

Three Theses on Energy and Capital

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Speaking in December 2014 to the UN convention on climate change in Lima, India's environment minister insisted with stark clarity that "The world must accept that India's per capita carbon emissions will need to rise rapidly if it is to eliminate poverty" (Lawrence and Wilkes). While the very futurity of "the world" has for a long time depended on a universal cut to carbon output, in the BRIC nations—on whose economic growth both western financial markets and international consumers depend for macroeconomic stimulation—the dirty truth that co-implicates capital and energy sounds out as a political roadblock in the philanthropic crusade against 2°C. Since when has a rapid rise in capital depended upon a rapid rise in carbon—as opposed to say labour time, land, or some other source? Is the 2014-15 crash in oil prices (not to mention the 'new normal' of 2015-2016), and with it overnight shockwaves across geopolitical, monetary, and cultural spheres an expression of the same historical causality that pairs carbon and capital in the global economy? Are we witnessing today the historical apex of the carbon-capital complex, and will the natural history of energy overcome, or exacerbate the economic history of capital?

What I want to suggest here is that this carbon-capital complex—the dizzying truth that poverty is tied to a deficit in energy—will never lay far from most other environmental concerns we might have, since the political history of energy is inseparable from the economic, conceptual, and political history of capital. The following three theses are meant to address the fact that the critique of political economy looks very different with energy at the heart of it and that scholars in the growing field of Energy Humanities are in a good position to put it there:

- 1. Energy and Capital are precise opposites at the level of their concept; but,*
- 2. Energy and Capital permeate the historicity of one another once the latter industrializes the former; hence,*
- 3. A political disarticulation of Energy from Capital is a negation of the latter's historical elasticity.*

1. At the most elementary level, neither capital nor energy is a thing but a concept, or more precisely a name given to a process involving transformation either from a thing or to a thing over time. Capital (whether you are Smith, Marx, or Hayek) is the transformation of M to C to M again, and it has the unique capacity to increase its value in the meantime, while energy names the transfer of force from one state or object to another. Difference sets in once each is observed over time, however, since their temporal character unfolds in opposite directions: *while capital in circulation picks up steam, energy loses it*. Thus while both Bataille and Lefebvre were attuned to the rhythms of political economy, they gave their praise to energy's "general economy" external to the one shaping history. The second law of thermodynamics, from a positivist standpoint on economics, does not apply to capital, even if, as Philip Mirowski reminds us, the scientific ambition of 19th century political economy was to chart the "physics of society" (Mirowski 1).

2. And yet the story of capital is a fiction so long as its intensive and extensive gains since industrialization are told independent from its subsumption of literally unimaginable quantities of non-human energy into not only the production process, but across distributional logistics and modes of consumption too. If commodity (a) is itself not a plastic form of petroleum (chances are it is), its arrival at the market, in addition to its exchange value, is the consequence of an enormous and global energy infrastructure anyways, the growth of which is a governing variable in the growth of the economy as such. We might then pause to isolate typologies of energy under capital in order to get back to difference, but we'll have no luck. Oil prices alone are responsible for the vast majority of volatility in what Dr. Werner Antweiler of University of British Columbia's Sauder School of Business calls Canada's "petrocurrency," which is a mere metonym for that historical expression I am saying wraps capital in carbon's warm embrace.

Growth, too—whose conceptual debt is to biology—gives us another vista onto the dialectic since it names the accretion of energy's domination over labour. Typically, macroeconomists will use the Douglas-Cobb function to isolate the source of growth in a given cycle, where either labour deepening (more labour time) or capital deepening (more investment in the fixed forms of capital like machines) are responsible for gains, but those same economists have been at a loss since sometime in the 1970s to account for upwards of 12% of post-1945 growth. In Robert Ayres and Benjamin Warr's findings, nearly all of the missing input is made up for if energy is represented as an input variable, as a form of work unto itself, in the production process, rather than a factor of labour or capital (196). Energy in general and carbon in particular mediate in Marx has called the general law of capitalist accumulation, or the historical tendency for capital gains to be reinvested not on the labour market but in private stock (such as technology). No business owner in their right mind would replace

machines with workers (labour switching), because relative surplus value is achieved not with more labourers, but more labour productivity. Capital accumulation is both mathematically and historically impossible over time without a linear increase in energy stock.-

3. There's no shortage of cross-disciplinary efforts to correct what Laval economist Bernard Beaudreau calls the “absence of energy from production and distribution theory” (3)—the physiocrats understood it before Smith, while Fredrik Soddy, Georgescu-Roegen, Fred Cottrell, Eduard Sacher, Charles Hall, and Herman Daly have all had a good deal to say about what an energy positive theory of economics might look like. What I want to say is that *the dialectic between energy and capital exceeds the economic science of representation*. Neither a value theory of distribution, nor production-based theories of value include (or need) a historical account of social reproducibility. What more frequent and eventually terminal swings in now cyclical energy crises promise is not a more authentic hermeneutic of capital—for instance one that includes carbon in particular, or energy more generally, in its price—but a historical breakdown in the historicity of capital as an organizing principle of social and environmental exchange.³ In my estimation, this helps explain why so many social and political theorists have recently begun forecasting new forms of political fascism and economic feudalism: those who sit on the receiving end of the carbon-capital complex have good reason to put up physical and symbolic walls around what they have accumulated, because while accountants have routinely externalized energy from their ledgers, everyone else has been slung around by its economic elasticity. Energy's capacity to shape both the forces of production (automation, global logistics, and so on) and alas *the forces of reproduction* (dishwashers, sanitation, food systems, electrification, the digital) has been the decisive factor postponing a logical and terminal crisis in the labour-capital relation, since capital in the postindustrial era is as much a measure of labour shedding as it is of energy deepening.

That same condition, however, has its infrastructures, choke points, off switches, pipelines, and ports of call, the particular sites of which militate against collectivization by definition and design, and are nervously shielded from a “terror” bent on breaking the accord (Canada's controversial Bill C-51 in 2015 confirmed that energy regression is a truly terrifying prospect if you are a capitalist). Every energy crisis

³ In the monograph version of this argument, its debts to critics such as Diane Elson, Paul Burkett, John Bellamy Foster, and German value theorists associated with the journal *Krisis*—Claus Peter Ortlieb and Elmar Flatschart in particular—will be spelled out in full. For a fuller account of what I would like to develop as a specifically Marxist critique of energy, see Diamanti and Bellamy's forthcoming collection on marxism and energy (MCM Prime Press).”

brings the historicity of capital closer to extinction, but without a political disarticulation of energy and capital—which is to say a collectivization of those energized forms of reproduction—there’s no reason to hope for much more than a new age dark in more ways than one.

Works Cited

Ayres, Robert U. and Benjamin Warr, “Accounting for Growth: the Role of Physical Work.” *Structural Change and Economic Dynamics* 16 (2005): 181-209. Print.

Beaudreau, Bernard C. *Energy and the Rise and Fall of Political Economy*. Santa Barbara: ABC-CLIO Press, 1999. Print.

Diamanti, Jeff. “Thoughts on Marxism and Energy for MLG-ICS 2014.” *The Analogous City*. 15 Jun. 2014. Web. 1 Mar. 2015.

Mirowski, Philip. *More Heat Than Light*. Cambridge: University of Cambridge Press, 1990. Print.

Laurence, Jeremy and Tommy Wilkes. “India says carbon emissions will grow as it drives to beat poverty.” *Rueters.com* 5 Dec. 2014 Web. 26 Feb. 2015.