On the meaning of experimental art in the eye of the anergy storm

Antti Salminen

energy • exergy • anergy • postsustainable • postfossil • experimental art • Bataille

...on a dead planet, with no life to entertain.
Never at rest... tortured by energy... wasted
prodigiously by the sun... poured into space.
A mite makes the sea roar.
—Richard P. Feynman

There is an intractable paradox between life's fundamental untameability and our need to bring about its taming. Wounded, aroused and perhaps ultimately resigned to this wildness, humankind is fundamentally divided, unsuccessful as we are in our desire to simultaneously unleash and tame this force, the energy that can be neither created nor destroyed. The so-called fossil modernity (*circa* 1860–) is the era during which humankind's attempts at taming life have been at their most relentless. This era began with the death of God as diagnosed by Nietzsche and is now drawing to a close. Thoroughly unique and utterly unforeseeable, it was powerful enough to bring about the suprasubjective revolution. As Imre Szeman says:

> [E]very aspect of our culture and society has been shaped by access to fossil fuels, from our ideas about liberal freedoms and the character of social justice to our deepest epistemologies and ontologies. What appears to us as the blunt, boring givenness of everyday life is in fact mysterious and unusual, even if we cannot see it as such.
>
> A post fossil-fuel culture would thus be one in which we would no longer be modern—at least not in the way that we have been. It would be a culture that uses different kinds of fuel. But it would also be one that is shaped and organized by new modalities of being and behaving. A culture that is truly after oil would be one we would find difficult to recognize. It would represent a shift as great as those imagined in the most radical political revolutions. (quoted in Järvensivu, 2017)

Our fossil fuel-dependent modernity suffers from a blind spot that obscures the fact that energy is the prime necessity for all production. However, this blindness would not have gained the same destructive potential it now appears to possess if our notion of energy was not hampered by structural misunderstanding and misinterpretation along with our inability to give a name to the problem. The problem is that in our modern understanding, energy is reduced to a force that can be harnessed to work, to produce and to control and to maintain. This available

part of energy is known as *exergy*. Energy that is not available and cannot be utilised for the benefit of humankind is known as *anergy*.[1] [1] Our failure to recognise and account for anergy is the fault of a conceptual and structural fault inherent in our modern brand of energy blindness. This fault is also responsible for a number of other problems, the latest of them being climate disaster and mass extinction, both generated and accelerated by fossil fuels.

According to the first law of thermodynamics, energy cannot be created or destroyed.[2] [2] This is logical, as the power to both create and destroy is vested in energy itself. That said, the notion of energy as an entity capable of generating work is ideologically biased and of a bourgeois and Calvinist origin. In fact, if we insist on reducing energy to its capacity to deliver work, we are, by definition, reducing it to exergy alone.[3] [3] The word anergy itself already hints at the way in which it has been sidelined during this modern era, dominated by fossil fuels and exergy.[4] [4] As it turns out, the nomenclature could hardly be more misleading: anergy, as we will discover, is what defines energy. But while the word anergy may lead us astray, it also simultaneously leads us towards a new notion of energy, one that is experiential and experimental and has next to nothing to do with the actual science of thermodynamics.

It is an indisputable fact that, in both everyday and cosmic terms, the absolute majority of all energy takes the form of anergy. Anergy and exergy are both measured on a scale that is truly astronomical: 98% of the total mass of our solar system is made up of solar plasma, which has been pointlessly blazing away into space for millennia. The earth receives just a small fraction of all this energy. The earth is incapable of utilising more than a fraction of this fraction, amounting to around four million exajoules, meaning that, every hour, we are the recipients of more solar energy than the entire human race consumes in one whole year.

In ethical terms, there is no distinction between exergy and anergy. Both are truly monstrous insofar as limitless and ever-expanding energy consumption is monstrous. Without a comprehensive and practical understanding of energy, even a small surplus will have a largely detrimental effect on humankind, let alone vulnerable ecosystems. Excess solar anergy that goes unutilised by plants is a force that scorches and kills, while exergy can be used for evil deeds of the most imaginative kind. The real problem facing humankind is that it will need to find a way to balance anergy and exergy within its practices and traditions and to do so in a way that prevents long-term damage to key ecosystems.

The minimum requirement for postmodern experimental art is that it must be non-fossil based. In other words, if it is possible, in future, to make and make sense of art in ways that are not based on the fossil capitalist energy logic and to wholly choose to ignore the global art market, the air travel and mass logistics, the curating sector, the growth economy, the institutional behemoths, the metropolitan outlook and so on, then that art has a chance of surviving as more than just a historic novelty and curiosity. The definition of 'postfossil' is not confined to a mere rejection of the current fossil fuel-dependent energy regime. What is also required is a shift in our notion of energy, with anergy replacing exergy as the dominant notion. There is potential for artistic practice and theory to play a particularly meaningful role in this transition. After all, art in general and experimental art in particular are by definition an anergetic phenomenon.

*

In *The Accursed Share* (*La Part maudite*, 1949) French philosopher and writer Georges Bataille famously divides economic systems into restrictive (*l'économie restreinte*) and general (nonhuman, solar) economies (économie *générale)*. Bataille's distinction is illuminating and certainly a step in the right direction, but it is nevertheless limited to offering an existential-ontological description of how economies manage the volume of energy available to them. It exposes the contrast between the solar economy, characterised by excess and an endless abundance of nonhuman life, and the practices of scarcity that motivate the restrictive human economy. No matter how much humankind would wish to be shielded from the general economy, it will always demand, and claim its share, in death, if not before. The sun, the general economy's ultimate abyss, will not be denied, and the stars never negotiate.

Whether willingly or unwillingly, experimental art in the postfossil era will always be making the art of contracting production and falling consumption. It has no choice but to go and discover its multiplicity of meaning, its pleasure and enjoyment and the energy to create and shape the culture around it from beyond the confines of the value creation logic imposed by fossil capitalism. Postfossil artistic practice and theory arise on the boundary between the restrictive and the general economy,

working it and upon it, on both sides of the divide, using all available means and methods. This is why art that is relevant in the postfossil context has the potential to shine a light on the aporia, the catastrophic incompatibility of the two systems that, in the era of environmental disaster has rather seismic ecological, existential and even ontological consequences.

If experimental art is willing and able to accept its tragic (and at times tragicomic) task of operating on the interstices of the restrictive and general economies, it must also be prepared to open its eyes and embrace energy's twin anergic and exergic nature. For example, in exergic terms, a work of art has an intrinsic value and can be held up as evidence that art has been practised, while in anergic terms, the work of art abides and endures, it is what survives and has not yet been destroyed, momentarily unyielding at the face of its inevitable destruction.

The fossil sacrifice and the anergy storm

As it turns out, there was just enough high-quality fossil fuel to power humankind for around 150 years. It is right to acknowledge that it will have been possible, at times at least, to argue that this gift from our dim and distant past has been used responsibly and well and, if nothing else, in a manner that has brought improvement to the human lot. Indeed, that may have been the aim all along. But modernity's fossil sacrifice was never a sensible one and could never have been so because humankind got its understanding of energy so very wrong, from the very beginning, when the furnaces of the industrial revolution were only just beginning to warm up. The notion of energy as something that can be controlled and used to carry out functions always was and still remains overly reliant upon and persuaded of humankind's wisdom and ability. Energy, consumed exergically and spent in an ostensibly sensible manner over a period of 150 years, has ended up casting a long shadow that now manifests itself as climate change, as waste and as meaningless destruction, as the collateral damage generated by an unprecedented, man-made energy storm.

The modern notion of energy, thermodynamic, causal, rational and with an emphasis on energy's utility, could perhaps be considered to be approaching something vaguely reasonable if only the dream of a restricted and fully controlled system, of the zero-waste perpetual motion machine was not the fantasy that it is. But as it stands, there is now virtually nowhere on the globe you can escape the excesses and shortages generated by

industrial manufacturing and mass consumption. It has become apparent that all fossil-based processes of production and consumption come with a shadow and the one that is perhaps the most difficult to see is the shadow cast by energy. Our understanding of energy as consisting mainly of exergy casts its darkness far and wide and has now become omnipresent—it is enough to make one wish our problems were confined to climate disaster alone. The exergic mindset cannot concede that energy, too, can be waste, and hazardous waste at that, which we will never be able to recycle. It is entirely logical that humankind has sought to actively forget and deny the fact of anergy as a form of waste. After all, when you have sought to reduce energy to exergy alone, that is all you are capable of. And though the oceans may be riddled with plastic, though nuclear waste half-lives may run to millennia and though land degradation may be gathering pace, in planetary terms, anergy is still the most dangerous type of waste we face, and it is turning the earth's atmosphere into an aerial junkyard, invisible to the naked eye. While the exergic-fossil mind continues to view anergy as 'meaningless' and energy as pure exergy, the climate disaster we face will continue to go unrecognised.

A lion's share of anergy escapes, in a more or less safe manner, into the depths of outer space and beyond, disappearing from the human horizon forever, warming the stars as it goes. But under fossil modernity, the vastness of outer space is not sufficient to house all the waste energy. Forgotten like a ghost and thoroughly minimised and denied, the anergic heat continues to haunt the biosphere, humankind included, and so far, no one has come up with an effective method for banishing the creature.[5] [5] In that sense, the fossil era's sacrificial practices are marked by their nearly total failure and have the feel of an inept ritual–no god has received the modern sacrifice, and how could they have, after all, the objective was never to surrender anything but to burn and exploit the Earth's one-off and irreplaceable energy resources in the name of human progress. As humankind sought to establish the secular world order, and fast, it overlooked the fact that it is always dangerous, when making a sacrifice, to ask for anything for yourself. The spirit of capitalism demanded a return for the offering and a return it received: an anergy storm of unparalleled destructive power, the exact nature of which the exergy-obsessed mind cannot or chooses not to comprehend. In other words, exergy creates anergy, which, in keeping with its fundamental nature, it has no choice but to forget. It is waste after all. If the exergic mind could comprehend

not only that it is made of anergy but also that it is oblivious to the anergy it creates in turn, it could not help but see its own actions as anything other than the meaningless destruction it is.

Exergy is generally considered to be satisfactorily under human control but while it can be said to have achieved its aims at least some of the time, anergy has continued, imperceptibly and undeterred, to pursue business as usual. It is therefore not unreasonable to make the assumption that it might be possible to establish the basis for a meaningful connection with nature through non-measurable anergy. If our concept of energy means that we look at measurable exergy and see only the opportunity to profit, we will always end up with what we want: more opportunities, more potential, more comfort and safety, perhaps even economic growth, along with an abundance of the very things that are capable of obliterating all life on our planet, human civilisation included, for an unknown period of time.

It is possible to consider the nonhuman from both an exergic and an anergic perspective. How the Earth's natural phenomena appear will depend on the point of view chosen. Take the exergic perspective and photosynthesis, for example, which will suddenly be revealed as the ultimate benchmark for energy efficiency, while the exergic view on evolution will show plants as the perfect Protestants.[6] [6] In anergic terms, plants have the ability to mount a resistance to the conditions they find themselves living under by adapting to the vast excess energy generated by the sun and channelling it in a series of outlandish ways to create the most fantastical and complex colonies without any thought to quantity, utility or aim. The decisive conflict between nature and humankind does not, in fact, take place between nature and humankind but between nature and the way in which we experience it. Here, the locus of the most potent tension can be found in the very nature of energy itself and our experience of and way of conceptualising it.

Our ability to consume and manage exergy equates to the ability to disregard the consequences of that consumption. When you are stood at the top of the oil pipeline, your finger on the petrol pump trigger, energy production and energy consumption can easily seem like a series of realistic choices. At the source of the pipeline and in the areas it travels through, things will often look very different. The anergic by-products, whether manifesting themselves as waste, habitat degradation or social instability, are often felt where little exergy is consumed and where exergy-centrically built infrastructure is at its weakest or has already collapsed. When you have so much energy at your disposal that you never even need to give it a second thought, the achievements that have been made possible thanks to an abundance of exergy can appear to have come about as the result of human skill, determination and discipline and to have the authority of an irrefutable realism. Obviously, there are the pyramids to consider but even if ancient Egypt had conquered the world and set about building thousands of new pyramids over a period of ten thousand years powered by sheer human brawn, the anergic darkness that now lurks over us would be a mere shadow of its current self.

As Professor Allan Stoekl has pointed out, in the Roman economy there was no real need or desire to exploit fossil fuels as the empire's ancient societies were primarily predicated on and built by slave labour (2007, footnote 35, p. 234).[7] [7] The fundamental error or cluster of errors was ultimately not down to the way the industrial revolution unfolded technologically or the structural reorganisation of labour that it necessitated. The error, the key distinction, lies in the way that our 'fossil sense' is constructed and in the way that our understanding of energy has evolved over time. For the fossil world order to be possible, heat, energy and life had to be separated from one another, both theoretically and in terms of the lived experience. To optimise the exergy necessary for modernisation, anergy had to be forgotten and demonised and written off as an unavoidable loss. Energy had to be understood as a measurable and homogenous resource. And a demon it became, a tormenting force of nature whose ghostly presence serves as a reminder of the limitations of the exergic sense and the fragility of the fossil system. The exergic system, also known as the current fossil-driven manufacturing industry, is not fully under the control of any one entity. It, too, remains permanently at the mercy of the nonhuman cosmic energy circuit. Bataille writes: 'An immense industrial network cannot be managed in the same way that one changes a tyre. It expresses a circuit of cosmic energy on which it depends, which it cannot limit, and whose laws it cannot ignore without consequences' (1976, p. 64).

In this industrial network, unwittingly perpetuating the cosmic energy circuit, the inability to comprehend the meaning of anergy is a symptom or perhaps even the unique and defining characteristic of fossil blindness. On the one hand, a profit and growth-oriented economic system needs a definition of energy that focuses primarily on work and such a system will always actively seek to ignore anergy as nothing more than a loss that is best to be avoided. But no matter how hard you try to forget it,

you will never be able to do away with it completely. On the contrary, obliviousness can lead to unexpected consequences. The climate destruction we currently face can be understood as a phenomenon driven by anergy blindness. If our understanding of energy is limited to exergy alone, it is no wonder that anergy, as gargantuan as it is chaotic, is allowed to escape into the atmosphere in the form of carbon dioxide.[8] [8] In energy terms, the present climate disaster takes the form of a storm that intensifies as it rises.

In *Energy Dreams* (2017), the environmental philosopher Michael Marder mounts a critique of the way the Bataillean focus on excess energy overlooks the (global) energy shortage and inequality, describing his perspective as 'reactive' (2017, pp. 74–77). What Marder fails to take into account is that there actually *is* too much of both exergy and anergy, whether you are looking at things from the perspective of humankind or the wider biosphere. The environmental destruction and the exploitation of the southern hemisphere we see today would not be possible without an abundance of, mainly fossil, energy. Similarly, another very real problem is the massive anergy surplus, which can never be eliminated from the biosphere and which is leading to the present and never-ending climate disaster. It follows that Marder's claim that in wasting the surplus energy we would end up promoting (capitalist) accumulation and (economic) growth is simply myopic.

Ironically, in its ineptitude, modernity proved incapable of sacrificing the energy resources available to it in an efficient or sensible manner that would have allowed it to consume fossil fuels without destroying the environment. As climate change unfolds, fossil anergy is now making a return, haunting its killers like the ghost of a murder victim. What makes it so truly terrifying is the fact that energy cannot be created or destroyed. Bataille was at least intuitively correct in viewing the pointless wholesale wasting of excess energy as a horrific and difficult task. As it turns out, it is incredibly difficult to waste energy as, in the planetary sense, lost anergy does not actually disappear and there is little that can be done to get rid of it. The ghostly manifestation of that waste, the anergy released by spent exergy, remains, tormenting those responsible.

Non-measurable energy and nihilism

As the planetary fossil-fuelled machine goes on the blink, our only option is to look back in our search for the energy we need to sustain life. This means turning to lifestyles that favour energy's anergic and non-measurable aspects in favour of energy as an exact and fully exploitable entity. But neither the measurable nor the non-measurable concept of energy will, on their own, be enough. The classic vitalistic[9] [9] tradition that emphasises the non-empirical and non-measurable aspects of energy is liable to lose sight of the empirical and historical aspects and thus struggle to take into account the idiosyncratic nature of fossil modernity and to offer remedies for the problems it has created. Equally, if we choose to only understand energy through thermodynamics and persist in seeing it as a measurable entity that conveniently lends itself to homogeneous modelling, we will overlook its empirical side. It is precisely this approach that has led to the present brand of exergic nihilism that understands energy purely as a force and a resource for consumption.

The phenomenon of non-measurable exergy is almost completely unrecognised in the West. By contrast, it forms the very foundation of many Far Eastern cultures and their physical and spiritual practices like *budō, certain yoga styles and traditional medicine*. Whether you refer to it as *ki* (Japanese), *qi* (Chinese) or *prana* (Sanskrit), it is clear that this energy also has the power to work, at the very least as a source of holistic wellbeing and physical capability. Although these 'life forces' can legitimately be considered a phenomenon of the Bataillean general economy, they are also intimately connected to the act of breathing and the physical body and, as such, not particularly abstract. There is not much that can be said about them in empirical and scientific terms, but through practice, virtually anyone can experience the effects for themselves. It should be acknowledged that as far as non-measurable energy and the above practices go, both are highly exposed to poor-quality teaching or attempts at manipulation through irrationality. It is not that the concept is particularly 'oriental' or mystical, it is simply that their premise is not compatible with modernity, given that it does not offer an easy fit with the fossil modern world order and cannot be understood as an empirical phenomenon in that context.

In the fossil modern mindset, all energy is considered good and useful and viewed as a source of motivation and action. Take energy engineering studies as an example. It is entirely commonplace for authors to claim that the concept of anergy is not needed as exergy can also be represented as a negative. Fossil subjects tend to place great faith in natural science and their existence is fundamentally focused on maximising their capacity for self-preservation and ensuring their potential for

individual agency at any cost. If you hear this message and are able to heed it, you will often be described as 'healthy' and 'hardworking'. In this sense, the fossil subject is often a thoroughly exergic construct. In the social sense, it is easy to view the fossil subject as rational, productive and clean living, in other words, socially responsible and ethically sound. But surely if the fossil subject really were such a paragon of civic virtue, it would not have succeeded in its systematic and (self-)destructive bid to destroy conditions compatible with life in the course of just a few generations. In truth, far from being a fundamentally exergic being, the fossil subject is a servant to the anergic master. It is driven by a solar madness that gives it its suprahuman powers.

In the anergic flux, pockets of exergy remain the exception, or perhaps even an anomaly. Anergy creates a set of circumstances that, through sheer will and determination, the exergic attempts to fashion into a more suitable guise. The reliance on fossil exergy is perhaps best defined as the active forgetting of and an escape from anergy. This is the critical step that must be taken if the objective is to flee from nature. After all, in energy terms, the totality of the nonhuman, comprising all forms of life and natural phenomena, is an expression of the anergic massive as it smoulders, steams and glistens. In this landscape, the thoroughly exergic human is a strange aberration that thinks real energy is a productive, positive and measurable force. But the anergic massive is not a goal-focused entity. It manifests itself as nature, which, in its senselessness and sheer aliveness, cannot be made rational sense of without extreme simplification. It is too unpredictable, too random, too reckless, too unstoppable to be perceived as anything other than an exploitable resource by the exergic desire, or dead matter, patiently waiting for the human to assume control.

While the exergic power tries to convince itself that its destructive actions are either rational or accidental, the anergistic and non-measurable power is dangerous because of its nonhuman brand of indifference. What anergy's nonhuman nature means is simply that its thirst for life (and hunger for death) is not of human origin, for all that it circulates through the human body, continually and unremarkably, most obviously in the form of heat loss. There is nothing essentially mystical about non-measurable anergy and it is no more abstract than exergy that does lend itself to measurement. In fact, the reverse is true; exergy's measurability is a highly developed abstraction achieved through the lowest common denominator. Anergy's influence is felt across society, just as exergy's is. In *Suicide* (1897), Durkheim defines 'anomie' as the breakdown of social norms and other standards. In energy terms, anomie equates to an uncontrolled release of non-measurable anergy, which results in the collapse of the prevailing social order. The 'anomic suicide', the result of a conflict between the individual's ability to conform to prevailing social norms and the social constraints they live under, is described by Durkheim as a form of energy that makes no active contribution to society: '[there is] for each people a collective force of a definite amount of energy, impelling men to self-destruction' (1897, p. 365). The salient observation here is that the volume of destructive anergy and non-measurable energy can be subject to variation in terms of time and place. As such, a form of energy that evades scientific verification can also have its own history and geography.

Meaningfulness, or the act of experiencing something as meaningful, is the most potent of all forms of non-measurable energy. People whose lives are meaningful and full of meaning, can live well in circumstances that in strictly exergic terms would be considered extremely modest. Exergic rationality displaces and obscures the energy of meaning, diluting it until it is reduced to no more than the pursuit of personal happiness, narrowing it to an act of just-about-managing and, finally, diminishing it to mere survival. But as the philosopher Paolo Virno has pointed out, productive nihilism is not the end result of meaning becoming worn and shrunken but a self-sustaining ideology and a key driver of production (Joseph, 2005, p. 30). Nihilism plays an indispensable role in propping up the fossil rationality (for Virno substitute this for post-Fordism):

> Great European thought, from Nietzsche to Heidegger described the 'nihilism' that characterizes the forms of life outside the stringent rationality of the productive process: instability, disenchantment, anonymity, and so on. Well, with post-Fordism, the nihilistic mentality enters into production, constitutes in fact one of its precious ingredients. To work profitably today in offices and factories, it is necessary to have a great familiarity with the situation and the fragility of all states of things. (Joseph, 2005, p. 30)

There is a link between the loss of energy of meaning and the massive proliferation of fossil exergy that has hitherto escaped theoretical scrutiny. Perhaps it was precisely the enormous growth of measurable energy from the 1860s onwards that allowed the productive life to thrive at the expense of the meaningful life. Modern nihilism relies on energy being overlooked,

particularly as quantifiable exergy obscures all other ways of understanding energy. The physical-exergic rationality could well afford and had good reason to ignore all other forms of energy. In the short term, economic growth, social progress and prosperity continue without help from the concept of non-measurable forms of energy. In fact, it would have got in the way. Exergic efficiency is hard to miss–it is palpable, full of boyish showmanship and comes backed up by the latest science. Above all, within certain parameters, it simply makes sense. Aided and abetted by this set of values, the other aspects of energy, including its apparent destructive potential and lack of scruples, could be easily set to one side. This is what made it possible for modern societies, complete with their corollaries, to be built on fossil exergy and not one opportunity to do so was missed. In a modernity saturated with technology and economics, the collective amnesia in relation to energy and anergy reveals itself in a series of negatives: through the flight of meaning, as mental weariness, in an entirely bloodless brand of individualism and in indifference that comes in many guises.

If fossil exergy is indeed responsible for diluting the anergic energy that acts as the source of our life force, then it behoves postfossil experimental art to investigate to what extent and through what means it might be possible to bring about corrective action. It would not be the role of the experimental to generate or consume energy but to recognise and create spaces and events that sustain, diversify and add new colour to all forms of life, both nonhuman and human. It would not be inconceivable for this to be achieved by even an individual work of art. As the poet William Rueckert put it in his classic essay that first coined the term ecocriticism, 'Literature and Ecology' (1978), 'Poems are a verbal equivalent of fossil fuel (stored energy), but they are a renewable source of energy' (1978, p. 80). Any work of art can surely achieve this, by storing non-measurable energy and to expend it without depleting it. In other words, a successful work of art both creates and wastes energy anergically: without generating it and without consuming it.[10] [10]

Experimental one-offs

Anergy does not perform labour but sometimes it does perform work and it also creates. Fossil exergy is reasonably predictable but if the anergy generated by fossil fuels is sufficiently powerful to have created a phenomenon as vast as climate change that has left humankind semi-surprised and entirely and chaotically

unprepared, then it must mean that the anergy released by fossil fuels has been working tirelessly. As the vast majority of our energy blindness is anergy un-awareness, its efforts went unnoticed for a long time.

Understandably enough, our exergy fixation has created a magic circle within the confines of which it is almost impossible to comprehend how it might be possible to work without that work leading to countable outputs and measurable outcomes. Under fossil capitalism, labour that serves no exergic purpose is surely considered worse than laziness—which is why anergy as a phenomenon contains something that in the fossil capitalist mindset does not qualify as a phenomenon in the first place. This is why postfossil art, especially if it also sets out to be post-capitalist, must orient itself towards anergy.

The experimental-anergic relationship with energy can be examined in the light of Krzysztof Ziarek's description of avant-garde art as 'forcework' capable of achieving *aphesis* (from the Greek ἄφεσις), which denotes a form of release and the reconfiguration of social forces. According to Ziarek, this forcework is the opposite of manipulative and technical manifestations of power and is, ultimately, powerless (2004, p. 22 and p. 54). In this sense, artistic 'forcework' would, at least, to some extent, run counter to the exergic notion of being and experimental art and could cultivate an anergic understanding of energy. Ziarek's Heideggerian interpretation seems promising but falls short of making the connection between exergy and anergy and between the general and the restricted economy and also fails to account for the pitfalls and historic idiosyncrasies of the postfossil crisis.

Energy is at base an ontological notion and, as such, also a political one. With energy's ontological and political dimensions obscured by our fixation on exergy, our most fundamental understanding of the subject and the object, and by that token of the artist and the artwork, are ideologically and ontologically coloured and distorted by the exergic dominant. The effort of maintaining a distinction between human subjects and nature subjects also requires unfathomable amounts of external and exergic energy input. If this is the case, the subject-object problem is not primarily a transcendental one (as in the Kantian interpretation) or one of production and materialism (as in the Marxist interpretation). At its most fundamental, it is a problem of energy. During the past century and a half, exergy, unstoppable and victorious, has created and sustained the existence of the universal 'fossil subject'. Had it not been for the unparalleled energy density of oil, it would not have been possible for the

Western subject to preach about its own wonderfulness and practice it upon others on quite such a planetary scale. Fossil exergy was the essential prerequisite for the migration and spread of the European universal subject. Without it, the defective Christo-European nature concepts could not have been disseminated so quickly and with so little resistance. In conditions where exergic energy is limited and the energy balance is skewed, it is simply not affordable to create a distinction between the subject and the object–the individual identity inevitably becomes enveloped in the surrounding natural environment and nonhuman forces, weakens and may even disappear altogether. Where energy is largely non-measurable and anergic, as it almost invariably is outside the sterile urban West, the subject has no recourse to self-universalisation; it fails to remain solid and intact, and separate from its objects.

This is precisely why the delicate subject-object problematic is a pseudo-problem. The interest in this pseudo-problem is confined to a naturephobic philosopher aristocracy, and the solution to it can be discovered at the edge of any forest. This pseudo-problem is also why proponents of the object-oriented ontology, Graham Harman and Timothy Morton among them, are simply and fundamentally mistaken. The universal subject fretting about its objects is, at its core, a fossil trauma, a growth filled with ancient undead light. It is an energy blockage, where the exergy-powered subject-object paring has replaced life's anergic and foundationless foundation. It is for this reason that the object-oriented ontology's basic premise about the primacy of objects and the aim to refine and acknowledge the conception of objects also ends up in the trap of fossil modernity. In nature, there can be no objects without the administration of violent reductionism, abstraction or injections of energy. For this reason, as it lets go of the fossil ontology, the experimental reaches towards an asubjective (and by the same token aobjective) concept of ecology.

Where exergy simplifies and objectifies, seeking to flatten, reduce and dominate, anergy delivers singularity. Anergy creates untranslatable and unbridgeable differences because the range of phenomena it gives rise to is not unlike the deep-rooted, contradictory and purposeless forces of death and sex, which are ultimately unconstrained by any rules or standards. The impulse to surrender and to relinquish oneself, to leap and to expire is usually unproductive, risky, impractical, delicious, pointless and illegal. By contrast, exergy's expectation of order, organisation, cleanliness, discipline and preservation is

characteristic of a restricted human economy. The nonhuman has the capacity to encompass both: birds build their nests and the ants their hills, a storm destroys the nest and a bear tramples the anthill. And yet you would need to be possessed of a particularly human-centric form of narrow sightedness to claim that, in doing so, the storm and the bear are acting unethically or that the bird or the ant are at 'work'. In the same vein, experimental art is not primarily or fundamentally an exergic act of work. Instead, it is an act of being active and an act of creation. And through that act of creation it connects and blends into the singularities that in turn lend uniqueness to the process of creation.

The scientific-experimental method, if confined to its own criteria, has nothing valid to say about the singular and the non-recurring. A method is scientific only if the phenomenon it observes continues to repeat itself in an identical manner regardless of the circumstances surrounding it and if it can be satisfactorily isolated and turned into a study. If it turns out that the experiments and results cannot be repeated and thus confirmed as valid or invalid, the study will not have been a scientific one. Therefore, if it is deemed desirable for experimental art to be able to distinguish itself from the science-mediated understanding of the world, the opportunity for that lies in studying and testing singularities arising from a range of different circumstances and being tested by them in turn. The choice to work with anergic singularities is, virtually by definition, an experimental practice, as there can be no prior experience or manifestation of that singularity. Consequently, this style of practice may turn out to have the capacity to surprise, to alter conventions and to dissolve calcified habits. In its unpredictability and the inescapability of its unpredictability, it is ideally placed to expose those experiencing it and open itself up to the nonhuman, the most important actor and ally of postfossil art. Any study into anergy's singularity is by definition not a scientific pursuit: the collection and cultivation of non-data remains the preserve of experimental art.

Resourcelessness and postsustainability

A resource-centric approach, as well as it may at times be meant, almost invariably imposes a worldview that is largely dominated by exergy. Reserves that are unpredictable, serve no purpose and cannot be converted into work can occasionally be transformed into a new resource through, for example, a new technological breakthrough but, as it stands, it is devoid of the known potential

that defines a resource: a resource without a purpose can certainly keep busy, tinker, work and even create, but it cannot be compelled to do anyone else's bidding, it cannot transform itself into something familiar, something necessary, so as to allow for its energy to be utilised in a controlled manner. Every reserve is a living thing or at least connected to life in one way or another. But in order for the life of the reserve to be taken and converted into a resource its very aliveness must be conceptually and biopolitically paralysed and simplified, if not done to death outright. Put another way, the current form of fossil capitalism is a necropolitical (see Mbembé, 2013) war machine. Its objective is to convert (fossil) energy into exergy and use that energy against all living things.

The perception of the nonhuman as a reserve of different types of resources is also a one-dimensional hybrid that is overly reliant on human ability, skill and reason. The crucial error lies in how the role of the human has been interpreted. Humans are not possessed of a force that would allow them to utilise resources as resources; that power must be taken from the nonhuman. Blinded by its fixation on resources, the naively exergic mind forgets the fact that the energy humankind utilises in order to benefit from the nonhuman is also nonhuman in origin. What the fantasy of a dumb natural realm, patiently awaiting exploitation by humankind obscures is the observation that it is only the abstract concept of 'resource' and the human activity underpinned by that concept that humankind can legitimately claim credit for and it has played no part in creating the energy required to maintain and replicate that fantasy.

Another angle is to observe how the supremacy of the resource-focused thought process structures our experience. Energy units, monetary units and their like universalise that experience towards the smallest common denominator and claim to serve a greater common good to benefit all humankind. This 'ethical' form of resource-focused universalism ontologises the lowest common denominators and dismisses the possibility of differing experiences. The resulting worldview is a bloodless one, lacking in lyricism and beauty—and as such an ideal fit with the incumbent fossil capitalist regime. Anyone who is persuaded that things can be improved by tinkering at, raising awareness of and adding an element of democracy to this resource-focused world view are still trapped in the beautifully air-conned cell of productivistic metaphysics.[11] [11]

The third perspective links in with the first: it is possible to imagine, wrongly, that energy and matter are passive to the

extent that if you were to wrap them thickly enough in plastic they would become understood and under control. However, fossil capitalism has no real control over its nonhuman foundations and when the nonhuman kicks back, its response is suitably seismic, ranging from climate chaos to oceanic slicks of rubbish the size of continents. This is not just about climate destruction but about the collective collapse trajectory along which virtually all resources vital to human civilisation are currently travelling. Amidst a massive attempt to control all matter and energy, there appears to be a near total failure to comprehend the fact that the nonhuman has almost no need of the human, but human beings are forever reliant on the nonhuman, from their first breath until the final croak. Anergic nature, humankind included, comprises only that which can be neither measured nor controlled beyond a fleeting moment. This implies that it is largely impossible for it to be grasped through reason or the understanding that reason facilitates, as the bounds of reason, too, are overwhelmingly defined by the nonhuman, not the human. While exergic work has its silent resources, anergic creativity has its living reserves.

Compared with cultural constructs fully dependent on the restricted economic model such as Western science and economics, experimental art that aspires to a postfossil future is relatively well-placed to accept this challenge. Anergy-aware experimentalism is not a resource-driven pursuit and it is perhaps best understood using the term *postsustainability* as coined by Allan Stoekl. Stoekl argues that it is not enough for humankind to come to its senses and start acting reasonably in its relationships with nature. As long as we continue to treat the elements as resources that we ought to consume prudently, the game will eventually be over. The subject that promotes sustainability is no better than the autonomistic subject isolated by fossil fuels:

> [S]ustainability and autonomism... are both technological solutions to the dread of human temporality and mortality. Both entail an ideally stable subject that conceives of a natural world as a collection of resources at Man's disposal. The only difference is that the autonomist world is one that emphasizes speed, movement, consumption, and destruction, while the sustainable one stresses consumption, conservation, and recycling. In both cases

> the standing reserve is there, at the ready; raw materials are there to be used for Man's survival and comfort. (2007, p. 139)

A resource-focused relationship with nature that commodifies and objectifies is in itself problematic. It cannot be fixed through equitable resource distribution or even through a (universal) recognition of resource scarcity. In his speculative postsustainable (and orgiastic, as Stoekl puts it) society, the focus will not be on calculating the available natural resources. Instead, (environmental) sustainability will be seen as a by-product of waste and profligacy, and environmental sustainability will not be thought of as an objective or end goal but as a mere by-product.

The exergic rationality excels at preserving, stockpiling, promoting and increasing human potential. This is a world, fully created and sustained by natural resources, that has embraced sustainability as a sensible goal and where the space afforded to the autonomous nonhuman is only as large as the nearest nature reserve. By contrast, an experimental approach, in full awareness of the danger posed and the gift proffered by anergy, reaches beyond the rational resource focus towards nonhuman desires, which are often detrimental if not damaging to the exergic rationality. These include the act of spending without return, the primacy of experience, unbridled play and the twin shadows of eroticism and death. By using these gestures and endeavours it knowingly (and sometimes accidentally) constrains its own desire for control and prevents destructive energy from amassing in human hands. In other words, experimental art has the potential to replace a world that is being exergically undone with one that is anergically created anew by keeping faith with its rhythms and flows, its winds and its wisdom and by allowing itself to one day be destroyed by them.

*

For the reasons set out above, the postfossil world will not be built through exergic labour, it will be created. That is why experimental and postfossil art will have a particular role to play in finding and cultivating the meanings and sensitivities needed to overcome productivism. If postfossil avant garde art can help us to develop a new understanding of anergy as a creative force and turn it from a destructive and hazardous waste material to a life force capable of uniting the human and the nonhuman, then the resource and human-centric form of metaphysics propagated by the fossil modern will begin to lose its power.

To recap:

In order for environmentally committed experimental art to overcome the metaphysical constraints of our present concept of nature inherited from the fossil modern, it will first need to take three steps forward before it can make the decisive leap. 1) The experimental ethos must recognise its ties with exergy and directly challenge productivist structures by creating new art that is based on and supported by the flow of anergy. 2) Artistic practice will not be primarily and narrowly understood as a function of the restricted economy (i.e., as a 'social' phenomenon). Instead, it will assert itself on the boundary of the general and the restricted, working on it and upon it. 3) Commit to a departure from the pursuit of 'environmental sustainability' in favour of postsustainable practices that eschew intentional and goal-oriented forms of environmentalism and instead focus on a new brand of expenditure that does not rely upon the consumption of non-renewable resources and is characterised by a commitment to unproductivity. If these steps are taken, we can then ask the following: can experimental art help us to live in ways that are driven by the law of energy conservation, in ways that are non-destructive and non-productive, while we embrace both the restriction and its shadow and the hunger for profligacy and the hunger for waste?

We must ask this question now, amidst the rising storm and at the mercy of that storm, if we are to ask it at all.

Notes

1 Readers with a knowledge of thermodynamics might wonder why anergy, instead of entropy, is used here. Entropy cannot be used to replace or to explain anergy, as entropy is a state function and fundamentally stochastic in nature. Moreover, entropy can only be used to describe energy within closed systems and systems that are thermodynamically predictable to at least a degree of accuracy in accordance with the first law of thermodynamics. The Earth can only be characterised as such in physically idealised terms. It follows that entropy cannot be seen as a part of energy in the sense intended here and anergic dynamics cannot be used to denote entropy growth without significant methodological violence.

2 $dU = \delta Q + \delta W$.

3 The philosopher Howard Caygill has shown (2007) that the thermodynamic understanding of energy (see Carnot, Davy, Joule and Watt) is created under the terms set by capitalist productivism, industrial revolution and engineering. Thermodynamics as a scientific discipline originally came about due to the need to improve the efficiency of coal-powered heat engines or in other words to maximise the economic benefits of the energy generated.

4 In anergy the Greek word *energeia* (ενέργεια) is prefixed with an alpha privative, which negates the root.

5 It is ironic that anergy's gift to human- and animalkind is in the form of heat, while the point of exergic productivism is to minimise heat loss. As Caygill appositely puts it, the maximisation of heat is the minimisation of work and the maximisation of life (2007, p. 21). We have the ability to accurately measure temperature and its fluctuations but our experience of it, its life-giving and life-taking significance, is down to our own interpretation.

6 The sudden and massive shift towards fossil modernity meant that measurable energy displaced perhaps the most important form of non-measurable energy, that of the vital force. As the biologist François Jacob has it: 'At the beginning of the 19th century, an organism expended vital force in order to perform its work of synthesis and morphogenesis; at the end of the century, it consumed energy' (1973, p. 195).

7 This, despite the fact that Egyptian inventor Hero of Alexandria (c. 10–70 CE) had created the technology needed to run a steam engine: Hero's *aeliopile*, was a simple but fully functional steam turbine.

8 There are of course notable exceptions to this amnesia within modern philosophy, including the work of Henri Bergson and Alfred North Whitehead's process philosophy. Bergson, by way of example, highlights how life has a rhythmical way of slowly accumulating and then suddenly discharging energy. As far as he is concerned, however, this does not constitute anergic or non-measurable loss or mean that the problems associated with such loss ought to be taken seriously. For him, it means that the task is to ensure that matter, by a slow and difficult process, stores energy and holds it available at need as kinetic energy (2011). And yet the ideas of philosophers such as Bergson and Whitehead, with their emphasis on the non-measurable life force, can be understood in the context of the non-scientific continuum that offers a fragmented countertradition to the exergistic and scientific notion of energy.

9 The idea of a life force that is both specific to humankind and capable of being cultivated appears in philosophical texts from the early modern era and can still be glimpsed in Leibniz, Goethe (e.g., *Metamorphosis of Plants*), the early German romantics (notably Schelling) and even in Kant. It is not known to have been incorporated into a system of physical exercises and it was certainly never considered part of general knowledge or a deep-rooted tradition (like *tai chi* and *qigong* in China).

10 This not an attempt to create a perpetual motion machine. It is clear that experimental practices committed to 'profligacy without production and consumption' will always be exposed, inevitably depleted and finally exhausted, always forced to yield to their own undeniable finiteness. It should also be noted that art is not the only form of human activity to have this capacity: sleep and sex are also forms of non-destructive creation.

11 Far from speculative, this metaphysics was originally a matter of technical and scientific fact. Cf. Rabinbach: '[M]odern productivism–the belief that human society and nature are linked by the primacy and identity of all productive activity, whether of laborers, of machines, or of natural forces–first arose from the conceptual revolution ushered in by nineteenth-century scientific discoveries, especially thermodynamics.... Of particular importance was the contribution of the German physicist and physiologist Hermann von Helmholtz who elaborated the universal law of the conservation of energy in 1847. Helmholtz, a pioneer of thermodynamics, argued that the forces of nature (mechanical, electrical, chemical, and so forth) are forms of a single, universal energy, or *Kraft*, that cannot be either added to or destroyed' (1990, p. 3).

12 This list of references again demonstrates the regrettable or perhaps even desperate male dominance that continues to pervade the field of energy humanities. Prompt improvement is desirable.

References

Bataille, G. (1976). *La Part maudite*. In Œuvres *complètes VII* (pp. 17–137). Paris: Gallimard.

Bergson, H. (2011). *Mind-Energy: Lectures and Essays*. (H.W. Carr. Trans.) Charleston: Nabu Press.

Caygill, H. (2007). Life and energy. *Theory, Culture & Society*, *24*(6), 19–27.

Durkheim, É. (2006). *On Suicide*. (R. Buss Trans.) London: Penguin.

Jacob, F. (1973). *The Logic of Life: A History of Heredity.* New York: Pantheon.

Joseph, B. W. (2005). Interview with Paolo Virno. *Grey Room,* Fall, 26–37.

Järvensivu, P. (2017). Post-fossil fuel culture? *Mustarinda*, *5*. Retrieved 8 April 2018 from http://www.mustarinda.fi/magazine/post-fossil-fuel-culture/post-fossil-fuel-culture.

Mbembé, A. J. (2003). Necropolitics. *Public Culture*, *15*(1), Winter, 11-40.

Rabinbach, A. (1990). *The Human Motor: Energy, Fatigue, and the Origins of Modernity.* New York: Basic Books.

Marder, M. (2017). *Energy Dreams: Of Actuality.* New York: Columbia University Press.

Rueckert, W. (1978). Literature and ecology: An experiment in ecocriticism. *Iowa Review*, *9*(1), 71–86.

Salminen, A. & Vad*én, T. (2015). Energy and Experience: An Essay in Nafthology. Chicago: MCM Press.*

Stoekl, A. (2007). *Bataille's Peak. Energy, Religion, and Postsustainability*. Minneapolis: University of Minnesota Press.

Ziarek, K. (2004). *Force of Art*. Stanford: Stanford University Press.