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8 The Hare and the Tortoise; Metaphorical lessons around Sustainability

Connor McGookin, Brian Ó Gallachóir and Edmond Byrne

Fables have been used for centuries to relay important messages in a playful manner, through fantasy tales of objects, plants or animals. Their origin is reputed to Aesop, a slave and storyteller believed to have lived in ancient Greece somewhere between 620 and 560 BCE. The Perry Index (Perry, 1952) provides a definitive account of 'Aesop's Fables' or 'Aesopica', listing 725 fables along with known sources and Greek / Latin testimonies about Aesop. (Perry, 1933)

As metaphoric tools, the underlying message is often quite explicitly highlighted. This makes the message very accessible, even 'child proof', as noted by Martin Luther who dedicated a surprising amount of time translating some of Aesop's fables into German, praising them as a useful tool for all ages. 'In short, after the Bible, the writings of Cato and Aesop are in my judgment the best, better than the harmful opinions of all the philosophers and jurists.' (Springer, 2011, p. vii) Fables combine both merriness and wisdom. (Zsolnai, 2015) They are a fiction whereby the animated characters act as human beings and thus their behaviour and circumstances are experienced by the audience as a true reflection of the real world. According to Luther, this ability to tell the truth about real life in the world is the hidden strength of the fable 'Die Warheit sagen von eusserlichem Leben in der Welt'. (Steinberg, 1961, p. 86)

In the fable of the hare and the tortoise, the tortoise declares, having been mocked by the boastful hare; 'I will beat you in a race!'. There are a number of variations of how the race plays out; two of the most common are that either the overconfident hare naps at the start of the race (Gibbs, 2002), or does so having established a considerable lead (Zsolnai, 2015); in both cases he wakes from his nap just in time to see the tortoise crossing the finish line.

'Slow and steady wins the race' is the moral of the short story. In terms of pressing contemporary issues around climate change, climate action and sustainability, this message appears paradoxical in the context of the often panicked sense of urgency being reiterated by those intimately involved in the area, including climate scientists, environmentalists, etc. However, as shall be explored through this chapter, there is an inherent value to the tortoise's approach; while there is urgent need for transformative and dramatic change to the course of our civilisation, we must be careful to ensure that such transition is not hastily misdirected (with potentially even worse consequences). In this context, the warning of the Roman proverb attributed to Octavius Caesar Augustus; 'festina lente' ('hasten slowly' or 'make haste slowly') seems suitably apt. (Suetonius Tranquillus, 1957)

This chapter will explore a number of narratives around issues of sustainability, in particular concerning climate change, casting the hare and tortoise in a variety of roles. This will be done not simply understanding them as fast and slow but using playful characterisations like the hare's pace rendering him over-eager and anxious when dealing with the tortoise's stubborn disinterest. Although similar in some cases, each narrative's characterizations are independent of the others and play with the metaphor quite differently. Despite this, an interesting amount of thematic commonalties emerge, demonstrating the seemingly universal truth of the fable's lesson. It is also important to note that while the discussions may seem to cast the hare in quite a negative light, the interdependent nature of the actor's relationship places value in both throughout the narratives.

Narrative One –Environmentalism as a Social Movement

In this narrative, the hare represents environmentalists and actors concerned about radical societal change, in particular looking at the emergence of conservation environmentalism as a social movement, which is often characterized by an air of anxiety and apprehension. While the tortoise represents wider

society, maintaining the "status quo" of consumptive-based growth practices, dismissive of the hares concerns.

The emergence of conservation environmentalism as a social movement is accredited by many to Rachel Carson's *Silent Spring*, published 1962. (Carson, 1962) Combining a number of examples whereby various pesticides had been linked to ecological destruction, she drew the eerie picture of a spring without birds. Despite attempts to ban the book and heavy media criticism, it precipitated such public concern that it prompted President John F. Kennedy to order an investigation. This lead to a complete ban of the DDT insecticide (which had featured in Carson's book) in the US, and the creation of a number of environment institutions and regulations. (Bouwman et al., 2012, pg. 240) However, the real legacy of *Silent Spring* was a new public awareness that our actions were damaging the environment. A decade later, in 1972, the Club of Rome's 'Limits to Growth' represented a pioneering scientific endeavour which sought to capture the ecological boundaries that our global society was stretching and would ultimately exceed under our current patterns of consumption and growth. (Meadows et al., 1972) Its primary message was that, despite its apparent vastness, planet Earth is a finite resource. The 'prophets of doom' involved in the study have also been referred to as 'Malthus with a computer' (Freeman, 1973). They affirmed Malthus's beliefs that without the ironically named 'positive checks' to our population provided by nature through natural disasters and disease, the human species would inevitably exceed the ecological limits of our planet. (Malthus, 1798)

The conservation environmentalist, which emerged in the 1960s, was concerned with highlighting the need for a dramatic societal shift away from the well-established neo−classical economic model of continuous growth in the pursuit of so-called progress. This apprehension in general was met by varying degrees of incomprehension, ignorance, disregard and/or hostility from wider society. When challenged by this global existential (though seemingly far off and hypothetical) threat and excited calls for a rapid and radical change of direction, the dominant public response was largely one which amounted to indifference. Slowly but surely, the stubborn tortoise continued unperturbed. A failing of those early environmentalists was their inability to change dominant attitudes that embraced consumption based economic growth. An emerging middle class who had only just begun to taste the luxuries of economic affluence were reluctant to part ways with the system that had seemingly provided it, and which promised to continue doing so.

The movement experienced initial success in growing public concern for environmental issues, which resulted in a number of regulation victories in the US during the 1970s, such as the 1972 Clean Water Act, the 1974 Safe Drinking Water Act, and the 1976 Toxic Substances Control Act. However, in response to the growing threat, firms set up front groups promoting the corporate agenda whilst posing as public-interest groups, beginning the counter movement of 'Corporate Activism'. (Beder, 1997) Through the 1980s, as corporations began to complain about the effect of regulation on profitability, the public's attitude switched and became increasingly sympathetic towards business interests. The narrative that emerged was that environmentalism was going too far, threatening the status quo of growth based consumerism and hence potentially endangering public interests like jobs, welfare and health that relied heavily on continuous economic growth. As retailing analyst Victor Lebow explains;

> Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek spiritual satisfaction, our ego satisfaction, in consumption. We need things, consumed, burned up, worn out, replaced, and discarded at an ever increasing rate. (Lebow, 1955, p. 3)

Metaphorically, one might say consumption became the world's most popular religion, and a universal one at that, cutting across all cultures and continents amid an increasingly globalised hegemonic consumerist system. In what is often referred to as the greening of industry, environmentalism's slogan of sustainability was taken and reworded as sustainable growth. This meant economies could continue to expand consumption as before so long as industry was slightly more conscious of environmental

concerns like direct pollutants and process efficiencies. Ultimately, the regulation of the 1970s only moved pollutants overseas to countries where environment laws were either lax, unenforced or non-existent.

This left the passionate environmentalists dejected. The hare's eagerness leaves him quite prone to disappointment, unlike the tortoise who demonstrates an air of calm by virtue of her perseverance and grit. A well-documented problem within environmental activism is burnout. With access to often quite provocative data, the burden of knowledge and frustration experienced when trying to relay this message to the public can leave individuals vulnerable to bitterness, depression, exhaustion and illness. (Macy and Brown, 2010) Rather than due to the high level of work commitment (voluntarily), this is caused by the feeling of resignation and disillusionment from stress factors, such as the feeling of responsibility for global problems, and most importantly the repeated failure of efforts. (Thomashow, 1996)

Today, this struggle can still be seen with climate change nongovernmental organisations (NGOs). Some within these groups may have been fighting for several decades, but to seemingly little avail (as many environmental indicators continue to deteriorate). Change isn't easy, the course of a civilisation changes significantly slower than these actors would like. In a call to arms, the message increasingly relayed by some groups is characterised as being shrouded in fear, the panicked message of impending doom. As frustration and panic increase, such groups have the potential to slip into an ever more isolated existence. These actors may well be right, and as John Foster indicates in his book, *The Sustainability Mirage*, (Foster, 2008) if we are serious about addressing this issue then we need a collective effort, to get onto a 'wartime footing', analogous to that of the British during the second world war. However, a crucial leadership feature of Winston Churchill, Foster points out, is that he didn't peddle fear; despite Britain being dragged into a war that it didn't want to be in, but entered out of a sense of duty, in 1939, against a looming risk of failure and loss. Foster suggests that Churchill's great trait was the ability to rally Britons by turning the narrative around; this was an existential war of freedom that we daren't loose; otherwise, life would not be worth living under a proposed thousand-year Reich of Nazi totalitarianism. "You ask, what is our aim? I can answer in one word: Victory." (Churchill, 1940) Britons were thus mobilised to want to do whatever it takes to win the war, and glad to endure short term rationing for the promise of greater long term good.

The shrill tone from some environmentalists can sound very negative and off-putting for 'swing voters', and even for some who would generally support greater or speedier action. This limits the effectiveness of concerned groups in having an impact as the message reaches an ever-narrowing audience. Downhearted, such groups may find it increasingly difficult to engage with the actors in opposing camps and instead favour 'preaching to the converted', comfortable with recognition from their own. This of course is exacerbated by contemporary social media echo chambers. As seen in Williams, et al. (2015), groups in social media outlets discussing issues around climate change are often segregated into the polarised 'sceptic' or 'activist' groups. This means that most users only interact with like-minded others, reinforcing their own beliefs or values.

The slower the tortoise moves, the more agitated the hare becomes. The pleas of encouragement turn to a frustrated whine and the tortoise grows ever less fond of the hare, and then may go even slower out of spite. In the public eye, action on climate change becomes almost pointless, as many perceive by association with these groups, that the lifestyles they preach are 'too radical' or 'extreme'.

Narrative Two - Climate Change; An Expert's Opinion

Following similar characterisations to the previous narrative, here the hare (climate scientists) has run far enough ahead to see the approaching danger, however, the tortoise (neo-classical economists, wider society, etc.) is resistant to a change of direction (and/or speed) as it is content with its current surroundings. This narrative will also look at the limited effectiveness of the hare hastily following a

single disciplinary approach, as opposed to taking the time to give greater consideration to alternative and potentially conflicting perspectives through multi- and transdisciplinary approaches.

Over half a century since the impact of the greenhouse effect on climate (the connection between atmospheric CO_2 and global mean temperature) was firmly established (Manabe and Wetherald, 1967), climate scientists' anxiety and fear has developed into a state of panic and agitation. While there is now general agreement on the need for societal change, the urgency is still overlooked. Across the various disciplines, there are still conflicting views on the severity of the situation. The hare's panic and urgency is met by seemingly unstoppable technological / societal momentum towards ever increasing complexification. As with any other metastructure or system, changing the course for our civilisation requires overcoming significant inertial forces.

Many infuriated climate scientists now argue that it is already too late, that it is likely even if we stopped producing CO_2 almost immediately we will still reach disastrous global temperature rises. (depicted below in the background of figure 1) In this light, the necessity of rapid societal transformation is quite apparent. However, rather than inspiring change when people are warned of the severity of our ecological crisis, the extent and sense of inevitability of it can become disempowering. As seen in the first narrative, fear fails to have the desired empowering effect. (O'Neill and Nicholson-Cole, 2009) In fact, the effect is quite the opposite; when faced with apocalyptic or doomsday scenarios, people can often feel a sense of hopelessness. It is quite difficult to comprehend how any personal changes or advocacy may help such a complex global issue and thus it may seem easier to dismissively plunder on with one's well-established habits.

The public tends to favour arguments for maintaining the "status quo", preached by actors like those who would adhere to neoclassical economics, arguing for example, that there is a cost optimal level for climate change mitigation. This argument would have it that there is a potential under a cost-benefit analysis that we spend too much too soon and any damage avoided may be less than that spent or that we don't have the right balance between mitigation and adaptation spending. There are also arguments that in the short to medium run, climate change may well bring gains as well as losses for the economy and human welfare through the twenty first century. (Tol, 2018) In addition, some have attempted to demonstrate how the value added from a tonne of carbon emitted outweighs the negative social costs; with the message that fossil fuels add more value than they destroy. (Tol, 2017) In the eyes of the concerned, this is quite shocking. Many climate scientists are somewhat baffled by these perspectives, highlighting that committing to embarking on a vigorous campaign to mitigate climate change is fundamentally a moral issue, not a long-run economic issue. (Rosen and Guenther, 2015) An alternative view would hold that not only is this adding unnecessary risk to an already unstable system but it completely overlooks ongoing significant ecological destruction, as well as associated negative societal impacts such as potential for loss of life, social disruption, population migration, species extinction, and so on, as a result of climate change. For the neo-classical economist however, artefacts and natural capital that have no defined monetary value fall into the category of economic "externalities".

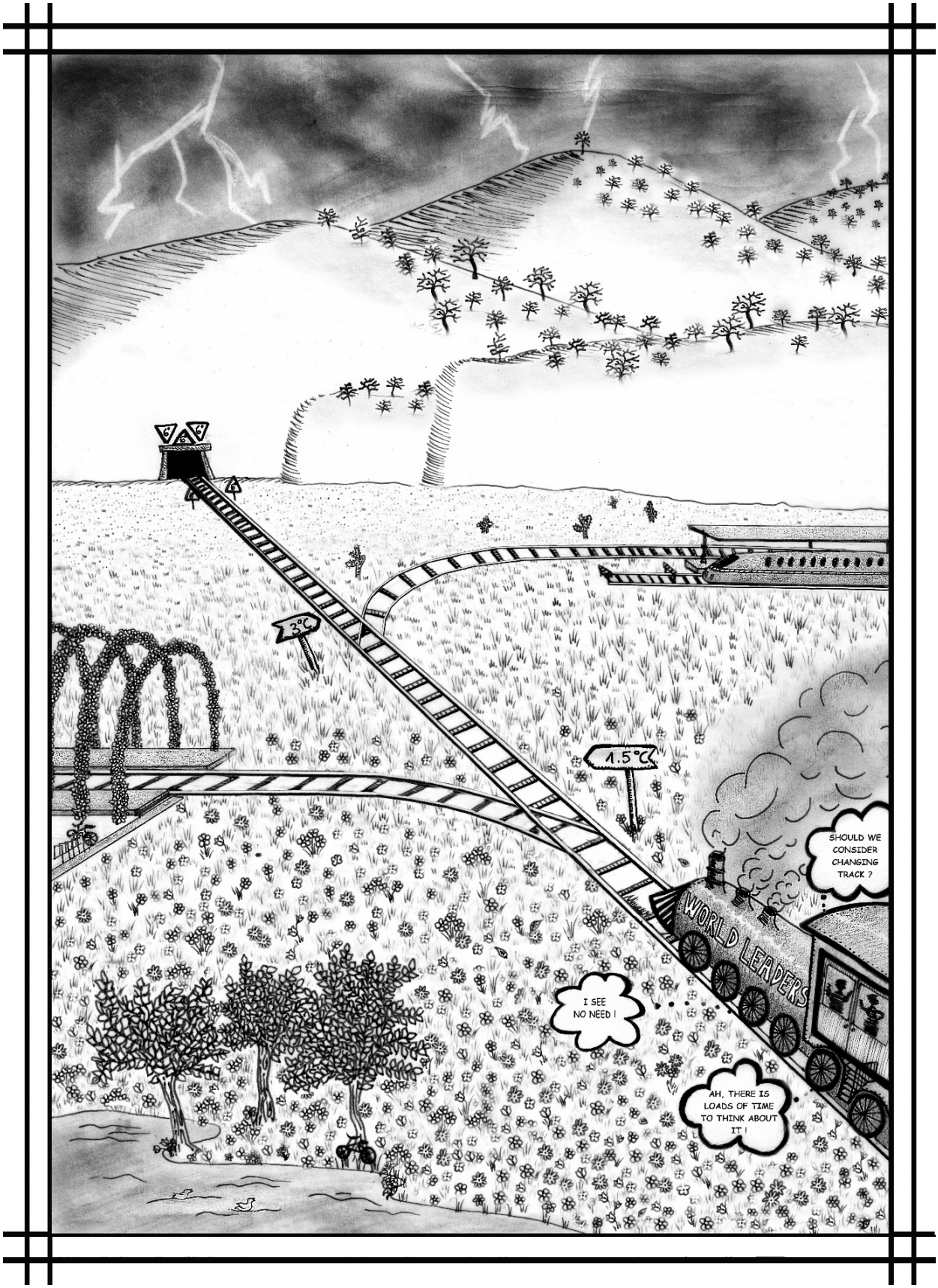


Figure 1 - "steady as she goes" by Nina Wohlfahrt

As is rather humorously depicted in the cartoon in Figure 1, action in the political sphere is achingly slow. While there has been a near universal shift in opinion leading to agreement around the need for

action, actual change has been limited. The 2015 Paris Agreement is the most recent milestone in global action against climate change. While it is clearly significant in being the first widely accepted global target for climate change mitigation, it fails to provide any clear means by which the rather ambitious targets may be achieved. It seems that the tortoise has agreed with the hare that it should move faster but it is constrained by its own physical limits. Truly meaningful action is unlikely to occur until the issue makes its way on to the ballot paper, which requires fundamental changes to the public's attitude / beliefs. Yet due to the seemingly far away threat of climate change, people are unlikely to support serious action on the issue until such time that the damages become more apparent and it is likely already too late, sometimes referred to as the "Giddens paradox". (Giddens, 2009) As depicted above in figure 1, the consequences of missing the fast-approaching left turn will only become clear once we have passed it.

Inaction or delayed action is further supported by techno-optimists claims that we are safe to continue with business as usual (or almost business as usual), since over time new technologies like renewable energy along with improvements in efficiencies supported by carbon sequestration or capture and storage technologies will lead to a nearly zero carbon future. However, quite apart from the fact that this seeks to sidestep the issue of tackling consumption based growth (and ultimately the prospect of long term global heating (Chaisson, 2008) as the earth produces more energy than it can dissipate) this overlooks reliance on finite resources, and offers nothing but a stalling tactic as opposed to a solution. The idea that any technological "silver-bullet" solution (depicted on the right track in Figure 1) is available is fanciful. It has been claimed to be shown that with respect to the energy transition, that 100% renewable energy is simply not sufficient to achieve carbon neutrality; we must also transition our lifestyles. (Millot, et al., 2018) A study on the French energy system projecting two scenarios of business as usual consumption ('digital society') and a reduction in consumption ('collective society') found that attaining carbon neutrality by 2050 was unrealistic for the business as usual scenario. Thus by this measure, technology alone is incapable of resolving the problem, as the issue of climate change is much more deeply engrained in our socio-economic system. It not only challenges us to rethink our energy sources but also our consumption practices and wider environmental concerns.

Experts in the field of psychology and in the social sciences recognise that greater effort is required which goes beyond education of the public through factual information before significant change can occur. Changing attitudes is a prerequisite to the behaviour shifts that are required to successfully transition to a low carbon future. This is a slow and tedious process, as it requires overcoming a number of psychological factors that influence behaviour, including contextual support, social norms, action difficulty, and habits. (Arbuthnott, 2009) This can come as quite a frustrating realisation to climate scientists or other actors concerned about climate change, who see the need for immediate action. However, it is clear, as seen in the previous narrative, that changing attitudes and beliefs is critical to broader societal change.

In seeking to make (r)evolutionary and transformational change therefore, experts might do well to learn to think outside their own disciplinary "silos", and recognise that there is a clear need for greater communication across the disciplines. While to the hare this may appear too time consuming a process, its necessity is strikingly apparent. (Byrne, et al. 2016) A successful transition to a low carbon future will require a shift in focus to multi- and transdisciplinary thinking and approaches, giving greater consideration to the interactions between people, technology, the economy and environmental limits, all in the context of broader ethical considerations (Barry, 2016; Ó Gallachóir, et al., 2016).

In this rather unique race, the hare's existence is dependent on the tortoise, presenting an interesting challenge to the hare; it cannot simply run ahead. This demands more robust solutions or arguments be developed to overcome the tortoise's resistance to changing direction. Without application in broader socio-economic contexts, solutions or arguments will do little to tackle issues around sustainability like climate change, and only exasperate an already convoluted challenge.

Narrative Three - Niche versus Mainstreaming

The hare represents early adapters, grassroots innovators, movers and shakers on the path of reduced unsustainability. These are the proportion of society who strive to reduce their individual footprint, often finding themselves marginalised and stereotyped in media and public perception. Again, the tortoise represents wider society, which determinedly plods along familiar societal structures. One of the most significant barriers to any new technology is consumers' scepticism around unproven or "alien" alternatives to well-established socio-technical regimes.

Growing environmental concerns coupled with increased consciousness of diet and health has brought ever-growing changes in opinion to food practices. One such cause for concern is large-scale intensive industrial farming. Concerns around this have precipitated emergent alternatives such as an embrace of organically produced food, vegetarianism and veganism. Vegetarianism and its more radical partner veganism, are often simply characterized as a boycott of animal products may also be considered as a form of political stance against the principle of limitless consumption. While the practice of avoiding the consumption of meat is not a modern ideal, the social context and broader identity of veganism as an anti-consumerism or degrowth movement is particular to the last half century. To a certain degree, veganism has established a perception as one of the most effective means of reducing one's own personal environmental impact. However, its criticism of normative consumption practices means it is often quite aggressively met with scepticism and dismissal, thus potentially marginalizing the movement.

Another issue the movement faces, shared with its less radical dietary choice companion in the organic food movement, is the perception of such a lifestyle as a luxury choice. Niches often enter the market as more expensive alternatives, with reasons other than financial being motivators. This can bring with it an air of aloof (or elite) smugness that creates tension between early adopters and wider society. The hare has raced too far ahead, and in the eyes of the tortoise would appear to be taunting it. The impulsive reaction is to reject these taunts and defend oneself (and more importantly, one's threatened values) by dismissively criticising the other.

Another separatist movement which has emerged out of the degrowth movement is the ambition of moving off-grid or becoming self-sufficient. The primary motivation is a strong desire to remove oneself from an established society that is over-reliant on unsustainable practices such as the global food network, fossil fuel energy consumption, etc. In his book, *Confessions of a Recovering Environmentalist*, Paul Kingsnorth describes how his disappointment with what he perceived as the death of environmentalism drove him to seek solitude and personal fulfilment through the move to a life of self-sufficiency in the Irish countryside (Kingsnorth, 2017). However, innovators who have chosen this route experience a life of significant hardship and as a lifestyle; it often fails to pass the generation test. As the next generation of off-grid children mature, they often start to desire the luxury items and comforts that wider mainstream society promises, questioning the beliefs of their parents.

As with the above discussion on dietary choice, actors within this group are again marginalized and the lifestyle is stereotyped (in this case for good reason) as being very harsh and impractical. Radical innovators pose a direct challenge to our beliefs, values and lifestyles. In response to this challenge, they are quite often targeted by efforts to dismiss them through marginalization. Niches of this nature thus have the potential to be a cul-de-sac. But even here the hare fulfils an important role in scouting ahead, and as with natural evolution, there is a period of trial and error as a variety of paths are considered before the best route becomes apparent. Of course, it would also be unfair not to point out that early adaptors, pioneers and visionaries so to speak do achieve a degree of gratification through obtaining personal sustainability goals. As Frost wrote in the conclusion of his poem *The road not taken*; (Frost, 1916) 'Two roads diverged in a wood, and I - I took the one less travelled by, and that has made all the difference'. While it was against his instinct to choose the path less trodden, Frost was ultimately grateful that he experienced a journey less shaped by others.

However, it is quite clear that without a connection to wider society, the efforts of such actors can prove to have limited impact and this can be exhausting for them. It is important not to "polarize" or "radicalize" the ideals behind these lifestyle changes. Tackling climate change does not require that we all move to the woods and live on plants and leaves. In fact, if we did all do so, we may actually make things worse. Instead, we must find ways of precipitating widespread transformative change around our consumptive behaviour. This may be accomplished by arriving at a tipping point of mass consciousness, whereby the link between eating meat and carbon emissions is firmly established in the public mind, similar perhaps to the quite rapid bolt in people's consciousness around the problems of single use disposable plastics that occurred following the airing of BBC's Blue Planet II in 2017. (O. Doherty & W. Ridgeon, 2017) The final episode of the series dramatically captured the threat plastics are posing to life in our oceans, demonstrating the power popular media has to mainstream environmental concerns.

Niches are more likely to influence change when they show certain degrees of compatibility with current practices. While this requirement may blunt the scope for niches to be radically innovative, it may be essential in encouraging wider adaptation. Electric vehicles fall under this umbrella, offering an alternative to traditional internal combustion engines. While they still suffer from a more limited range and a perception as being more expensive, growing environmental concerns (fuelled by concern over diesel particulate emissions and political leadership that have imposed imminent bans on such vehicles) have nevertheless sparked ever-increasing interest. The function or service provided by this technology is exactly the same as its predecessor, allowing for a continuation of the regime of personal travel but potentially reducing its CO_2 footprint by changing the fuel source. This will in time mean a significant reduction in emissions as the carbon intensity of the electrical grid decreases. However, as it does little to challenge the practice of personal mobility, it will not change attitudes or behaviour. While it has the potential to encourage greater consideration for how the electricity is provided, which may support the development of renewable micro-generation, a transition to electric vehicles in itself is unlikely to reduce the demand for transport energy. More transformative options may lie in deep investment in shared public transport options, a move away from using over a tonne of materials (by car manufacturers) to transport individuals around short distances, and most usefully (for reasons of public health and well-being as well as social and environmental) local and regional planning and national incentives which would prioritise both bicycle use and pedestrianisation.

Remaining in the energy sphere, and the transition to a low carbon energy future, a movement growing traction is the idea of community energy or energy regions, whereby small groups take the initiative to transition their town or region to a low carbon economy. This has been seen to be quite effective in bridging the gap between innovators and other actors. As well as providing a testbed for new technologies, pilot projects are important in demonstrating the success of new ideas and thus overcoming the stigmas surrounding unproven or unfamiliar technologies. (Broekhans, 2013) Once there is a verified proof of concept, adaption by the swing group becomes easier to encourage. This may demonstrate why the rate of change requires a lot of groundwork before reaching a tipping point and a sudden acceleration.

An interesting pattern that has been seen in this movement is that change of this fashion is non-linear; a great deal of effort must be expended with little evidence of progress before some sort of tipping point or pivotal moment is reached. This can be seen below in the plot of the Austrian region of Güssing's transition to energy independence (on the y-axis) (Figure 3). (Hecher et al., 2016) The rate of change is almost non-existent for the first 10 years of the project apart from one small leap but then suddenly there is this rapid acceleration within the next 5 years. We see this representation of the Pareto principle, often referred to as the 80 / 20 rule. Initially, 80% of the effort must be expended for 20% of the gain and then the remaining 80% requires only 20% of the effort.

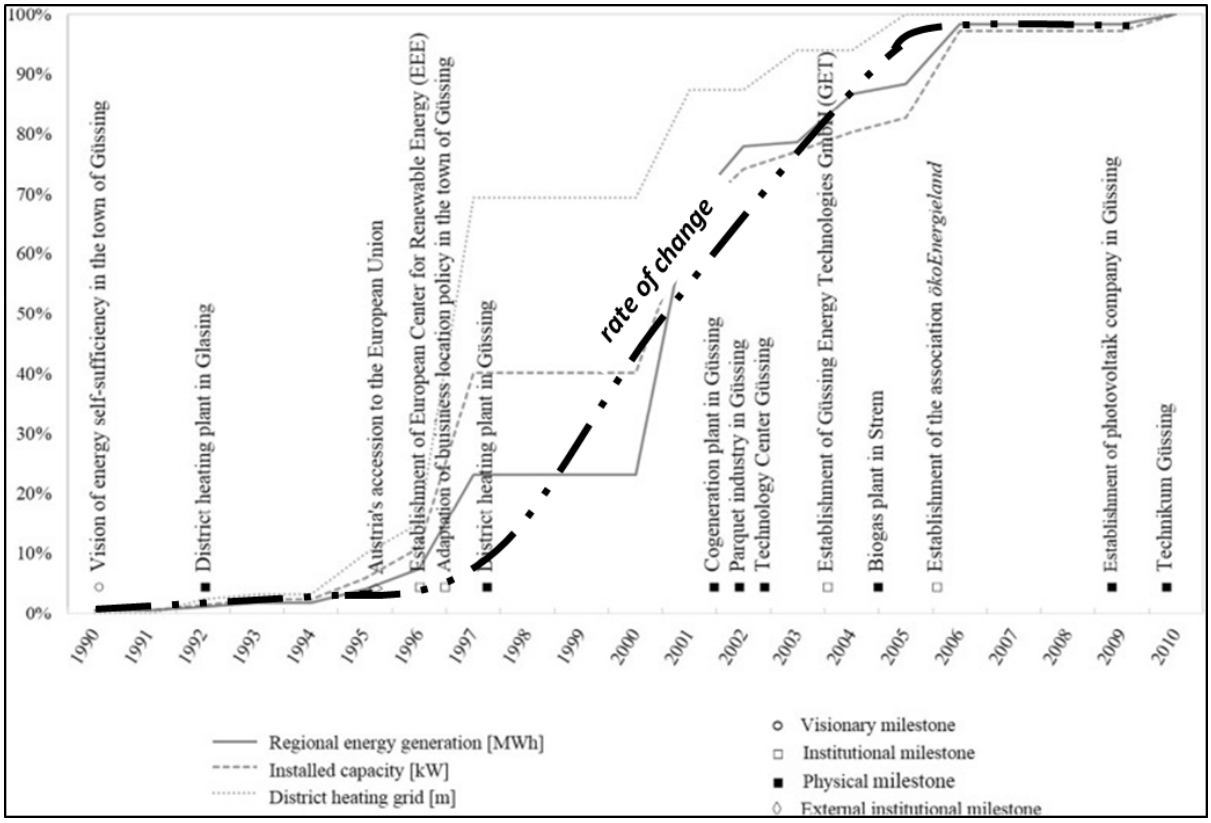


Figure 2 – Güssing Interrelationship between transition milestones and the energy flow

This makes the value of the hares as drivers of change quite apparent, without these actors there would be no race. Though it may seem to the actors that their efforts have little effect, reaching this societal tipping point requires a great deal of action before change can occur. From this, the actors within the hare category may take a degree of reassurance, they must avoid falling victim to burnout and press-on, while ideally making sure not to leave the tortoise too far behind. Once the hare has established a clear line of sight for the tortoise, it can easily make its way. Thus, as a guiding voice it is vital the hares continues to pull the tortoise forward.

Narrative Four - A Maturing Civilisation

Here the hare represents our current dominant market driven neo-classical economic model that focuses on the individual, whereby gratification is achieved through the acquisition and ownership of material stuff. The current era that has become known as "the Anthropocene" (Crutzen, 2002), in which our impacts on the environment are of such scales that we as a species are now considered a geological force. The tortoise represents the transition to a more collective, relational, community-based society. There is an imperative need for our civilisation to mature from the insatiable hare to the conservative tortoise whose ambition is shaped around qualitative growth (of mind / spirit) as opposed to further quantitative (physical) growth. In this light, the hare's identity is shaped by his consumption while the tortoise's is defined by her relationship to others. The young hare, taking a short term perspective seeks instant gratification, while the more mature tortoise seeks a (more sustainable) slow burner for the long road ahead.

During the 1960's a famous study on self-control and willpower at Stanford University's Big Nursery School developed what became dubbed 'the Marshmallow Test'. (Mischel, 2014) As part of the study, pre-schoolers were placed in a room with nothing apart from the table and chair where they sat. On the table was a bell and a dinner plate with treats (of the pre-schoolers choice), in one corner there was a single treat and the other two. The dilemma the children faced was quite simple, at any time they may ring the bell thus ending the experiment and allowing them to eat one treat. However, if they could endure long enough for the researcher to return they would be rewarded with two treats. Years later, the

participants of the study were surveyed to see how they had progressed. From this, a clear relationship between an ability to delay gratification and success was established. Those who had the self-control to earn two treats also had the willpower to focus more effectively in school and later in life achieving higher-earning positions.

Our society faces a similar dilemma to these pre-schoolers. Consumption of fossil fuels and other natural resources can provide us with the short-term gains of monumental social and technological acceleration. However, this has ultimately come at the cost of a global ecological crisis. Avoiding the often apocalyptic narrative surrounding our current ecological crisis will require that we learn sufficient self-control to sustainably manage the (finite) resources of our planet. Through delaying the gratification, we may achieve much greater satisfaction from the growth in our collective consciousness.

As Charles Eisenstein suggests in his book *Sacred Economics*; 'Just as life does not end with adolescence, neither does civilization's evolution stop with the end of growth. We are in the midst of a transition parallel to an adolescent's transition into adulthood.' (Eisenstein, 2011, p. 109) The rapid technological and societal growth of the 20th century is depicted as our civilisation's early adolescent growth spurt. Fuelling this rapid physical grow requires the consumption of a vast quantity of resources. As with the hare (or any confident teenager) who is irritatingly self-assertive of their capabilities, the pursuit of progress and growth / consumption casts itself as the undisputed purpose of civilisation. Moreover, as with a baby or young child, they are necessarily the centre of their universe as they increasingly consume and grow in an anti-entropic fashion. Their parents meanwhile are pre-disposed to self-sacrifice for their children and for the greater good of intergenerational success and progress, prioritising inter and intra-generational qualitative bonds and connections as they no longer seek (nor require) personal quantitative growth.

Metaphorically, we now face somewhat of a 'quarter-life crisis' as we enter the early adulthood of our civilisation; there is a stubborn refusal to tackle the challenge of altering our deeply ingrained habits of consumption (or indeed, to even face up to or admit the problem). As with someone undergoing the transition from teenager to adult, there is a period of denial, nominally in the early twenties (though it can extend further) whereby we cling to the hope our youth will never end. We as a society appear to converge on a rather similar dismissal that while it is agreed there is a need for change, it cannot happen immediately and will thus be planned for an undetermined future date. St. Augustine like, the insincere acknowledgement is made that we are not yet quite ready.

However, this presents a great deal of risk. If we can't kick our bad habits before maturing, then we risk a lock-in. The old saying of 'you can't teach an old dog new tricks' holds quite true for societal transitions. As can be seen in the below graph, while a successful transition can lead to stabilization, like that seen in figure 3, failing to achieve this can lead to lock-in and backlash. (Vandevyvere and Nevens, 2015)

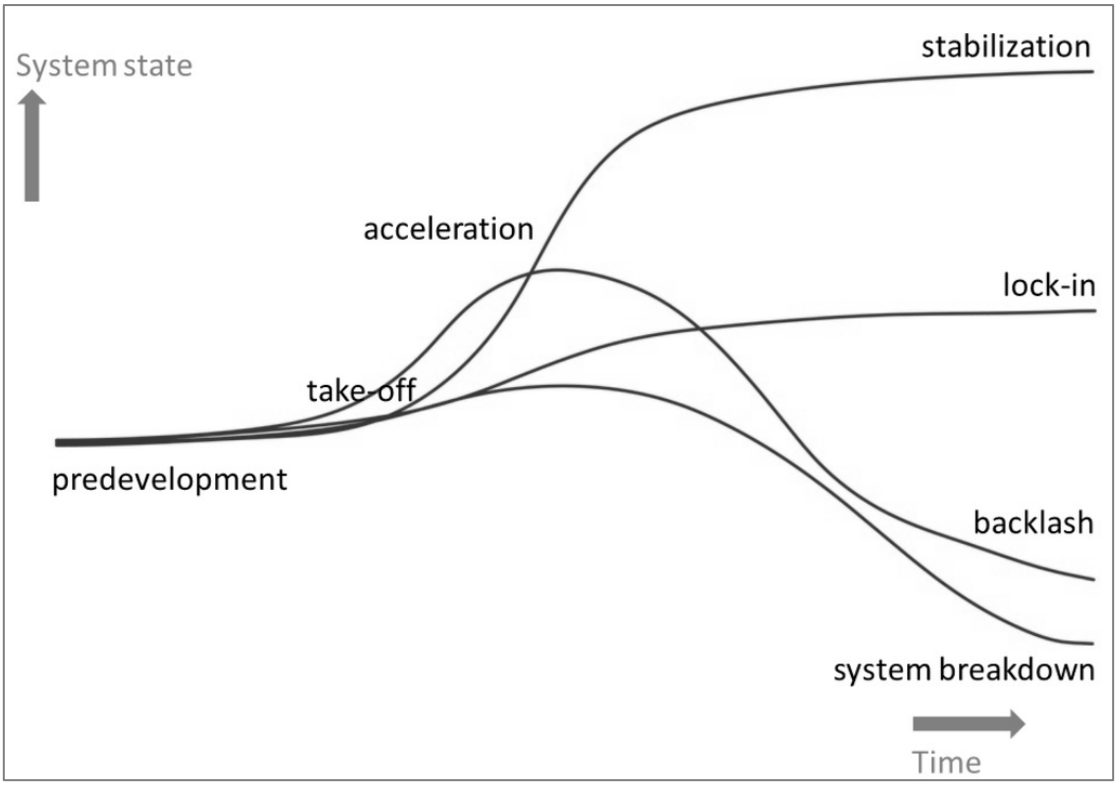


Figure 3 - The multi-phase perspective on systemic transitions

In the marshmallow test, a very interesting observation was that if the reward was not visible to the participants then they were less likely to succeed in their attempts at self-control. Our society seems to demonstrate a very similar struggle when faced with the moral challenge of future disasters resulting from current actions. Just as one may struggle to be morally challenged by something that is physically distanced by space, time also presents an ethical barrier. As seen in the previous narratives, changes to attitudes and beliefs play an important role in shaping our ability to value environmental goals. We appear to have accepted the fallacy that we will never have to deal with the consequences of our actions, as the true severity won't be apparent until an undeterminable future date. Mum or Dad will just bail us out! However, as maturing adults, Mum or Dad may no longer be around for us.

The hare's value set is extrinsic (self-centred), while the tortoise has greater consideration for intrinsic (greater than self) values. As John Foster presents in *The Sustainability Mirage* (Foster, 2008) our civilisation appears to have made the Faustian bargain. Through the use of fossil fuels we have been granted these magical powers, however, ultimately that must be paid for with an eternity in hell. We have made an unthinkable deal with the devil, that we will enjoy lives of excessive luxury, risking the potential suffering of future generations. The hare whose principle concern is personal attainment of material possessions accepts this price, whereas the tortoise challenges the agreement. The tortoise seeks fulfilment through interaction with others and the legacy of its existence. It can see a greater value in restraining its personal desire for consumption and instead to flourish through interpersonal connections. Achieving harmony with itself and its environment in order to better the lives of itself, its peers and its world, as well as that of future generations.

As is summarized in the below caricature (figure 4), in the hypothetical race to/of sustainability, the techno-optimistic, materialistic hare will ultimately loss to the patient, family-orientated, techno-critical tortoise. While there is value in the hare as a disruptive and innovative force (in this case purchasing a high-end electric car), so long as the ambition is still narrowly shaped by technological solutions, it will have limited effect in tackling the broader challenge of consumption. Truly meaningful change requires a wider societal shift in values toward a more collective society.

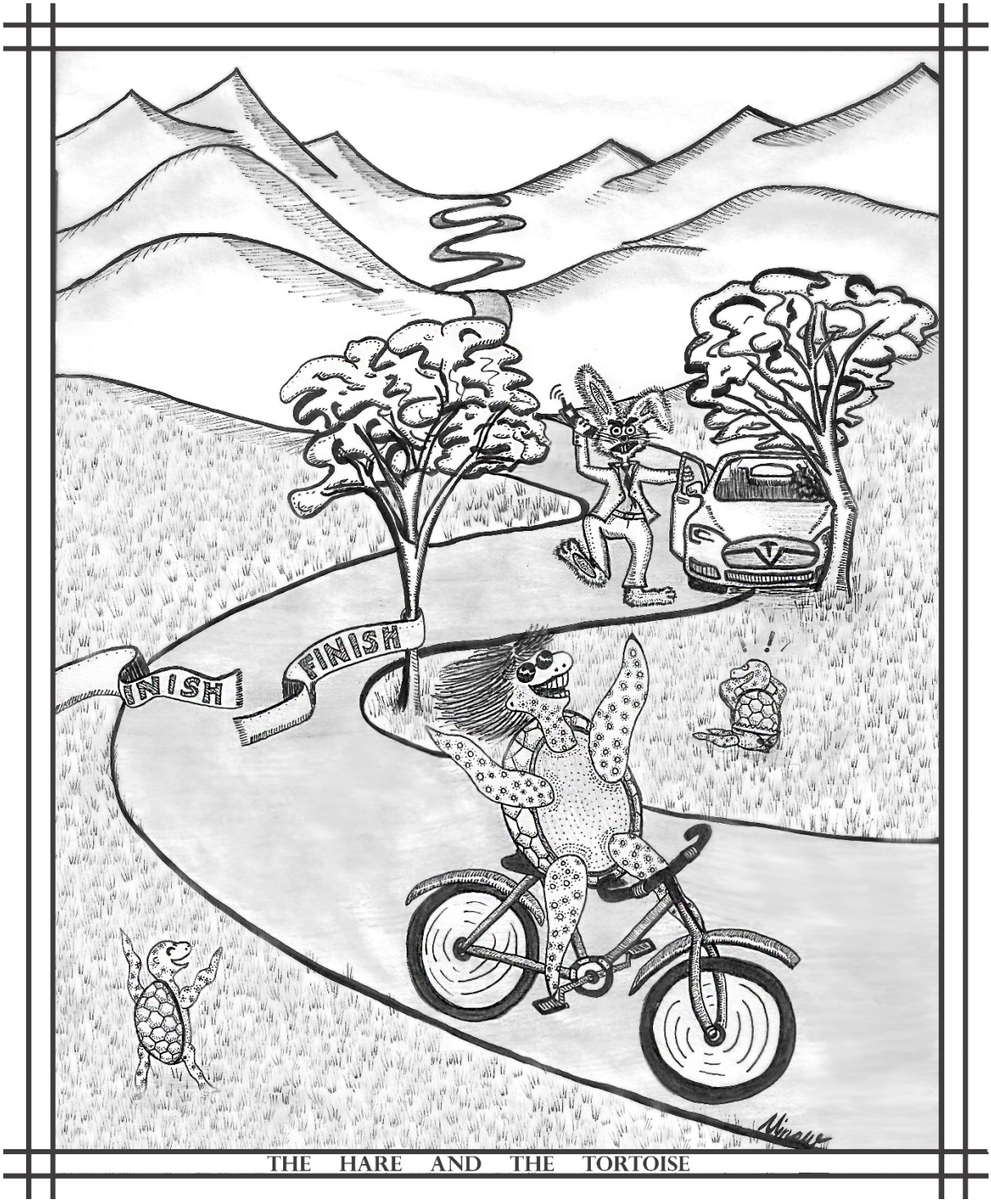


Figure 4 - "slow and steady wins the race" by Nina Wohlfahrt

Closing Discussion

The lesson apparent throughout this chapter would appear to be that those who are environmentally conscious must be careful not to allow their passion to exasperate them. The sustainability race is not a 100m sprint or even a 400m track race, it is a marathon comparable perhaps to something like the Tour de France. The hare's pace will inevitably tire, in contrast to the tortoise's slow and steady endurance.

Clearly there is great value in the passion (and eagerness) of the hare, which plays an essential role in starting the race and can be viewed as a strong guiding force. While change can never happen at the rate that the hare desires, quite clearly it may never happen at all if the hare were not pulling the tortoise

along. As with the natural flow of evolution, the niche innovators provide a valuable lesson as they scurry ahead down a variety of paths, which allows the tortoise make a favourable choice. Societal transitions don't occur linearly, there is quite a lag between the response of the wider public and action of the hares until some sort of pivotal moment is reached bringing sudden acceleration, before finishing in a consolidated state. However, this urgency and pace leaves actors susceptible to frustration and burnout. The passion must be restrained, racing ahead means the hare cannot prevent the tortoise from taking a wrong turn and generates tension between the various actors.

Ultimately, the relationship is one of dialectical complimentary opposites, as with many sustainability narratives. (Byrne, et al., 2016; see also Byrne's chapter in this collection) If the hare is to see the desired change, it is imperative that it exhibits a degree of patience, recognising that transformative societal change can only occur whenever the tortoise makes its particular path. It's wise to remember that the race is ever evolving and indefinitely long!

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Bibliography

Arbuthnott, K. D. (2009) 'Education for sustainable development beyond attitude change', *International Journal of Sustainability in Higher Education*, 10(2), pp. 152-163.

Barry, J. (2016) Bio-fuelling the hummer? Transdisciplinary thoughts on techno-optimism and innovation in the transition from unsustainability. In: E. Byrne, G. Mullally & C. Sage (Eds.) Transdisciplinary perspectives on transitions to sustainability. Oxon: Routledge. pp. 106-123.

Beder, S. (1997) *Global Spin: The Corporate Assault on Environmentalism.* Green Books Ltd.

Blue Planet II, Episode 7; "Our Blue Planet", 2017. Produced by O. Doherty and W. Ridgeon.

Bouwman H., Bornman R., van den Berg H. and Kylin H. (2012) 'Lessons from health hazards | DDT: fifty years since Silent Spring', *Late lessons from early warnings: science, precaution, innovation*: European Environment Agency.

van Bueren, E. and Broekhans, B. (2013) 'Individual Projects as Portals for Mainstreaming Niche Innovations', in J.Hoffman, R.L.H.a.A. (ed.) *Constructing Green: The Social Structures of Sustainability*. Cambridge, Massachusetts: The MIT Press.

Byrne, E.P. 2016. Sustainability as contingent balance between opposing though interdependent tendencies: a process approach to progress, evolution and sustainability. Transdisciplinary perspectives on transitions to sustainability. E. Byrne, G. Mullally and C. Sage, Editors. Routledge: Oxon, UK, pp. 41−62.

Byrne, E., Mullally G. and Sage, C. 2016. Transdisciplinary perspectives on transitions to sustainability. Routledge: Oxon.

Carson, R. 1962. Silent Spring. Greenwich, Connecticut. Fawcett Publications.

Chaisson, E. J. (2008) 'Long-term global heating from energy usage', *Eos, Transactions American Geophysical Union*, 89(28), pp. 253-254.

Churchill, W. 1940. Blood, toil, tears and sweat.

Crutzen, P. J. 'The "anthropocene"'. *Journal de Physique IV (Proceedings)*: EDP sciences, 1-5.

Eisenstein, C. (2011) *Sacred economics: Money, gift, and society in the age of transition.* North Atlantic Books.

Foster, J. (2008) *The sustainability mirage: illusion and reality in the coming war on climate change.* Sterling, VA;London;: Earthscan.

Freeman, C. (1973) 'Malthus with a computer', *Thinking about the Future: A Critique of The Limits to Growth*: Chatto & Windus for Sussex University Press, pp. 5-13.

Frost, R. (1916) *The road not taken.* Shamrock Press.

Gibbs, L. (2002) *Aesop's Fables.* Oxford University Publusher Inc. New York, p. 117.

Giddens, A., 2009. *Politics of climate change*. Polity.

Hecher, M., Vilsmaier, U., Akhavan, R. and Binder, C. R. (2016) 'An integrative analysis of energy transitions in energy regions: A case study of ökoEnergieland in Austria', *Ecological Economics*, 121, pp. 40-53.

Kingsnorth, P. (2017) *Confessions of a recovering environmentalist.* Faber & Faber.

Lebow, V. (1955) 'Price competition in 1955', *Journal of retailing*, 31(1), pp. 5-10.

Macy, Y. and Brown, M. Y. (2010) '„The Greatest Danger: Apatheia, the Deadening of Mind and Heart', *Religion and the Environment*, pp. 365-378.

Malthus, T. R. (1798) *An Essay on the Principle of Population, as it affects the future improvement of society. With remarks on the speculations of Mr. Godwin, M. Condorcet and other writers.* London, UK: J. Johnson.

Manabe, S. and Wetherald, R. T. (1967) 'Thermal equilibrium of the atmosphere with a given distribution of relative humidity', *Journal of the Atmospheric Sciences*, 24(3), pp. 241-259.

Meadows, D. H., Meadows, D. L., Randers, J. and Behrens, W. W. (1972) 'The limits to growth', *New York*, 102.

Millot, A., Doudard, R., Le Gallic, T., Briens, F., Assoumou, E. and Maïzi, N. (2018) 'France 2072: Lifestyles at the Core of Carbon Neutrality Challenges', in Giannakidis, G., Karlsson, K., Labriet, M. & Gallachóir, B.Ó. (eds.) *Limiting Global Warming to Well Below 2 °C: Energy System Modelling and Policy Development*. Cham: Springer International Publishing, pp. 173-190.

Mischel, W. (2014) *The marshmallow test: understanding self-control and how to master it.* Random House.

Ó Gallachóir, B., Deane, P. and Chiodi, A. (2016). Using energy systems modelling to inform Ireland's low carbon future. In: Transdisciplinary perspectives on transitions to sustainability. E. Byrne, G. Mullally and C. Sage, Editors. Routledge: Oxon. pp. 170−185.

O'Neill, S. and Nicholson-Cole, S., 2009. "Fear Won't Do It" Promoting Positive Engagement With Climate Change Through Visual and Iconic Representations. *Science Communication, 30(3),* pp.355-379.

Perry, B. E. (1933) 'The Text Tradition of the Greek Life of Aesop', *Transactions and Proceedings of the American Philological Association*, 64, pp. 198-244.

Perry, B. E. (1952) *Aesopica: A Series of Texts Relating to Aesop Or Ascribed to Him Or Closely Connected with the Literal Tradition that Bears His Name: collected and critically edited, in part translated from Oriental languages, with a commentary and historical essay.* University of Illinois Press.

Rosen, R. A. and Guenther, E. (2015) 'The economics of mitigating climate change: What can we know?', *Technological Forecasting and Social Change*, 91, pp. 93-106.

Springer, C. P. E. (2011) *Luther's Aesop.* Truman State University Press.

Steinberg, W. (1961) 'Martin Luthers Fabeln', *Halle: Niemeyer*.

Stern, N. (2006) 'Stern review report on the economics of climate change'.

Suetonius Tranquillus, G. (1957) 'De Vita Caesarum', *Liber I, Divus Iulius.*

Thomashow, M. (1996) *Ecological Identity: Becoming a Reflective Environmentalist.* The MIT Press.

Tol, R. (2017) *The Private Benefit of Carbon and its Social Cost*.

Tol, R. S. J. (2018) 'The Economic Impacts of Climate Change', *Review of Environmental Economics and Policy*, 12(1), pp. 4-25.

Vandevyvere, H. and Nevens, F. (2015) 'Lost in Transition or Geared for the S-Curve? An Analysis of Flemish Transition Trajectories with a Focus on Energy Use and Buildings', *Sustainability*, 7(3), pp. 2415.

Williams, H. T. P., McMurray, J. R., Kurz, T. and Hugo Lambert, F. (2015) 'Network analysis reveals open forums and echo chambers in social media discussions of climate change', *Global Environmental Change*, 32, pp. 126-138.

Zsolnai, L. (2015) *The spiritual dimension of business ethics and sustainability management.* Springer.