



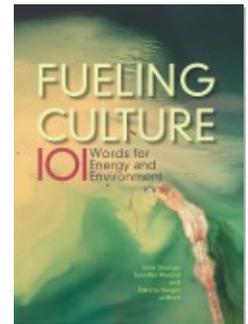
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Fueling Culture

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Solar

Amanda Boetzkes

Gazing intently at the gigantic sun, we at last deciphered the riddle of its unfamiliar aspect. It was not a single flaming star, but millions upon millions of them, all clustering thickly together like bees in a swarm.

—JOHN TAINE, *The Time Stream*

The history of solar power invites us to consider the difference between a form of ENERGY that shapes cultural exchange and a resource that merely fuels production. In the past century, solar power has been touted as a clean alternative to oil and COAL. It has also inspired visions of new social, ecological, and economic systems it might generate. Solar energy is imagined as fundamentally heterogeneous, characterized by how it precipitates complex transactions and conversions that nonetheless preserve homeostatic LIMITS. Indeed, this aspect of solar energy is often touted by critics of the industrial capitalist model that seeks to accumulate a uniform type of energy with the goal of indefinite economic expansion.

The Prodigal Sun

Among the most influential accounts of solar energy is Georges Bataille's *Consumption*, volume 1 of *The Accursed Share*, written after the Second World War. Bataille connects solar energy's abundance to economies of exchange in which luxury and squander are integral and inevitable. Solar energy is fundamental to the exuberance of all living things: organisms amass energy until they reach a maximum limit of growth and then undergo processes of intensified energy consumption, of which Bataille privileges predatory eating, death,

Thanks to Tanner Jackson, who spent a term with me researching solarility.

and sexual reproduction. Thus, by virtue of its ceaseless prodigality, endlessly dispensing energy, illuminating and heating the earth without any need of return, the sun generates in the biosphere rhythms of energy ACCUMULATION, growth, and squander. The most basic form of expenditure is the propagation of vegetation: plants collect energy from the sun to regenerate and extend their spread over the earth's surface. Animals harbor more surplus energy than they expend in the growth of the individual organism. When the calf reaches its maximum growth, its surplus energy is devoted to "the turbulence of the bull" or to "pregnancy and the production of milk" (Bataille 1991, 28). Wild beasts demonstrate an even greater prodigality than agricultural animals, expending energy to hunt other animals. The carnivorous tiger possesses a tremendous power to consume life and so exists at a point of "extreme incandescence" (34). Its inborn solarly calls William Blake to ask, "In what distant deeps or skies burned the fire of thine eyes?" (74). To which Bataille responds, "This incandescence did in fact burn first in the remote depths of the sky, in the sun's consumption" (34). Solar energy is for Bataille the premise of an ecological system whose limits are maintained through violent expenditure.

Bataille's transhistorical account of solarly produces a theory of "general economies" in which forms of wealth, social formations, and cultural practices emulate the sun's glorious expenditure. Aztec rituals of sacrifice, the potlatch of Northwest Coast Native peoples, and Lamaism are forms of social regulation defined through patterns of energy accumulation and radical burn, or "*la dépense*." Bataille posits world wars and atomic detonations as expenditures of energy at a global scale, linked to what he sees as the restricted economy of bourgeois capitalism. Capitalism's failure to acknowledge our innate solarly, and its fundamental prohibition of expenditure, results in the extreme pressure to accumulate energy without waste (in the form of profit) and a collective drive toward planetary destruction.

If Bataille's solar economy offers critiques of Marxism for its focus on utility (it seeks a good *use* of economy) and of capitalism for its incapacity to expend energy, it has nevertheless naturalized the principle of sacrifice, according to Jean Baudrillard (1998, 191–95). While it appears that the sun gives without receiving, in Aztec cosmology the sun gods demanded sacrificial blood: the sun's gift comes at a price and with an expectation of return. The governing principle of Bataille's general economy is not sacrifice, after all, but an incessant process of challenge—"generous" giving provokes the obligation of a counter-gift, driving social exchange toward maximal excess, namely death. Solarly, the demand to expend, persists alongside the sun's expectation; it waits expectantly, burning bright like Blake's tiger. The question remains, in what form will we carry out this return of the prodigal sun?

Solar Community

In the late twentieth century, social theorist Murray Bookchin imagined that solar energy could enable communities to break free of mainstream energy management and its technologies that demand toilsome labor in the service of centralized production and corporate

control. Bookchin advocated technologies that would satisfy material needs and produce ecological forms of association, which entailed restoring equilibrium between humans and the natural world and making the natural world a living, visible part of cultural life (Bookchin 2004, 94). In these decentralized communities, agriculture would be a primary site of intellectual, scientific, and artistic activity. “Ecotechnologies” would counteract the alienation caused by mechanization and dependence upon fossil fuels as inefficient energy sources that require labor-intensive techniques of extraction.

Bookchin privileges solar power because it is an inexhaustible source of energy, freely and equally available. Moreover, solar energy could power liberatory technologies that would eliminate dependency on an exploitative, polluting, and centralized energy complex. In 1971, when Bookchin’s *Post-scarcity Anarchism* was published, many of the technologies he cites were in early phases of development, among them solar panels, solar-powered stoves, furnaces, and water heaters, and batteries that convert solar energy into ELECTRICITY. Today, solar technologies rank among the most viable alternatives to fossil fuels. However, solar energy seems to have been uncoupled from the decentralized postscarcity society that Bookchin imagined; it remains nested within dominant systems of energy production and distribution and must confront the formidable challenge of grid parity.

Renewable Energy and Grid Parity

The study of solar energy led Bataille to conclude that while we are driven to acquire energy, it nevertheless will be and must be expended. A not unrelated dynamic helps to explain why current solar technologies struggle to compete with more profitable but environmentally detrimental sources of power like oil, coal, and natural gas. Recent technological advances in solar power were spurred by late-twentieth-century concerns about peak oil. One of the top oil producers, the United Arab Emirates, inaugurated the world’s largest solar power plant, the Shams 1, in Abu Dhabi in 2013. But the fate of solar energy is still intertwined with that of other energy sources and determined by its profitability relative to other new technologies like FRACKING and oil sands extraction. The economic viability of solar energy is constrained by the problem of grid parity: the cost of a solar photovoltaic (PV) system to produce electricity as measured against the retail cost of grid power.

Obstacles to reaching parity include the fluctuating price of other energy sources, government subsidies, and the market value of PV system parts. While the International Energy Agency predicts that solar energy could supply a third of the world’s power by 2060 (2015), a glut of solar panels and component parts has led to a rapid market downturn. Investors and manufacturers have taken extreme losses since 2008, as the bankruptcy of Chinese manufacturer Suntech Power in March 2013 shows (Bradsher 2013). SOLAR ENERGY SYSTEMS have gone from being an expensive but necessary alternative fuel to a risky investment because their cost is too low to recoup a return of profit. A “carbon price” that factored in the costs of emissions and other environmental impacts for all fuel sources remains little more than an idea in the rudimentary stages of implementation. But

it appears that solar energy requires such a general economy to gauge its objective value. As Bataille's account of solar energy implies, a global INFRASTRUCTURE that drew from a freely available source is inimical to capitalism's restricted energy economy. One can still only imagine a world in which seven billion people had equal access to free power and could thereby take hold of their inborn solar energy.

The Future Burning Bright

For three nights in May 2009, the campus of the University of Central Lancashire was lit up by a solar-powered screen projecting animated images of the sun taken by NASA's Solar Dynamics Observatory. This public artwork by Chris Meigh-Andrews, entitled *Sunbeam*, identifies the crux of solar energy (Gere 2011). The digital screen was installed on a solar tracker array purchased by the university as part of an energy-efficiency initiative. The projection therefore showcased the virtuosity and profitability of solar technology. But the NASA photographs disclosed a deeper awareness of solar energy, as visions of a multi-colored ball of fire punctuated the night sky. The prodigious double of the earth roiled and burned against the grid of solar panels. This sun is more than just a fuel. It is a persistent DEMAND—a social contract to take what is given and to return through expenditure. The FUTURE of solar energy burns bright, but how it unfolds cannot yet be gauged.

See also: CHANGE, ENERGY REGIMES, EXHAUSTION, GRIDS, MIDDLE EAST, OFF-GRID, RENEWABLE, SUSTAINABILITY.