar stands over the dead

body of fossil fuels, sword raised to the sun, leading us forward into a future in which energy is energy, and in which fuel is left for history books for future generations to puzzle over and be amazed by.

But there is yet another promise contained in solar energy, one that threatens to unnerve the drama of sustainability. Another drama, this one called "modernity," has at the heart of its narrative control over and ownership of fuel. In brief, this drama is organized in relation to property. Fuel is finite and in a world that wants ever more of the stuff, control over fuel via the law of property undergirds relations of power, violence, and terror. Access to fuel has been the basis of modern geopolitics; wars have been fought over fuel, and, in an era of mechanized armies, the direction taken by war is often determined by the need to gain access to fuel. Ownership of fuel, whether by corporations or by nation states, generates money and power while externalizing (if not simply forgetting about) the environmental or social consequences of energy production. It is a system whose beneficiaries would forfeit sovereign right only under the most intense pressure, if at all. The power of fuel ensured this.

But how can one own what is infinite? What happens to property in a world awash with energy? And what is the impact of infinite energy on existing forms of geopolitics, which is defined by a competition over resources and which is assumed (at present) to persist indefinitely? Solar panels need to be located somewhere, of course. And yet, the infinite energy promised by solar can't help but lead one to speculate about how else we might live once we have access to infinite, clean energy. Will we imagine different ways of being in relation to one another? To stop worrying about accumulation and possession because each of us will become Sun Kings, energy "prosumers" living in households able to generate their own energy (and even to make money by selling it to others) and so able to do whatever we want when we want, by capturing the energy of the sun?

Energy as (infinite) energy: However we might make sense of the social and political ramifications of this possibility, we have to begin with a startling realization. Until very recently, we have always used energy as energy, worrying little about the repercussions of the fuels we've used; and we have also always treated energy as if it were infinite. It is global warming that has caused us to reflect on the processes and practices by which we transform the energy of the sun into the energy we use, and which has caused us to think more seriously about the implications of using fuels as if they were infinite. When we think about solar we need to be alert to its ideological function, which is to erase fuel and finitude from the picture of energy use. To say that solar promises infinite, clean energy is

to say that it allows us to continue to think of energy in much the same way that we have been, while doing away with worries about how we have lived in relation to energy.

2. Infrastructure, Matter, Scale; or, Limits

Right away it is important to be alert to the lie the solar promise makes to sidestep fuel. On a sunny day, light from the sun can allow one to read outside, and to enjoy the warmth of its rays on one's skin—energy with both physical, psychological, and affective outcomes. But reading inside later that night (or, surfing the Internet; after all, who reads all day anymore?) and staying warm via electric heaters requires the creation of an infrastructure to keep the energy flowing.

What does this infrastructure look like? And what are the consequences of creating it?

Solar requires the creation of solar photovoltaic (PV) systems and the batteries needed to store the energy they generate.[3] The process of creating photovoltaic systems is energy intensive. It also requires the use of poisonous and toxic chemicals, including cadmium compounds, hexafluoroethane, silicon tetrachloride, and lead. In typical descriptions of the solar production process, the link is usually made to the semiconductor industry, which uses a similar set of chemicals in the manufacture of computer chips. These toxins will need to be managed, especially as solar panels are produced at a larger and larger scale. Lithium ion batteries are the ones most commonly used in PV systems. There are a range of issues associated with using lithium, including the amount of water required in its mining process (half a million gallons per tonne of lithium), the generation of toxins in the process of lithium processing (including, in some places lithium is mined, hydrochloric acid), and the colonial displacements that nearly always accompany its extraction. The environmental and political implications of the large-scale use of other elements involved in battery production—cobalt and nickel—are as troubling as all the others listed here (and this is far from a complete list).

PV systems generate direct current (DC). This means that each system also needs to include an inverter to turn it into the alternating current (AC) used by most appliances. Electrical grids need to be

[3] For an expanded account of the information included in this section, see data provided by and the International Energy Association, the US Energy Information Agency, and the United Nations Energy Programme. The specific data included in this section is less important than the widely agreed upon infrastructural demands that will need to accompany a transition to renewable energy.

upgraded to manage two-way energy transfer between small, local sites of solar production and the broader, electrical network. Solarity is as much about turning toward the sun as it is about turning to our existing infrastructures and making commitments to reshape them in fundamental ways. Capital invested in such infrastructural developments is capital that will not be invested in other aspects of our social systems, which in most places on earth demand attention after five decades of neoliberal austerity and privatization.

Solar power has implications for land and water use, too. Affixing solar panels on an already-built house might not have any land repercussions. Creating large solar farms certainly does. Depending on the system in use—utility-scale PV systems or concentrating solar thermal power (CSP) facilities—3.5 to 16.5 acres are required per megawatt generated. Land used for solar is land that can't be used for other purposes, such as agriculture. CSP plants need water for cooling; the best places for such facilities are often in areas with dry climates. Just as with mining in South America's Lithium Triangle (a region that includes Argentina, Bolivia, and Chile, and which is estimated to hold more than half of the world's supply), using water for one thing means that it is not available to be used for other purposes. Put simply, mining displaces farming.

One could go on in this fashion, citing, for instance, the lifecycle emission rates for solar in comparison to natural gas (far lower, but not insignificant). My point here is not to suggest that we cannot or will not make a transition to solar. It is to say: solar, too, makes infrastructural demands and has a material weight (Overland 2019). Those who want to downplay or deny this in order to advocate for solar want to believe that we can obtain a state in which energy is just that: energy. A closer look offers a different narrative, one that cannot be passed off as simply a series of insignificant details.

And what might happen to the total amount of energy consumed in a world powered by solar? If we begin to imagine solar as energy with little consequence—clean! infinite!—might we not begin to (individually and collectively) use a lot more of it? Those communities in the world that have had minimal levels of access to energy could improve (and have improved) their quality of life through solar (Brennan 2017; Cross, Mulvaney, and Brown 2020); those parts of the world that have used far too much dirty energy can get cleaner, even if they, too, might end up using more energy per capita than they did in the fossil fuel era, and might also cause us to set aside other, equally important environmental projects (Buck 2019). Solar energy might give further speed to the Great Acceleration instead of slowing it down. Once we have access to free energy, the size

of economies might balloon, rather than retract and retreat (as is typically imagined), with all the consequences that come with using up the planet's resources.

3. Solarity; or, Development

In the promise of solar also lies its major danger. A solar transition was first imagined as a technological problem, and is now nearly universally framed as an economic one (as of 2018 it is the cheapest source of new power everywhere in the world, except Japan).[4] There is little else to be done with respect to climate change and the energies that power the globe, it would seem, than to continue to push fuel out of the picture and to adopt solar power as a universal condition of the globe. This century might have begun as the previous century did: powered by fossil fuels. The promise is that it will end very differently: it will be animated directly by the power of the sun, thus displacing dirty fuels that leave their toxic traces.

Plus ça change. Varun Sivaram ends his book on solar power, by writing "for humanity to finally tame the sun, solar technology and the solar industry must become even more unrecognizable in the decades to come" (2018: 274). Technology? The industry!? The meekness of Sivaram's call for change is but one example of many in relation to energy transition. The shift from fossil fuels to solar, from energy as fuels to energy as energy, is thought to require no change or shift other than what powers our extant systems (political, social, economic, and infrastructural). Indeed, it is imagined (indeed, hoped) that everything else can be left largely as it is at the present time. The economy would remain capitalist in practice and in its principles (which is to say, organized around growth, profit, and property); it would be managed by the governmental and technocratic apparatus of late liberalism, along with all its exclusions, divisions, and separations of groups and individuals; and legal, carceral, and military mechanisms would continue to dispel challenges to the privilege of the rich and powerful under the sign of "progress," "reason," or the good of the common (one now outfitted with ecologically acceptable electric police cars and military vehicles). While the whole system might remain unequal and unjust, it would at least be powered by a clean energy source — if, that is, as Sivaram tells us, solar technology and the solar industry can change enough to make that happen.

[4] See Bloomberg NEF's "New Energy Outlook Report" (2019). The executive summary of this report can be accessed at https://about.bnef.com/new-energy-outlook/#toc-download.

Solarity, as I define it, is "a state, condition or quality developed in relation to the sun, or to energy derived from the sun." From one perspective, this definition suggests that every condition of the human and non-human constitutes a condition of solarity, since all our energy ultimately originates from the sun. But this is the wrong way to understand what I want to imply here. It is the development of a condition on which the focus should be placed: the active, participatory, and conscious creation of a relation to the solar. This work of development — what we might as well name the politics of the solar — needs to attend to the largely unconscious relation that the human has had to energy over the course of modernity (Illich 1974; Illich 2001). To date, there has been little recognition of the role that energy has played in shaping the form and character of the modern, and in the deepest way possible. The field of energy humanities has done enormous work in exploring the core social import of fossil fuels (Szeman and Boyer 2017). The creation of solarity depends on the continuation and expansion of the critical work of uncovering energy's unconscious operations, of making sense of the directions in which individuals and societies have been pushed and pulled by the infrastructures and social structures built up over centuries — and by those emergent structures now coming into view.

Jean-Claude Debeir, Jean-Paul Deléage, and Daniel Hémery argue in *In the Servitude of Power: Energy and Civilization Through the Ages* that "while there is no energy determinism there is a powerful energy determination at work in all societies [...] the energy determination is itself determined: it is the result of the interplay of economic, demographic, psychological, intellectual, social and political parameters operating in the various human societies" (1991: 13). This energy determination has shaped us into fossil fuel creatures occupying the spaces and moving along the paths and ruts cut into the world (human, nonhuman) by the practices and principles enabled by this fuel. Contra Sivaram, shifts in technology and industry alone aren't likely to reorganize this energy determination; and they certainly aren't likely to do so in a manner that attends to the inequalities and injustices of the fossil fuel era. Put another way: it's not fuel that's the problem of our moment (socially, politically, or environmentally), but the multiple sites of its innumerable determinations; sidestepping the materiality of fuel via the energy of solar does little to unnerve or refigure these determinations, especially if we prefer to remain unconscious about them.

And so, development. Debeir, Deléage, and Hémery tell us that a genuine energy transition would also require "a radical change in the key economic choices which shape civilization over long periods.

What is required is a decisive broadening of political and social democracy, a profound change in individual behavior and educational systems" (Ibid.: 237). Solarity means to undertake the task of development in relation to the sun, to the promise of clean, infinite energy and to the reality of it not being entirely clean. Solarity takes up and takes on the radical transformation of economic choices and of collective and individual behavior that must compliment energy transition. Another word for solarity might be the common, which Pierre Dardot and Christian Laval have recently characterized as "a political principle through which we are able to build the commons, maintain the commons, and sustain the commons. It is, as such, a political principle that defines a new system of struggles on a global scale" (2019: 28). What distinguishes solarity from such articulations of political change is the inclusion of and attention to energy of the sun, in a double sense. As important as the solar energy we want to introduce into our social and individual practices, behaviors, and infrastructures is recognition of the formative role of those other energies of the sun — fossil fuels — around which subjectivity and power have been shaped. Solarity is a form of solidarity that always already attends to the non-human and the earth, to the lightness of limits and the depth of responsibility that comes when we tarry with the infinite.

4. Restricted or General Economy?; or, Ethics

What might the transitions and transformations of solarity look like? To echo Rosa Luxembourg, will the radical change of solarity amount to reform, or will it demand something more like revolution? Can solarity be achieved by nudging our broken, messy fossil fuel system in a better direction, or will the development of solarity require upending the apple cart? Can we get there by (say) banning plastic straws (as one step in a process) or will it require a drastic rewiring of lifeworlds? Might petrosubjects find themselves (at least at first) akin to bulls in a china shop, breaking newly fashioned and fragile social forms with every clunky step and turn?

One of the few thinkers to devote time to theorizing solar energy was Georges Bataille. In *The Accursed Share* (1988), Bataille produces a new theory of the economy, one that begins with the sun and the energy that it produces. "Solar energy is the source of life's exuberant development," Bataille writes, "The origin and essence of our wealth are given in the radiation of the sun, which dispenses energy — wealth — without any return. The sun gives without ever receiving" (1988: 28). This originary dispensation is key to

what Bataille describes as a general economy — the larger economic ground against which the specific human activity of production and consumption takes places. The two economies operate in distinct ways. The general economy is constituted by expenditure and squandering, since the energy of the sun is always in excess, impossible to contain and control. By contrast, the human economy is constituted as a restricted one that operates as if there was a deficit of energy and other resources, and so is organized around the control and management of them. Bataille writes: "Changing from the perspective of restrictive economy to those of a general economy actually accomplishes a Copernican transformation: a reversal of thinking — and of ethics. If a part of wealth (subject to a rough estimate) is doomed to destruction or at least to unproductive use without any possible profit, it is logical, even inescapable, to surrender commodities without return" (Ibid.: 25).

This Copernican change of perspective necessitates a politics of revolution rather than reform. Bataille offers an example of what acting in accordance with a general economy demands. The differences of wealth between India and the United States requires, as a mechanism to manage the excess of American resources, "a transfer of American wealth to India without reciprocation" (Ibid.: 40). (The typical response to crises of wealth around the world — a raise in the living standards — Bataille sees as insubstantial and tepid in the extreme). In arguing for the transformation of restricted economies into general ones, Bataille hoped to "restore wealth to its function, to gift-giving, to squandering without reciprocation" (Ibid.: 38), and so, too, to reanimate forms of justice and freedom lost to restrictive economies.

The epistemological and ontological warning voiced in *The Accursed Share* bears more than a passing resemblance to Martin Heidegger's description of the transformation of the world into a "standing-reserve" (Heidegger 1977), an ontological instrumentality that might well be one of the primary consequences of a restrictive economy. There are echoes of Bataille's insights into the perverse social operations of limitations and scarcity in Ivan Illich's critique of capitalism and its technocratic apparatus as well. For Illich, too, the management of scarcity (especially the originary scarcity of labour) lies at the core of the operations of capitalism, which constantly expands necessity so that its opposite — freedom — is never able to emerge (Illich 2010). The ultimate sign of this operation for Illich is the automobile. Access to fossil-fuel powered vehicles is supposed to make movement and travel faster and easier. In reality, automobiles reshape the world, expanding travel networks so that time spent in

movement is almost nowhere reduced. "Conservation of energy," the ultimate principle of the universe as defined by science (which in Illich's account is largely invented by physicists), affirms the commitment of modernity to scarcity at yet another level, making it appear as the very stuff of the real and not just a sociohistorical development.

Do we imagine solar energy operating within a restrictive economy—that is, as the newest fuel for an economy organized around necessity and scarcity? Or would solar energy help to bring about a commitment to operate within a general economy? The infinite energy of the solar could do either. Infinite energy could extend indefinitely the forms of human luxury produced and enabled by technology. But the potential opening offered by infinite energy is that it might make possible a change from restrictive to general economy, a truly revolutionary transformation, in part because of the way it might undercut existing regimes of property and value.

What would still be missing, however, is the element of risk and the commitment to an ethics that Bataille outlines in his account of general economy. Would the introduction of technology—solar panels—enable the shift from one economy to another? If it does, would this shift be a fiction—not yet truly beyond a standing-reserve, even if there is lots of energy to go around, because it would have been done with the safety net of infinite energy?

5. Spontaneity of the Solar; or, Politics

As new attention has been paid to the sociopolitical import of energy, a new history of labor has emerged alongside it. The most solid form of fossil fuels—coal—turns out to be critical to the ability of labor to strike (Mitchell 2011). By the end of the nineteenth century, coal was needed by everyone (certainly in a rapidly industrializing global North, though not only there), which meant that strikes that impede its transit from mine shaft to factory furnaces quickly garner the attention of the powers that be. Pipelines that move oil and gas make it far more difficult to impede the movement of energy; even if oil could be moved by train (as it was by Standard Oil in the nineteenth century), the dearth of bodies at extraction sites meant that strikes would have been far smaller affairs. (This is part of the reason why it is essential to block pipelines before they are built, as so many brave individuals and communities continue to do in North America and around the world.)

And what about solar? The energy of the sun is more like oil than it is like coal: invisible, anonymous, arriving as if by magic (Szeman 2019). Solar farms and CSP plants will use up land, and it can cer-

tainly be imagined that there will be struggles over whose land is used and on what grounds it will have been turned into a space of energy production. There is also the hope (or fantasy) of individuated energy production, of everyone who owns a space or a dwelling of any kind generating their own power via solar, and so going off-grid and disconnecting from existing infrastructures and everyone else. If the processes of coal extraction enabled labor struggle by creating a commons out of the shared pain and suffering of those who lived near the murk and soot of mines, solar might well have the opposite effect. Instead of producing a new kind of commonality, solar might underwrite a form of energy libertarianism — to each his own, especially once every dwelling is outfitted with 3D printers to generate whatever object one might desire.

Michael Truscello reminds us that we've lived off-grid for most of human history; indeed, close to a third of humanity lives off-grid even today (2017: 249). The grid names power and control. This is why its inverse suggests freedom and autonomy — not the freedom and autonomy of modernity (i.e., the use of fossil fuels to drive or fly wherever one wants), but a pure freedom, a complete autonomy. Might the advent of solar generate an innumerable number of high-tech Waldens, pushing the individuating logic of liberal capitalism to its extreme?

Other political outcomes from solar have been imagined as well. David Schwartzman has long insisted that we are approaching a moment of "solar communism," "a global civilization realizing Marx's aphoristic definition of communism for the twenty-first century: 'from each according to her ability, to each according to her needs,' referring to both humans and ecosystems" (2017: 146). Marvellously and miraculously, the advent of solar solves two big problems at once, positioning human beings in a better relation to nature and to each other. In Schwartzman's view of things, solar does away with the rationale for and support of the military-industrial complex; the (virtually) free energy of solar also does away with scarcity and with the concept (and reality) of value. At its core, this is a techno-utopian vision of the progress of history in line with Marx's "Fragment on Machines" (1993), which argues that the end of capital is connected to the expansion of technological and scientific knowledge, a point affirmed in a number of more recent end-of-labor-theories (see Mason 2017; Srnicek and Williams 2016).

These vastly different outcomes — a globe made up of isolated libertarians versus an ideal ecosocialism — make it abundantly clear that there is nothing like the spontaneity of the solar. The introduction of solar power does not, of necessity, bring with it a sociopolitical

transformation in any given direction. If we want an outcome like Schwartzman's (or something akin to it), political struggle to make it happen will have to occur. Indeed, his articulation of the conditions of "solar communism" in "Beyond Eco-Catastrophism" admits as much (2017). The essay contains a series of imperatives for political action designed to produce the conditions that might make solar work for communism (as in: ecological sustainability must be an objective of class struggle; transnational labor must emerge as a countervailing force to transnational capital—a whole series of "musts"). Such imperatives are an all too common part of today's left environmentalism—an appeal to a big Other (usually, the state) to act in a good way because it should recognize that things are bad. In the absence of attention to the transitions that need to accompany solar transition, the greater likelihood is that we might well be living off-grid as subjects produced and conditioned by the grid—a world of individuals, each possessing infinite power and each in it only for themselves.

Off-grid solarity is a natural way of living, but not in the way usually imagined—that is, closer to nature and sustainable. What is natural or normal about it is that it makes no real challenge to life of the prosumer lurking behind and within discourses of sustainability. What would be truly unnatural would be a radical break with the inertia of fossil fuel infrastructure and the worlds it brings into existence.

6. Here Comes the Sun; or, Modus Operandi

Olafur Eliasson's installation "The Weather Project" opened in the Tate Modern's Turbine Hall in 2003. As the title suggests, the installation was an attempt to explore the experience of weather by bringing it into the museum. The installation reproduced the mist and cloud of London's streets in the Turbine Hall to give visitors a chance to reflect on the ways in which cities mediate their experience of weather. However, this aim of the project was likely lost on most people who came to the Tate. The real attraction was the giant, bright orange-yellow sphere that Eliasson placed near the ceiling, and perhaps, too, the huge mirror on the ceiling that reflected everything back at viewers. It was the sun that came into the gallery and there was no doubt that this was what everyone came to see. Visitors sprawled on the ground, turning the floor of the Turbine Hall into a Mediterranean beach. In the rays of hundreds of mono-frequency lamps, they came inside to find warmth and light, and to commune with a sun that they rarely found present with such

intensity in the skies above London (or most other cities; pollution and fires are causing our star to disappear). "The Weather Project" is a misnomer for this installation. A better name might be: "Solarity."

Reviewers and critics of Eliasson's faux sun pointed to the ways in which it worked to rewire actions and expectations, cutting through the apparent rationality of a busy London workday and providing those who dropped in with "new kinds of engagement with a world fraught with social and environmental concerns" (Frichot 2008: 34). Eliasson himself sees "The Weather Project" as "a subject that implied 'community' and that was open-ended. Predicting weather is one way we collectively try to avoid the unforeseeable, which our lives are always about. The weather is a subject about which a community may also permit a high degree of disagreement: I can say 'I hate the rain,' you say, 'I love it,' and you may still think I am a nice guy" (quoted in Kimmelman 2004). Many critics draw connections to the sublime or to sun-worshipping, and point to Eliasson's implied critique of modernity via the weather: it is now the only place in which city-dwelling humanity (now the majority of the population) ever encounters anything like "nature." Not all are positive about the solar experiment carried out in "The Weather Project." Louise Hornby points out that the installation's focus on "an ecology of individual encounter and feeling situate the experiencing subject at the center, providing an analogue to the human centering that marks the era of the Anthropocene" (2017: 60). Hornby notes that the sun in the Tate offered no warmth and the subjects lying on the ground together were interested in looking at their reflections on the roof—hardly the beginnings of a collectivity organized in relation to the challenges and promises of the solar.

The process of developing a relation to the sun and its energy will involve missteps as much as steps forward. To make it work at all, we need the ideas and insights of a collective that is willing to share its knowledge and be alert to the fact that they can get things terribly wrong, too. The advent of solar energy has been treated as a wondrous silver bullet, bringing about a resolution (in one step) to social injustice and environmental trauma: soon enough (or so we are told) we will all have ample energy and the powers that come with it and it will be clean! If only it were so simple. There are innumerable desires wrapped up in our understanding of the sun and its energies. These extend from hopes that we might adopt different ways of being in relation to one another—ethics and politics announced and described, often in the (ultimately limited) language of imperatives to do something differently—to fantasies of powering extractivist capitalism on the cheap. Solarity should be, has to be,

the space in which ethics and politics are enacted today. Solarity is a structure of desire in which energy, climate, and attachments to infrastructure converge in a contested space of imagined transition.[5] The problems and opportunities that might develop as result of the advent of a solar world, are ones that need to be mapped, clearly and carefully. This is work still to be done.

The most significant outcome of "The Weather Project" might not be an ethics or politics animated through an aesthetic encounter (it certainly hasn't been, if the direction of environmental policy and practice in the UK in the fifteen years since the close of the exhibit is any measure), but something developed in relation to it. With engineer Frederik Ottesen, Eliasson has developed Little Sun, a high-efficiency solar lamp (an amazing conversion of 24% of solar to stored energy), and has also developed a solar-powered cell-phone charger. The Little Sun is sold in the global North in department stores and in museums (including the Tate); the funds generated there support low-cost sales in African countries. The point of the lamps is not just to light a small place with free energy from the sun, but to get users to think about where all the other energy in their lives come from, and to consider, too, the vast inequalities in energy use around the world. If it is not exactly the immediate and unquestioned transfer of American wealth to India prescribed by Bataille in *The Accursed Share*, it is a small step in that direction.

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[5] On the necessity of a truly revolutionary infrastructure, see Boyer (2018).

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