Climate Change and the Joys of Punishment with David Deutsch and Friedrich Nietzsche

Jed Lea-Henry

Department of Humanities and Social Sciences, Vignan University

As counterintuitive as it might sound, "sustainability" and the commitment to "problem avoidance" rather than "problem solving" are, at least according to David Deutsch, very dangerous ideas. And in this regard, our near-universally pursued policy direction in response to the problem of global warming—that of trying to limit carbon emissions by means of limiting economic activity—is also very dangerous because it represents, at its core, a commitment to both those ideas. The best explanation for why we are making this mistake is the "debtor-creditor" and "pleasure-driven" conception of punishment, as it is explained by Friedrich Nietzsche.

Keywords: climate change, sustainability, Nietzsche, Deutsch, punishment

1. Introduction

As counterintuitive as it might sound, "sustainability" and the commitment to "problem avoidance" rather than "problem solving" are, at least according to David Deutsch, very dangerous ideas. And in this regard, our near-universally pursued policy direction in response to the problem of global warming—that of trying to limit carbon emissions by means of limiting economic activity—is also very dangerous because it represents, at its core, a commitment to both those ideas. The best explanation for why we are making this mistake is the "debtor-creditor" and "pleasure-driven" conception of punishment, as it is explained by Friedrich Nietzsche.

Corresponding author's address: Jed Lea-Henry, Department of Humanities and Social Sciences, Vignan University, Vadlamudi, Andhra Pradesh, India, 522213. Email: jedlea_sh@vignanuniversity.org.

2. David Deutsch & the sustainability fallacy

David Deutsch is a physicist who pioneered the studies of multiverse theory and quantum computation...he also believes (correctly) that we are mistaken in our understanding of climate change. He is not a climate "denier" as the term has come to be understood (someone who denies the role of human impact on the warming of our planet). He accepts and endorses the science that links Carbon Dioxide (CO₂) admissions and the warming of the biosphere. Where he disagrees with the consensus, is on the philosophical implications of that scientific reality—that is, what we should do in response to climate change.

The problem is the idea, now near-universally embraced, of "sustainability." To understand Deutsch's objection to sustainability he first takes us back on a short history lesson concerning human progress, beginning with the origin of our species in the Great Rift Valley. Just as all other species do, we first evolved in that corner of Eastern Africa with genes specifically suited for surviving within that environment. We lived, (once again) just as all other species do, the "natural," "sustainable" existence for which our genes intended. And it was "sheer hell[!]", "nasty, brutish and short doesn't begin to describe how horrible it was." ¹ But more importantly, it nearly killed us, just as has been the case with all other species that exist or have ever existed on this planet.

Yet according to most people's metric for quantifying sustainability, things were perfect. The skies were blue and the waterways were pristine—all around the environment was as near to being untouched, unchanged and unpolluted by human beings as would be imaginably possible. Yet we never lived such miserable lives, defined nearly entirely by suffering. We were constantly insecure: fearing the attacks of predators, the agony of starvation and constantly enduring the pains of extreme weather. And beyond this, various types of micro-organisms and bacteria were evolving specifically to kill human beings, such as cholera bacillus. The sustainability movement tends to imagine that the problem with global warming is that "We" are "polluting" the planet—yet even if this was the right way to see the problem, the exact opposite was the case for nearly all of our history. Rather than human beings "polluting" the biosphere, the biosphere was in fact "polluting" the human beings (as well as all other life) within it.

We hear the statement that "of all the species to have ever lived on this planet, 99,99% have become extinct" so often that its meaning tends to pass us by. That is, in spite of the best genes, and constant improvements in those

Sam Harris "Surviving the Cosmos: A Conversation with David Deutsch", Waking Up pod-cast, https://samharris.org/surviving-the-cosmos/ [accessed 06.02.2018].

genes through evolution, all most species can ever hope for is a brief resistance against a near-inevitable wave of rolling genocide. As shown by all those extinctions, very few species have ever managed to escape that tide. The lesson is unavoidable: environments, in the natural course of events, nearly always kill the species that live within them.

Luckily, We, as a species, have reached a certain break-out capacity—we have developed the ability to create *explanatory knowledge*, rather than merely being reliant upon our *gene knowledge*, just as all other species are. And considering, as Deutsch explains, that there exists an intimate marriage between *explaining* the world and *controlling* the world, this capacity to *explain* without limit, affords us a distinct weapon in our battle for survival. This is a poorly understood, yet fundamental truism of the physical world. It was explanatory knowledge that allowed our ancestors to successfully survive and escape the Great Rift Valley (though it is almost entirely lost to the majority of us now), and it is explanatory knowledge that keeps us alive, and occasionally thriving, in environments today (environments that would otherwise be death traps). There is no such thing as a friendly, hospitable environment—they only seem so occasionally by virtue of what the inhabitants actually know.

To this point, Deutsch is not being, in any real way, controversial. He is walking a rather standard understanding of natural history, anthropology, evolution, and the reach of explanations. Yet a problem still exists, and it is what motivates Deutsch in his push-back against the sustainability movement: the immediate descendants of our migration from Africa, people who were nearly biologically identical to ourselves in terms of brains, and certainly in terms of the capacity for explanatory knowledge, still went on living miserable and desperate lives on the borderline of death. As Deutsch explains, their "ability to make progress remained almost unused." 2

By simply consulting the surrounding technology, any future archaeologist, after stumbling upon the remains of anyone of Us, would be able to accurately place the time period in which we lived (likely down to the exact year in question). This is in stark contrast to how we analyse those first human civilizations. Artefacts (technology) from those periods often cannot be placed with any more accuracy than timeframes of 10 000 years. Technology just was not changing fast enough to allow for better measurements. Inventions, such as improvements in hunting tools, painting techniques, or even fire itself, were extremely uncommon. So much so that through the period of any individual's life—from the perspective of their existence

² David Deutsch "A new way to explain explanation", TEDGlobal 2009, https://www.ted.com/talks/david_deutsch_a_new_way_to_explain_explanation/ transcript [accessed o6.02.2018].

alone—nothing ever improved. Yet through this stagnation, they were trying desperately for the opposite: "In every aspect of their lives they wished for progress, just as we do, but they failed almost completely to make any. They didn't know how to." 3

And, Deutsch believes that the "tragedy of that protracted stagnation isn't sufficiently recognized." That tragedy is that the extreme suffering and hardship that defined such periods—nearly all of human history—was not a necessary part of human development, not an unfortunate stepping stone to something better, but rather an entirely unnecessary experience resulting from the near-complete stasis that defined such historical periods. This is the core of Deutsch's complaint, this is why "sustainability," as it is understood by the complementary meanings of "providing" and "unchanging" is such a dangerous notion. The idea of sustainability involves a certain Garden of Eden-type thinking. Essentially it involves imagining that there exists a non-dangerous, stable way of life, that is perennially free from existential problems, and where further progress and creativity is not needed. But this defies everything we know about the world around us—environments never, ever, sustain anything!

And it is due to this reality about environments that we just do not have any real record of most of the static, unchanging societies that have existed in the past—they do not survive long enough to leave a mark on history. That is because the first major problem that came their way—the first time that they needed to innovate in order to survive—became a hurdle too far and they were destroyed, wiped-out by their inability to make progress.

The history of humanity is a history of death and failure...up until the enlightenment that is. But what actually changed at this time? What made all the difference? Correctly defined by Deutsch, it was a commitment to rapid, open-ended progress—a fundamental rejection of sustainability and an acceptance that "we shall never reach anything like an unproblematic state" (Deutsch 2011, 445). All progress (the solving of problems) produces new problems, but they are also "better" problems, and the only way to survive in the long term is to make a commitment to keep moving forward in the face of this reality. At the time of the enlightenment, for the first time in all of human history, we developed "the capacity to deal with unforeseen, and unforeseeable failure" (Deutsch 2011, 437). From this position, we should

³ David Deutsch "A new way to explain explanation", TEDGlobal 2009, https://www.ted.com/talks/david_deutsch_a_new_way_to_explain_explanation/ transcript [accessed 06.02.2018].

⁴ David Deutsch "A new way to explain explanation", TEDGlobal 2009, https://www.ted.com/talks/david_deutsch_a_new_way_to_explain_explanation/ transcript [accessed o6.02.2018].

never have, and it was inconceivable that we would, ever look back at the periods of stagnation and suffering with any sort of romance and envy. But, as Deutsch shows with significant clarity, the problem of global warming has, inexplicably, now caused us to do just that.

3. Climate change

The existential risks associated with climate change are unquestionably real. As institutes and governmental bodies around the world are increasingly committing resources to the modelling and testing of climate change hypotheses, and as a consensus of research begins to mount up in support of the theory, it is—in the absence of any new proof of falsification—impossible to deny that we are living on a rapidly warming planet and that our behaviour (carbon output) is significantly contributing to this warming (Oreskes 2007). However, it is also a fact of our understanding of climate science, that by the time that accurate explanatory theories were first emerging, it was, by any reasonable consideration, already too late to avoid catastrophe.

Although a series of estimates on CO₂ and other gases such as methane and their warming impact on our atmosphere were being formed as early as the 19th century, the first modern, thorough, assessment of climate change in terms of CO₂ emissions was undertaken in America in 1965 under the authority of the President's Science Advisory Committee (PSAC). Thereafter the "Study of Man's Impact on the Climate" and the "Study of Critical Environmental Problems" came to a scientific conclusion that supported PSAC, and climate change started becoming an issue of "some" international importance. The World Climate Research Programme (WCRP) was formed, the First World Climate Conference held in 1979, and later the first major international conference was held in 1985 in Villach, Austria, bringing together global scientific consensus and intergovernmental cooperation (Edgerton et al. 2008).

Leaked reports now show that companies such as ExxonMobil, the world's largest oil and gas company, knew about climate change 40-odd years ago, yet kept publicly denying that the phenomenon was real. It would take another decade before climate change would become a significant issue of public concern (Hall 2015). However at this time, in the late 1970's and early 1980's, the research was still embryonic and "transitional," and was only forced to public attention due to the Carter administration's desire to start utilizing domestic coal at dramatically increased capacity (Nierenberg et al. 2010). Yet even then, this was also a period in time when significant sections of the scientific community were, instead of predicting and warning

against a rapidly warming planet, cautioning against what they believed was a rapidly approaching ice age.⁵

By sheer bad luck, our understanding of global warming came about at a point at which it was already too late to avoid disaster, calamity and upheaval. Dangerously high levels of carbon were already concentrated in the atmosphere, and due to the "lock-in" effect that such carbon has, the environmental damage and warming effects were delayed, but also inevitable. And beyond this, without the existence of viable alternative energy sources to underscore development, a sudden halt on the use of carbon-heavy energy, would also derail global progress in terms of poverty-reduction—a catastrophe in itself by any reasonable measure. And this does not even begin to deal with the now demonstrated phenomena of our near-universal psychological resistance to altering our standard of living (Hamilton 2015).

Responding to this, Deutsch believes that the solution has always been, and should still be, obvious: the solution to our climate crisis will have to involve developing new technologies for artificially lowering temperatures in the atmosphere (by removing carbon or by other means). Such research currently includes: engineering soil to store carbon (Shackley et al. 2009), developing new artificial trees with 1000x the carbon capture capabilities of ordinary trees (The Climate Institute 2014), engineering "chemical sinks" that initiate carbon reactions with minerals to consume CO₂ in carbonates and by using solvents to directly capture CO2 from ambient air (Dubey et al. 2002), releasing large quantities of aerosols into the atmosphere to precipitate cooling (such as what happens in the case of a large volcano cloud) (Sebastiao et al. 2011), iron fertilization in oceans, land management practices, afforestation, biomass combustion and the sequestration of carbon within geological formations (Kriegler et al. 2013). Or failing all this, developing technologies for adapting to living at higher temperatures and the new conditions that it will bring (UNFCCC 2006), including techniques for maintaining sea ice at higher temperatures (Desch et al. 2017). However such initiatives are fringe research, and as Deutsch points out, "neither supercomputers nor international treaties nor vast sums are devoted to them" (Deutsch 2011, 441).

Rather they are devoted to a singular purpose—and one that does not address the critical situation that we are already in, even if we were to drop our carbon emissions overnight to zero. That narrow policy focus is: carbon reduction by means of limiting economic activity. The "First World Climate Conference" kicked this trend off in 1979, and then again in 1985 in Villach, Austria. The proceeding conclusions included: 1. The warming of the cli-

⁵ Skeptical Science "What were climate scientists predicting in the 1970s?", https://www.skepticalscience.com/ice-age-predictions-in-1970s.htm [accessed 06.02.2018].

mate was then already inevitable due to past emissions, 2. Human activity was the problem, 3. We would need to reduce our consumption of oil and coal, and generally reduce emissions of greenhouse gases, and 4. Future development will have to be sacrificed (Edgerton et al. 2008).

The narrow policy focus continued. In 1991, the Intergovernmental Negotiating Committee (INC) formed, and then led to the adoption of the United Nations Framework Convention on Climate Change in 1992. This convention broke the world up into three annexes of responsibility as measured by levels of development (harm caused). The 1997 Kyoto protocols dug a little deeper, distinguishing between "developed" and "developing" countries in terms of responsibility, and thereafter in terms of who should pay the costs associated with carbon reduction (designating degrees of punishment became the focus). A decade later with the "Bali Road Map," the focus was on achieving "full, effective and sustained implementation" of the Kyoto Protocols and the United Nations Framework Convention on Climate Change.

In 2009, before the formal discussions broke down, the "informal" Copenhagen Accords highlighted the same reduction imperative, a verification system for the reductions, and once again a distinction between developed and developing countries (now with the added proviso that these countries need to finance sustainable methods of development in the developing world). Durban 2011 followed the same trend, as did the 2012 "Continuation of Kyoto," and the 2015 Paris Climate Agreement once again reasserted the need to: 1. Stop using greenhouse gases as soon as possible, 2. Keep temperature increases below a "sustainable" level of -2C (3.6F) and, 3. To increase social pressure on states to achieve these targets.

We are utterly consumed by the idea of punishing economic activity as a means of limiting our carbon output, and thereby addressing the problems of climate change. Despite everything we know about the problem indicating that this would not help us avert catastrophe, it is a dangerous line of thinking for another reason altogether: it is a return to the idea of sustainability and stasis. Targeting carbon reduction constitutes a tactic of prevention and delay, which occasionally do prove useful, but in-and-of themselves never amount to a strategy for the future. As David Deutsch explains: "If you have been punched on the nose, then the science of medicine does not consist of teaching you how to avoid punches ... If medical science stopped seeking cures and concentrated on prevention only, then it would achieve very little of either."

⁶ David Deutsch "Chemical scum that dream of distant quasars", TEDGlobal 2005, https: //www.ted.com/talks/david_deutsch_on_our_place_in_the_cosmos/transcript [accessed o6.02.2018].

We have, on many previous occasions, been here before as a species. Climate change is by no means the first existential crisis that has confronted us, and importantly it will not be the last either. And this is where the real danger lays, if climate change pushes us away from a course of problem solving and toward problem avoidance, if it pushes us back into a desire for the status quo, then even if we are lucky enough to avoid its destruction, then the next problem will almost certainly destroy us instead.

It is always tempting to imagine that seemingly large solutions, such as those which are required for climate change, are out of our reach—that they are just too hard, or not possible at all. But as Deutsch explains—and this is the least controversial part of this thinking—any physical transformation of the universe, as long as it is not forbidden by the laws of nature, is by definition achievable given the right knowledge. Moreover, there is no valid reason to imagine that the solution to the cooling of the biosphere should be further out of our reach than the solution to developing without carbon emissions. What we know for sure, through the history of our species, is that "If we stop solving problems, we are doomed" (Deutsch 2011, 432). The sustainability being proposed at all those climate conferences, and by nearly all politicians and scientists, is the same sustainability that killed nearly all life on this planet, as well as all of our cousin species. As Deutsch correctly explains, most of us just have our ideas around the wrong way—We are not the problem! Rather, "sustainability is the disease and people are the cure!" (Deutsch 2011, 435).

4. In search of an explanation

So why are we expending all this energy in such a counterproductive way? Deutsch does a conclusive job of explaining the break in our thinking on the issue of climate change and sustainability, but he does not offer a reason for that break. He does not offer an explanation for why we are making this dangerous mistake and why we are—across cultures, across countries and over a significant period of time—pursuing such a strange policy direction, and why we are doing so with such unflinching eagerness. Some of the likely, though flawed, explanations are:

1. It is just considered to be a good solution, that it will fix the climate problem before us.

But we know this cannot be true because, as already explained, limiting carbon emissions is a preventative fix for an already locked-in problem. With such limitations already in place, and carbon emissions continuing to increase, it will likely take decades before any significant carbon reduction is felt as a result of placing limitations on economic behaviour. And this

misses the obvious criticism of: if carbon emissions dropped to zero today we would still be facing catastrophe regardless.

2. It is the only option available to us.

This is never the case with anything. By definition we cannot know improvements in technology and knowledge in advance of us having them. And as already shown, there are already a series of embryonic technologies that have every chance of becoming better options for addressing climate change.

3. It is the easier/more likely solution to the problem.

This just cannot be known. This is a claim about the nature of future knowledge and an embracing of a way of thinking that involves imagining a future without improvements. Any claim about "resource management" being the key to survival, involves the mistake of forgetting that resources do not exist until knowledge (human knowledge) makes them so. Any physical property is a potential resource. So an approach that focusses on the resources of today, is once again imagining a future of non-improvement. And in this way, by the limiting of our carbon output via taxation or punitive punishment, we are incentivising only a very narrow set of new technologies (cleaner burning energy sources).

4. A lack of imagination—it is the lazy option.

There is likely some truth in this. Doomsday prophecies have always tended to talk in terms of finite resources and rates of decline/destruction, along with criticisms regarding the hubris and overreach of careless human beings. And in a pre-echo of the rendering that is to come, Friedrich Nietzsche famously explained in "Human All-to-Human" that "to predict the behaviour of ordinary people in advance, you only have to assume that they will always try to escape a disagreeable situation with the smallest possible expenditure of intelligence" (Nietzsche 1994). But even so, this is an incomplete picture because it ignores the huge levels of time and energy that is being invested into carbon reduction solutions.

5. Peer pressure—the moral force of a consensus position.

Once again, there is likely some truth in this explanation, but also much more that is left unexplained. After a critical mass, forming behind a moralizing policy platforming, is reached on any issue, a snowballing psychology of agreement is an entirely plausible phenomenon; a phenomenon where scientists and politicians are discouraged to seek new or alternative solutions

out of social fear. However, it should also be noted that a shift in policy from limiting carbon emissions to removing carbon or cooling the atmosphere, would also be politically very helpful because it makes obsolete the political debate over just how much "We" are contributing to global warming as opposed to "natural" warming. When the focus is on removing it rather than limiting it, then it does not matter how it got there in the first place.

There is however, a better explanation—and despite the fact that we need to keep a role open for individual creative decision-making—that accounts for the mass phenomenological, cross-cultural, cross-political, and enduring nature of our commitment to the policy of carbon limitation. This explanation is written through the language of those myriad climate agreements, as well as the language of most individual state policies concerning carbon reduction by means of limiting economic activity. That explanation is "punishment!"

5. Nietzsche and the joys of punishment

The Villach Conference (1985) acknowledged that: 1. Harm had already been locked-in due to carbon emissions, 2. That "We" were to blame, and 3. That we would now need to pay a cost for that harm in terms of sacrificed standards of living (Edgerton et al. 2008). The United Nations Framework Convention on Climate Change (1992) then consciously divided up that "sacrifice-owed" in proportional terms of how responsible each state is for the climate harm already registered. The 1997 Kyoto protocols crystalized this division of responsibility by distinguishing between "developed" and "developing" countries (distinctions of harm caused). And the 2009 "informal" Copenhagen Accords and the 2015 Paris Climate Agreement focussed on the need for verification systems for monitoring the implementation of the punishment (reductions in standards of living by reductions in carbon emissions).

All these conferences have sort to designate responsibility, have sort to set arbitrary upper limits on acceptable carbon impacts, and have then sort to punish all those in breach—even going so far as to hand out "calculation kits" (Lenzen 1997) so that people, businesses, and states can painstakingly calculate their "historical responsibility" and then painstakingly keep up with inventory reporting (Friman and Strandberg 2014).

Similarly, the key policy initiatives that individual states and supranational organisations have tended to pursue in order to satisfy these designated responsibilities—namely carbon taxes and emissions trading schemes—all proportion financial punishment according to individual contributions to the harm caused, in terms of carbon emissions. And to dig a little deeper into this desire for punishment, at the Paris Climate Agreement when it be-

came apparent that an international administered punishment regime could not be agreed upon, the conference settled on the commitment to name and shame countries that breach their obligations instead. Thereby compromising with social punishment wherever material punishment was not possible.

The policy parameters of the desire to limit carbon output as a means to address global warming are dominated by calculations and apportionment of blame. This often manifests in the form of ridiculous political and hypermoralized debates concerning the adding-up of who put most of the carbon in the atmosphere and then holding them most responsible for limiting their reductions. This is a singular fascination with the idea of "punishment" rather than "solution." And even in terms of our current understandings of punishment, this seems over the top and obsessive. But for Friedrich Nietzsche this would have made absolute sense, and would have been entirely predictable, because he knew that "punishment" is just not what we tend to think it is; that it holds an entirely misunderstood value to us as human beings.

Theories of Punishment tend to be explained in terms of "deterrence," "retribution," "reformation," "reparation" and "prevention;" and what our response should be to bad behaviour in order to achieve these outcomes—effectively, a "sentencing issue." But this understanding of punishment as a form of behaviour modification is, according to Nietzsche, a modern gloss on its real and sustaining purpose. Rather than being a well thought out and carefully structured response, punishment comes to us naturally, as a blind instinct. Punishment serves a means unto itself—we enjoy it.

In order to justify modern conceptions of punishment we have to begin by: Firstly outlining the intention (goals for the practice). Secondly, by requiring that the practice succeeds in these intentions. Thirdly, by showing that the punishment is the only way to achieve the desired outcomes. And fourthly, that there is an intrinsic philosophical justification for not just the punishment, but also for the desired outcomes as well (Bedau and Kelly 2015). Nietzsche believes that, despite convincing ourselves otherwise, we never actually satisfy this process, that is, because we deceive ourselves at the first of the four principles—we rarely understand why we are punishing in the first place. For Nietzsche, punishment has nothing to do with the "moral character" of the offender (Lipkin 1988). This subterranean "true" motivation often becomes explicit when people are actually asked to justify the punishing of offenders. At which time people will instinctively tend to place that justification in the context of "outrage" concerning the underlying action, not in the context of a carefully structured path to rehabilitation and social benefit (Sunstein 2004).

A philologist by training, Nietzsche pulls away this modern superimposition of acceptable purposes, and reveals a more fundamental aspect of human nature as the deep root of our desire to punish. Historically unrelated to the ideas of "teaching," "learning," and "deterring," punishment is actually something enacted out of "anger," anger directed at someone who has caused harm. This is an idea that "damage somehow has an equivalent and really can be paid off...through the pain of the culprit." Rather than a designation that "the criminal deserves punishment, because he could have acted otherwise," punishment owes its genealogy to an idea of "debt owed." This is evident in the link between the German words guilt = [Schuld]; and debtor = [Schulden] (Nietzsche 2008, 44-45). Justice has always been underscored by the idea that: "Everything can be paid off, everything must be paid off" (Nietzsche 2008, 54). The feeling of "guilt" as being on the wrong end of the "buyer and seller, debtor and creditor" relationship is found in the records of every known civilization, along with the designation of "pride" to those on the superior side of this relationship. Punishment is imbued with a "sense of exchange, contract, debt, law, obligation, compensation" and above all else, "measurement" (Nietzsche 2008, 51).

Punishment has always taken on dimensions that satisfy these categories. Rather than simply as a means to hold certain people to account for their actions, punishment has traditionally, just as with debt, been transferable to wives, husbands, children and other family members. That is because "in order to impress repayment as a duty and obligation sharply upon his conscience, the debtor contractually pledges to the creditor in the event of non-payment something which he otherwise still "possesses," something over which he still has power" (Nietzsche 2008, 45), and this relationship still exists today though generally only in terms of property and/or labour. Punishment, for Nietzsche, is the idea that everything can be paid off in some way; that all harm caused has its equivalent and its price—and often that price is "the pain of the culprit" (Nietzsche 2008, 45). Traditionally, the creditor in any relationship could and would extract payment from debtors in terms of torture and humiliation—it was common practice to "excise as much flesh as seemed commensurate with the size of the debt" (Nietzsche 2008, 45–46).

Embedded in this element of punishment as a "creditor-debtor" relationship is, for Nietzsche, the unavoidable presence of "pleasure." Because the analysis of punishment so far begs the question: "in what way does the physical suffering of a debtor compensate for their unpaid debt?" To the extent that the anger and fury of the "aggrieved creditor," or of the broader society in terms of criminality or environmental degradation, can be vented on the object of that anger. Punishment in this sense offers up the "hated enemy," "prostrate" and "defenceless," removed of any natural rights to protection

and hopes of "grace" (Nietzsche 2008, 53). Punishment is the "uplifting feeling of being able to despise and mistreat someone as "beneath him" and the "entitlement and right to cruelty" (Nietzsche 2008, 46), as a means of exchange between aggrieved parties.

The tendency here might be to push back against Nietzsche, and invoke the "concept of revenge" as the real purpose of punishment in light of its "debtor-creditor" foundations. This, for Nietzsche, is a natural, but entirely misguided response. It is an attempt to seek a more palatable explanation for a value (punishment) that "runs through the whole history of higher culture," that we have now entrenched into penal codes, and have often elevated to "divine" status (Nietzsche 2008, 47). But this alternative attempt at explanation in no way answers the previous question of: "in what way does the physical suffering of a debtor compensate for their unpaid debt?"

There is just much more to support the idea that we seek punishment for the singular reason that we get tremendous pleasure from inflicting suffering on people who have wronged us in some way. And historically punishment has taken on a *festive* quality (Nietzsche 2008, 47). It was once common practice for noble households to employ someone to simply exist as an avenue to "vent one's malice and cruel teasing." Just as royal, or aristocratic, weddings and other large public festivals "were inconceivable without executions, torture, or perhaps even an auto-da-fe" (Nietzsche 2008, 48). The festive nature of cruelty in punishment is written into the documents of the three great monotheisms, and even into Homer's account of the Trojan Wars (Nietzsche 2008, 50). There is no greater festivity than that of cruelty, and there is no more satisfying exaction of cruelty than that of punishment (Nietzsche 2008, 48).

Nietzsche's concept of punishment offers a useful explanation for the narrowness of our policy pursuits concerning global warming and climate change. For why we are, across cultures, across countries and over a significant period of time—pursuing such a strange (in terms of the limited impact that such policies would have even if they could reduce carbon emissions to zero tomorrow), likely dangerous (in terms of embracing sustainability), and counterproductive (in terms of all the lost energy, resources and creativity that could be otherwise applied to finding a solution to the problem rather than just a means of delay) policy direction. And for why we are doing so with such absolute and unquestioning eagerness.

Imposing restrictions on carbon emissions according to carefully proportioned calculations as to who is most responsible for causing what percentage of the problem we are currently facing, represents a carefully structured punishment regime—punishment in the form of restricting economic activity and therefore also reducing standards of living. But to pursue a pol-

icy of removing carbon, or of cooling the biosphere by other means, would do something entirely unsatisfying—that is, it would remove the need for punishment at all. Because to discover a means of removing carbon from the biosphere is to essentially create a world whereby the behaviour of polluting countries, polluting organisations and polluting individuals would no longer constitute any sort of "harm caused." The seemingly reckless behaviour of the past and present would have to go unpunished. And as Nietzsche shows, this is an extremely unpleasant psychological reality for most people because it denies us the pleasure and satisfaction of collecting a pound of flesh as a means of ensuring that people pay off their moral debts.

If David Deutsch's proposed change of policy direction were embraced, and if it became possible to effectively cool the biosphere, it is plausible that many people in the sustainability movement, despite achieving all they have ever wanted on climate change, would not be happy. Because they would likely feel that the people responsible for the problem would not have been forced to learn their lesson, because they would not have been punished. For example, if the technology were to become available that would allow us to consistently, cheaply and reliably bring people back from the dead (as unlikely as it is), thereby making the crime of murder not a crime at all because the harm caused by the behaviour (the life lost) would always be reversed, it would still likely feel wrong to not punish those who committed murder. It would be psychologically unsatisfying not to exact some punishment regardless.

6. By way of a conclusion

As David Deutsch explains, sustainability, and the commitment to problem avoidance rather than problem solving, are very dangerous ideas. And our near-universally pursued policy direction in response to the problem of global warming is a commitment to both those ideas by way of trying to limit carbon emissions by the means of limiting economic activity. As hard as this might be to make sense of, a good explanation—account of reality—as to why we are making this mistake can be found through the language of outrage at the "harmful behaviour," the parsing of that harm through elaborate punishment regimes, through the painstaking apportioning of responsibility, the painstaking creation of verification systems, the implementation of social pressure/social punishment above and beyond material punishment, through the failure of advocates to properly justify their desired punishment regimes in terms of solutions to the problem, and especially when people seem to take great satisfaction and pleasure in something (punishment) that should be an unpleasant and undesirable part of our social life. That good ex-

planation is the "debtor-creditor" and "pleasure-driven" conception of punishment that is put forward by Friedrich Nietzsche.

Bibliography

- Bedau, H. and Kelly, E. (2015). Punishment, *in* E. N. Zalta (ed.), *Stanford Encyclopaedia of Philosophy*, winter 2017 edn.
 - URL = https://plato.stanford.edu/archives/win2017/entries/punishment/
- Desch, S. J., Smith, N., Groppi, C., Vargas, P., Jackson, R., Kalyaan, A., Nguyen, P., Probst, L., Rubin, M. E., Singleton, H., Spacek, A., Truitt, A., Zaw, P. P. and Hartnett, H. E. (2017). Arctic ice management, *Earth's Future* 5: 107–127.
- Deutsch, D. (2011). The Beginning of Infinity, Penguin Books.
- Dubey, M., Ziock, H., Rueff, G., Elliott, S. and Smith, W. (2002). Extraction of carbon dioxide from the atmosphere through engineered chemical sinkage, *Fuel Chemistry Division Preprints* 47: 81–84.
- Edgerton, S. A., MacCracken, M. C., Jacobson, M. Z., Ayala, A., Whitman, C. E. and Trexler, M. C. (2008). Prospects for future climate change and the reasons for early action, *Journal of the Air & Waste Management Association* **58**: 1386–1400.
- Friman, M. and Strandberg, G. (2014). Historical responsibility for climate change: Science and the science-policy interface, *Wiley Interdisciplinary Reviews: Climate Change* **5**: 297–316.
- Hall, S. (2015). Exxon knew about climate change almost 40 years ago, *Scientific American* .
 - **URL** = https://www.scientificamerican.com/article/exxon-knew-about-climate-change-almost-40-years-ago/
- Hamilton, C. (2015). Requiem for a Species, Routledge, New York.
- Kriegler, E., Edenhofer, O., Reuster, L., Luderer, G. and Klein, D. (2013). Is atmospheric carbon dioxide removal a game changer for climate change mitigation?, *Climatic Change* **118**: 45–57.
- Lenzen, M. (1997). Individual responsibility and climate change, International Academic Conference on Environmental Justice.
 - URL = http://www.isa.org.usyd.edu.au/publications/documents/Greenhouse_Responsibility.pdf
- Lipkin, R. J. (1988). The moral good theory of punishment, *University of Florida Law Review* **40**: 17–84.

- Nierenberg, N., Tschinkel, W. and Tschinkel, V. (2010). Early climate change consensus at the national academy: The origins and making of changing climate, *Historical Studies in the Natural Sciences* **40**: 318–349.
- Nietzsche, F. (1994). *Human, All Too Human*, Penguin Books. Translated by M. Faber.
- Nietzsche, F. (2008). *On the Genealogy of Morals*, Oxford University Press. Translated by D. Smith.
- Oreskes, N. (2007). The scientific consensus on climate change: How do we know we're not wrong?, *in J. DiMento and P. Doughman (eds)*, *Climate Change: What it Means for Us, Our Children, and Our Grandchildren*, MIT Press, pp. 105–148.
- Sebastiao, M., Gomes, P. and De Araujo, M. (2011). Artificial cooling of the atmosphere—A discussion on the environmental effects, *Renewable and Sustainable Energy Reviews* **15**: 780–786.
- Shackley, S., Sohi, S., Haszledine, S., Manning, D. and Mašek, O. (2009). Biochar, reducing and removing co2 while improving soils: A significant and sustainable response to climate change. UKBRC Working Paper 2. URL = https://www.geos.ed.ac.uk/homes/sshackle/WP2.pdf
- Sunstein, C. (2004). On the psychology of punishment, *Supreme Court Economic Review* 11: 171–188.
- The Climate Institute (2014). Below zero: The removal of carbon and the climate challenge.
 - URL = http://www.climateinstitute.org.au/verve/_resources/BelowZero_ March2014.pdf
- UNFCCC (2006). Technologies for adaptation to climate change. Issued by the Climate Change Secretariat (UNFCCC) Bonn, Germany. Produced by Adaptation, Technology and Science Programme of the UNFCCC secretariat.