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Energy Ethics: Emerging Perspectives in a Time of Transition

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Part II

STUDIES AND RESEARCH CONTRIBUTIONS

Energy Ethics: a Literature Review 177
Giovanni Frigo

Contesting the Radical Monopoly: a Critical View on the Motorized Culture from a Cyclonaut Perspective 215
Damien Delorme

Desiring Ethics: Reflections on Veganism from an Observational Study of Transitions in Everyday Energy Use 233
Alice Dal Gobbo

Ethical Risk and Energy 251
Bertrand Andre Rossert

Coal Feeds My Family: Subsistence, Energy, and Industry in Central Appalachia 269
M. Joseph Aloi

Human Energy: Philosophical-Anthropological Presuppositions of Anthropogenic Energy, Movement, and Activity and Their Implications for Well-being 287
Roman Meinhold

Comments, Debates, Reports and Interviews

Energy Ethics Outside the Box: Carl Mitcham in Conversation with Giovanni Frigo 301
Carl Mitcham - Giovanni Frigo

Energy Equality and the Challenges of Population Growth 313
Andrea Natan Feltrin

The Energy of Ethics / The Ethics of Energy: a Dialog with Irigaray, Varela and Jullien 321
Federico Battistutta

Reviews

Alex Epstein, *A Review of the Moral Case for Fossil Fuels* (2014) 331
Adam Briggle

Author Guidelines 335

Energy Ethics Outside the Box

Carl Mitcham in Conversation with Giovanni Frigo

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Carl Mitcham is International Professor of Philosophy of Technology at Renmin (People's) University of China in Beijing and Professor Emeritus in the Division of Humanities, Arts & Social Sciences at the Colorado School of Mines, in Golden, Colorado. He is widely recognized as a contributor to the philosophy of science-technology-engineering and is currently at work on a book about the philosophy of engineering. He also reads widely in an effort to make philosophically relevant connections between different approaches to thinking in a world that is now trying to figure out how to live with its love of and worries about energy. Indeed, he had a number of recent books at hand as we proceeded in this Internet mediated conversation to which he occasionally referred (see references at the end).

GF: From previous discussions, I know you have been critical of what you see as an often too narrow scope in energy ethics. In this interview, I would like to explore some of your ideas in this regard along with your thoughts about the current energy transition discourse. Let's begin with your basic claim about the narrowness of energy ethics. What do you see as its narrowness?

CM: I'm honored by your interest in what I might have to say about the energy-ethics connection. But I have not really thought as much about relations between energy and ethics as I should have. And because I'm primarily trying to think about engineering more generally, I'm not

well read in the increasingly significant body of literature in the ethics of energy area. As a result, what I have to say may be quite mistaken and certainly will be overly simplified. Nevertheless, my basic sense is that energy ethics discussions are limited in two respects: first, they fail to consider ethics in relationship to other aspects of philosophy. That is, energy ethics deserves to be part of a more expansive philosophy of energy. Second, the energy ethics discourse tends to presume the value of increased energy production and consumption, focusing more on the idea of how most ethically to produce and consume it.

GF: Could you elaborate on the first criticism, that energy ethics is not as much a philosophy of energy as it might be?

CM: This is actually a two-fold issue. One is that philosophical discussions of energy could benefit from critical reflection on energy from other branches of philosophy such as ontology, epistemology, aesthetics, and political philosophy. As physicist Richard Feynman commented back in the 1960s, "It is important to realize that in physics today, we have no knowledge of what energy is [… T]here are formulas for calculating some numerical quantity [… But this] is […] abstract [and] does not tell us the mechanisms or the reasons for the various formulas" (Feynman, Leighton, and Sands 1963, 4-3). The question of energy thus constitutes an important epistemological and ontological issue. Norbert Wiener's 1948 statement that "Information is information, not matter or energy" also points toward a metaphysical question. With regard to aesthetics, consider also these lines from William Blake's *The Marriage of Heaven and Hell* (1793):

> *Energy is the only life and is from the Body and Reason is the bound or outward circumference of Energy.*
> *Energy is Eternal Delight.*

In 1972 Gary Snyder wrote a small op-ed piece in the *New York Times* taking off from Blake (and perhaps influenced by discussions with Jerry Brown) to argue that contrary to popular mythology "Electricity for Los Angeles is not energy".

Then, of course, there is the notion of energy present in the Chinese idea of *qi* (氣). Just as any ethics is embedded in a more comprehensive philosophy, so shouldn't the ethics of energy be thought in more expansive philosophical terms?

In like manner, given the significance of energy in contemporary discourse, I'd suggest that more general philosophical work being done today could benefit from including thinking about energy. Contemporary philosophy is evading its own responsibilities by not including critical reflection on the nature and meaning of energy in the world today.

GF: What about your second point, that energy ethics discourse tends to presume the value of increased energy production and consumption? What do you mean by this?

CM: In a short article co-authored with a Mines colleague, Jessica Smith, and drawing on ideas from one of my teachers, Ivan Illich, I argued for distinguishing between two kinds of energy ethics: Type I and Type II. To reprise from that 2013 piece, belief in a linear relationship between energy and culture constitutes Type I. Such a belief assumes that energy production and use is a fundamental good. This is a view explicitly advanced not only by Belgian chemical engineer A.R. Ubbelohde in an early contribution to emerging energy ethics discourse in a small volume on *Man and Energy* (1955), where he develops the concept of "energy slaves" and proposes the construction of an ideal *Tektopia* based on such inanimate energy slaves, but by the American anthropologist Leslie White. In White's words, there exists a "law of cultural development" by which "*culture advances as the amount of energy harnessed per capita per year increases, or as the efficiency or economy of the means of controlling energy is increased, or both*" (his italics). Type II ethics begins with skepticisms about any such relationship.

As best I can tell, something like the Type I ethics remains a leading assumption in much if not most energy ethics literature. For instance, even Benjamin Sovacool in his very good and insightful book on *Energy and Ethics* (2013) focuses primarily on the need for a more just distribution of energy resources. His multiple comparative analyses of situations in such places as Denmark, England, the World Bank, São Tomé e Príncipe, Bangladesh, and Ecuador argue against "the view that energy policy and security problems are matters best left to economists and engineers" (p. 2). He rejects markets and technology as in themselves sufficient to correct energy injustices. So in one sense he breaks with what might be called a Type zero energy ethics that would ignore ethics entirely. As he writes in the conclusion of his book, "choosing to ignore the ethical implications of our energy system is not a decision free from value …, doing nothing sides with and validates the oppressive system" (p. 227). But there is a stronger sense of doing nothing than Sovacool's. It remains a distinctly minority position that, to adapt Gary Snyder's idea, along with some redistribution, a reduction in energy production and consumption might contribute to justice.

GF: What do you think of Vaclav Smil in this regard? In a recent profile in *Science*, Paul Voosen described Smil as "perhaps the world's foremost thinker on energy". As a kind of summary of more than a dozen books on the topic, Smil's thick volume on *Energy and Civilization: a His-*

tory (2017) has gotten lots of attention. What do you think about Smil's massive analysis of the dependence of civilization on increases in energy consumption?

CM: I respect and have learned from Smil a great deal, but like most of us he does not see everything. On the one hand, he is quantitatively clear eyed about the history of increased energy use through previous energy transitions (i.e., from the use of fire, to animals, to wind and water, to petrochemicals), what would be required for a new transition to renewable energy, and the unlikelihood of us making such a transition in the near future. Toward the end of the 500-page book which you mention he writes:

> Life's two cardinal characteristics have been expansion and increasing complexity. Can we reverse these trends by adopting the technically feasible and environmentally desirable shift to moderated energy use? Can we continue human evolution by concentrating only on those aspects that do not require maximization of energy flows, can we create an energetically invariable civilization that would be living strictly within its solar/biospheric limits? Could such a shift be accomplished without eventually converting to a no-growth economy and reducing the current global population? (p. 440)

His implicit answer to all three questions is essentially negative, because

> for individuals this would mean a no less revolutionary delinking of social status from material consumption. Setting up such societies would be especially burdensome for the first generations making the transition. In the long run, these new arrangements would also eliminate one of the mainsprings of Western progress, the quest for social and economic mobility.

He is restrained in his questioning, but reveals his skepticism in those whom he quotes. As he notes, Romanian-American economist Nicholas Georgescu-Roegen was not hopeful.

> Perhaps, the destiny of man is to have a short, but fiery, exciting and extravagant life rather than a long, uneventful and vegetative existence. Let other species – the amoebas, for example – which have no spiritual ambitions inherit the earth still bathed in plenty of sunshine.

"In contrast", Smil continues in his own voice,

> techno-optimists see a future of unlimited energy, whether from superefficient PV cells or from nuclear fusion, and of humanity colonizing other planets suitably terraformed to the Earth's image. For the foreseeable future … I see such expansive visions as nothing but fairy tales. (p. 441)

But one remarkable thing about Smil's big book on energy and civilization is how little attention is devoted to the notion of civilization. Energy

is examined from literally hundreds of perspectives. Civilization, however, is explicitly discussed only a few times and never defined. There is no reference to Norbert Elias's great study, *The Civilizing Process* (2000, but first published in 1939). In many instances, Smil seems to equate civilization with society. Incidentally, this failure to distinguish civilization and society is something I would apply to many science, technology, and society programs and social studies of science.

GF: What distinction do you think should be drawn between civilization and society?

CM: As Elias notes, there is a contrast between civilization and culture that is different, especially and for example, in France and Germany. But in general, civilization is the broader term; different cultures (e.g., French and German) can be part of the same (European or even Western) civilization. What Elias argues is that over hundreds of years Europe created a distinctive *habitus* or "second nature" characterized by forms of self-restraint in regard to table manners, bodily waste elimination, even blowing your nose and spitting, sexuality, and especially violence, all giving rise, when transgressed, to feelings of shame and distaste. In his words, "in the course of centuries the standard of human behavior on the same occasion very gradually shifts in a specific direction" (p. x). Although his study focuses on Europe, he sees some version of the civilizing process and emerging practices of self-restraint as something that has taken similar forms in other civilizations. Civilization is fundamentally a form of self-restraint.

One of my personal interests concerns the distinctive form that this civilizing process has taken in China. In the Confucian tradition, for instance, ritual propriety (礼 or *li*), which can also be translated as "etiquette", is of central importance. To be Confucian is not so much to believe certain things as it is to practice certain forms of conduct, the achievement of which it pursued through self-cultivation.

A couple of years ago Edward Slingerland, a professor of Asian Studies at the University of British Columbia and translator of the *Analects*, gave a week-long seminar at Renmin University in which I was privileged to participate. Slingerland has done very interesting social psychological research on transitions from tribal to civilizational orders and suggested a dependence on forms of self-restraint – much more, it seems, than increases in energy production and use. In the course of this work he has developed an interpretation of Confucianism that emphasizes its special contribution to the civilizing process.

Even more insightful, I might add, is the work of Ni Peimin, another translator and interpreter of Kongzi or Confucius. Ni's translation of the *Analects* is perhaps the best translation for English language readers, and

his own personal exemplification of a Confucian way of life can provide especially helpful guidance. (Ni also practices the traditional Chinese art of calligraphy and I was privileged this last summer to visit an exhibit of calligraphy at the Tsinghua University art museum with Ni as a guide. Practicing the art of calligraphy even today can be read as a civilizing process.)

Society, by contrast, is simply a collection or group of people in some way united. It is not normative the way civilization is. Yet Smil tends to use the two as synonyms. For me, certainly, a basic question is whether it is possible to have a genuine civilization that practices self-restraint while seeking to use energy without any constraint at all. Is there not an inevitable tension between these two instances of a *habitus*, where a stronger (unrestrained consumption of energy) will undermine the weaker (self-restraint in other areas)? At the very least, it seems that any 500-page long study of energy and civilization should make more of an effort to examine civilization as a normative concept. Is there not perhaps a sense in which what Freud analyzed as "civilization and its discontents" reflects the way unrestrained energy use undermines civilization?

GF: But you, like all of us, are "profligate" (if I may use the word) in your energy use. You own a car, fly in airplanes, eat meat, and more – at the same time that you suggest a need to practice some self-discipline in your manners. Is there really a necessary contradiction?

CM: The contradiction is at least a felt one in the form of melancholia. And here I want to bring into the conversation William Vollmann and his stunning new two volume non-fiction examination of *Carbon Ideologies* (2018). Vollmann undertakes an immersive engagement with the ways we are failing to respond to the challenge that is upon us, structured as a letter from the past to the future. Since I have these books right here on my desk, allow me to quote at some length from the opening of volume one, *No Immediate Danger*:

> Someday, perhaps not long from now, the inhabitants of a hotter, more dangerous and biologically diminished planet than the one on which I lived may wonder what you and I were thinking, or whether we thought at all. This book is for them.
>
> When I read another embrittled document predicting the disappearance of bison from the American Plains, my melancholy is untainted by urgency. Captive bison do survive, but the great herds have been gone since 1884. And as I write this book about coal, oil, natural gas and atomic power, I do my best to look as will the future upon the world in which I lived – namely, as surely, safely *vanished*. Nothing can be done to save it; therefore, nothing need be done. Hence this little book scrapes by without offering solutions. There were none; we had none. All the same, it may

> not be uninteresting to learn what went on in the minds of buffalo hunters, Indian killers, coal miners, freeway drivers, homeowners and nuclear engineers. (vol. 1, p. 3)

Then 1300 pages later, at the end of volume two, *No Good Alternative*:

> There had only been one hope for us: To reduce demand.
>
> I've told you that we could have done it through birth control or genocide, but the second strategy appealed to no one whom I cared to know, and the first would have been angrily resisted in the name of freedom, or of religion. […] Reader, we might not have loved you, but most of us took joy in our children whose descendent you are; wasn't that cause enough to beget them? In his brave, eloquent and otherwise subversively sensible encyclical, Pope Francis still found it necessary to [reject population control and argue that to blame it] is an attempt to legitimize the present model of distribution. […] I caviled, disagreed, was outnumbered. – Well, a third way remained: Through changes in policy, mores (not to mention improvements in technology and education, which might buy time), we could have deliberately reduced consumption. Had we leavened the present model of distribution with a sprinkle of decency, the affluent would have reduced their per capita use of energy, while the poor could have consumed more – even as total aggregate consumption fell. – *Carbon Ideologies* has told you why it did the opposite. (vol. 2, pp. 627-8)

The calm, mournful, detailed quantitative analysis that rivals Smil (volume one) and richly detailed but understated, elegiac reportage from Appalachia, Bangladesh, Mexico, United Arab Emirates, and elsewhere (volume two) have a cumulative impact that it is difficult to convey. Vollmann's work will go down as one of the great Kassandra laments of the end times.

GF: Do you mean to suggest that Vollmann is an example of your Type II energy ethics?

CM: Yes. Type II energy ethics goes beyond arguing for justice in the distribution of energy or for the more sustainable production of energy from renewable sources. It questions the value of a commitment to energy as a whole. This is not an absolute negative of all energy production and use throughout human history, but (as Hegel might say) a determinate negation of energy production and use as it exists today and has taken hold since the Industrial Revolution. Such a negation immediately creates what can be called the Kassandra conundrum: How to live with a truth that others will not accept.

You know the story of Kassandra, to whom Apollo gave the gift of being able to foresee the future. But when she rejected what we would now call Apollo's sexual harassment, he punished her with the curse that no one would ever believe her. She foresaw the destruction of Ilium

and tried to warn her fellow Trojans about the Greeks hiding inside the statue left outside the city after their apparent departure. But the idea that this beautiful horse would harbor destruction was just too difficult to believe. The Greeks had left. The Trojans had won the war. No one would credit Kassandra's prediction that went against more popular convictions and the status quo. She was unable to forestall the destruction of her homeland.

Over and over again in history people have been unable to think and to recognize disasters that came upon them, sometimes even as they were taking place. There is such a strong psychological tendency to believe that the future will be like the past, that because the sun rose today it will rise tomorrow, that because someone we loved had loved us yesterday this person will love us tomorrow, that since we were successful doing something yesterday we will also be successful doing it tomorrow. As Hitler ramped up the rhetoric against the Jews in Germany in the 1930s, it was just unbelievable to German Jews (and even to many non-Jews) that something like the Holocaust would take place in a nation with a greater percentage of PhDs than any other country in the world and with a cultural heritage that included the music of Bach, the poetry of Goethe, and the philosophy of Kant.

Today it is similar with regard to climate change. How could it be that we are on the verge of a global catastrophe of unprecedented proportions – a catastrophe that is not only destroying biodiversity at a rate that Elizabeth Kolbert, in *The Sixth Extinction: an Unnatural History* (2014), compares to such previous natural extinctions as those caused by asteroid impacts – and yet are unable to act appropriately? How is it that although it is common to think, following Giambattista Vico and Karl Marx, that knowing proceeds from making, we do not seem able to comprehend what we are doing? We treat NASA scientist James Hansen the way King Priam and the inhabitants of Ilium treated Kassandra. We refuse to believe. Things simply cannot be as dire as the doomsayers predict.

GF: Your mention of doomsaying immediately reminds me of the work of Jean-Pierre Dupuy (2012), whom you have previously called to my attention.

CM: Yes, Dupuy is an under-appreciated apocalyptic philosopher. His argument for what he calls "Enlightened Doomsaying" can be read as a conscious acceptance of the role of Kassandra. You can find a short defense of this philosophical strategy in the Olsen, Pedersen, and Hendricks *Companion to the Philosophy of Technology* (2009). But Dupuy has also been involved in seminars with California Governor Jerry Brown discussing what Brown sees as existential threats to the body politic.

Reporting on the Brown-Dupuy connection, an *SFGate* article (by Joe Matthews) quotes Dupuy most succinctly:

> "It is my profound belief that humanity is on a suicidal course, headed straight for catastrophe", Dupuy writes.
>
> Dupuy's solution: "enlightened doomsaying". We must imagine ourselves in the unthinkable future, peering into the black hole of nonexistence so that we might understand our limits and sacred origins. "To believe in fate is to prevent it from happening", he writes.

I'd also recommend a *Vimeo* talk by Dupuy in which he distinguishes between knowledge and belief. In his analysis, our current situation is that we do not believe what we know. We know climate change is leading us toward catastrophe, but we are not able to believe it: the Kassandra conundrum (https://vimeo.com/7937426).

GF: So, are you saying this is what Type II energy ethics leads to?

CM: What I want to say is that if we simply acknowledge the reasonable likelihood of what observers as wildly different as Smil and Vollmann and Kolbert project – that is, the catastrophic or apocalyptic consequences of our current energy regime – along with the simple fact that we are taking little action proportional to the projections …

GF: And perhaps you should reference as well the recent IPCC "Special Report on Global Warming of 1.5° C" (IPCC 2018) and its own rather dire forecasts. But then on the other side, what about the optimism of Al Gore and others that we are in fact capable of reforming the regime: see, e.g., Al Gore and the "Ten Stories to Cheer You Up" in recent *Green Business* Editor's Blog (Murray 2018)?

CM: It is hard for me to take seriously the optimistic stance, which in some ways is just a mirror image of the petro-capitalist denial that animates the Trump presidency. American exceptionalism has produced a country of energy narcissists. I am tempted to dismiss this view with Ludwig Wittgenstein's admonition in *Philosophical Investigations*: "Don't think, but look!" (1967, § 66).

However, let us step back slightly. European philosophy in the modern period has taken on what contemporary Hegelian philosopher Robert Pippin (1999) calls a historico-philosophical diagnostic task, that is, the task of seeking to identify and diagnose, sometime in positive and at other times in negative terms, the culture in which we live. Insofar as a diagnosis points up deficiencies, modern philosophies strive to propose therapies. The cultural failures identified by Rousseau, for instance, let him to argue the need for revolution, and the same happened with Marx. In other cases, however, the philosopher as diagnostician criticizes cul-

tural discontents and seeks to reconcile the world with itself. According to Pippin, this was Hegel's approach: an interpretation of the bourgeois civilization that defended its historically unique achievements. In opposition, Nietzsche and others argued the primacy of discontent but saw a needed therapy as virtually impossible. Then it becomes necessary to try to figure out how to live with a chronic illness, perhaps even (as in Kierkegaard's words) a "sickness unto death". The diagnosis of a looming apocalypse in the modern energy regime presents us with this problem.

My teacher in this regard was Ivan Illich (1926-2002). After experiencing in the 1970s a failure to be able to contribute to a therapeutic transformation of contemporary institutions, Illich shifted toward the cultivation of philosophical friendship as a way to live in a culture on the brink. Incidentally, Jerry Brown has also been influenced by Illich; Illich and Brown considered themselves friends and, on many occasions, shared hospitalities of both the table and home. Illich's *Energy and Equity* (1973) is the original inspiration for the notion of a Type II energy ethics.

Another member of the circle of friendship that gathered around Illich is Sajay Samuel, who currently teaches at Pennsylvania State University and is editing for posthumous publication some of Illich's still hidden texts (*The Powerless Church and Other Selected Writings, 1955-1985* will be published in December 2018 by Penn State University Press). Sajay distinguishes four possible responses to the question of how to live now under the overhang of the modern energy regime: cautious optimism (that we will be able to engineer our way out of the worst of it); heedless optimism (there is actually no problem at all); debilitating despair; and tragic acceptance.

One option Sajay conspicuously overlooks is civil disobedient protest, as enacted by James Hanson and others – including your doctoral dissertation adviser and our mutual friend, Adam Briggle (2015).

But I'm not sure that Vollmann – or, for that matter, Smil – fit comfortably into this typology. Vollmann evidences, it seems to me, a more mournful acceptance, Smil a personal determination to lead his own different way of life "off the grid".

GF: So what do you think about arguments that we need to change our individual behaviors vs. arguments that systemic reforms are what is crucial and individual behaviors are beside the point? In this regard, does what you have mentioned to me as your interest in Buddhism offer any guidance?

CM: Let me simply repeat, with Vollmann, that there are no easy answers. For me, there is a sense in which Buddhism offers a reasonable cosmological framework for understanding our situation. Impermanence is what is real, if I can put it so crudely (although I consider myself a Buddhist, I am not a very good Buddhist).

As we were conducting this conversation, the October 22 *New Yorker* showed up in my mailbox with a review essay by the Indian writer Pankaj Mishra on recent books about Gandhi. Mishra's *An End to Suffering: the Buddha in the World* (2004) is an important (if overlooked) diagnosis of modernity. There have been a number of recent very critical assessments of Gandhi to which Mishra responds by arguing for Gandhi's continuing relevance. Please allow me to conclude with another longish quotation from Mishra's interpretation:

> In "The Impossible Indian" (2012), Faisal Devji … calls [Gandhi] "one of the great political thinkers of our times" – an assessment not cancelled out by the stringent account of Gandhi's fads, follies, and absurdities frequently offered by his critics […]. Prone to committing what he called "Himalayan blunders", he did not lose his capacity to learn from them, and to enlist his opponents in his search for a mutually satisfactory truth […].
>
> Gandhi recognized early on that societies with diverse populations inhabit a post-truth age. "We will never all think alike and we shall always see truth in fragments and from different angles of vision", he wrote. And even Gandhi's harshest detractors do not deny that he steadfastly defended, and eventually sacrificed his life for, many values under assault today --- fellow-feeling for the weak, and solidarity and sympathy between people of different nations, religions, and races […].
>
> Gandhi thought that it was not enough to demand liberation from "exploitation and degradation", as socialist tended to do. In 1925, in an article titled "What of the West?", he argued that those who wished to "shun the evils of capital" would have to do nothing less than wholly "revise the view point of capital", achieving an outlook in which "the multiplicity of material wants will not be the aim of life". Indeed, Gandhi's critique of modern civilization hinged on what he saw as its refusal to recognize limits. To a civilization shaped by unappeasable human will and ambition Gandhi counterposed a civilization organized around self-limitation and ethical conduct. "We shall cease to think of getting what we can, but we shall decline to receive what all cannot get", he wrote. "The only real, dignified, human doctrine is the greatest good of all, and this can only be achieved by uttermost self-sacrifice".

Thanks for your initiation of this conversation. I hope we can continue on other occasions and in other venues.

GF: Thank you very much Carl! I am sure this interview will help the readers of this Special Issue to better understand the complex but fascinating intricacies in the emergent area of energy ethics and spark more dialog on this exciting topic!

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