Chapter 12
Worldviews and Climate Change: Harnessing Universal Motivators to Enable an Effective Response

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Abstract Anthropogenic climate change is undoubtedly a complex phenomenon, measured and argued in detailed terminology indecipherable to all but the most educated of scientists; not typical fodder for global conversation (Elliott 2007). However, it is difficult today to find any source of mainstream media – print, television or digital – on any given day that fails to mention it. The sustained and mainstream interest indicates that anthropogenic climate change has hit a nerve deep within western society. Perhaps it is because its effects are so unpredictable and disrespectful of human-constructed borders [primarily through extreme weather and the resultant conflicts wrought by scarcities of water, arid land, and other natural resources (Ackerman and Stanton 2008; Heinz Center and CERES 2009)]; westerners can no longer rely on centralized policy and technology to keep them safe. Perhaps it is because climate catastrophe has been a common theme throughout past and current mythologies around the world, in which climate catastrophe is seen as a punishment for irresponsible human behaviour; climate change may strike some universal fear inherent in humankind. Perhaps it is because the majority of western society finally understands humankind is altering its very habitat and sees extreme weather as an assertion of nature's power over man. Whatever the reason, just as the polar bear has become the poster child – or metaphor – for anthropogenic climate change, so has anthropogenic climate change itself become a metaphor in the west for humankind's broken relationship with the natural world. A break that, if some of the more dire predictions are to be believed, has already crossed the "point of no return". How could the most intelligent and socially developed species in the history of the earth have allowed this to happen? To what extent can anthropogenic climate catalyze the effective, long-term societal and behavioural changes needed to heal this break?

Keywords Capitalism · Cultural relativism · Deep ecology · Globalization · Indigenous · Neo-imperialism · Universalism · Western worldview

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Introduction

Worldviews are collective beliefs about the nature of life through which humankind understands its relationship to the spiritual world, the natural world and to each other. They are created in response to humankind's universal quest for meaning (Campbell 1949). These worldviews are shaped by multiple factors, but they are most heavily grounded in collective religious beliefs and shaped by historical events and geography. In our global-mobile world, any given nation or set of nations today includes multiple worldviews. However, every nation has one predominate worldview, which, while not shared by all of its citizens, becomes institutionalized over time and shapes the very way that public problems and solutions are envisioned.

The western nations of North America, Europe, and Australasia, which have historically contributed disproportionately to anthropogenic climate change, share a common dominant worldview (Devall and Sessions 1985; Cramer 1998).[1] While there are clearly a myriad of cultural differences and degrees of environmental responsibility between and within these nations, their common worldview has been shaped by the same three forces: Protestantism, Cartesian science, and global capitalism.

For the first 100,000 years of human inhabitation on earth (Morrison 2006), the human species lived in agrarian or nomadic societies directly affected by natural forces. Even after a few millennia of increasing urbanization, its cities and cultivated fields were still seen as vulnerable islands surrounded by a larger and savage nature (McKibben 1989). Even though humankind already "suspected that human activity could change the climate" (Weart 2007), religious songs, prayers and rituals continued to revolve around natural events, such as weather (Sleeth 2006), which were seen to be outside human control.

About 500 years ago, the Enlightenment movement and the Reformation inspired Cartesian and Protestant thought, respectively. Cartesian science held that humankind possessed both a material body, as well as a non-material mind. However, non-human species – the plants and animals – possessed only material bodies, which could be explained and wholly understood through physical laws. There were no divine or natural phenomena. This view separated humans from the laws of nature.

Up to this point, western Christianity had a long tradition of dualism between a patriarchal, heaven-bound, rational male (Apollonian) kind of god and a more ancient, emotional, mystical, Earth-bound feminine spirit (Dionysian). Jung (1968) explained, "the archetypal mother was a part of the collective unconscious of all humans [. . .] and precedes the image of the paternal father". "The power of nature – and of women – to give and withhold life (formed an) ancient and deep

[1]This "first world" is not only made up of citizens of western nations; it includes the cosmopolitan, "globalize[d] from within" (Beck 2002) group of professional elites living in large urban centres around the globe (Harris 2008).

identification of women with nature [. . .] our birth from the bodies of our mothers and our nourishment from the body of the earth" (McFague 1991). Anthropologists have shown that in societies where women had high political status, for instance, menstruation itself was regarded as "supernatural potency". By contrast, in societies where women lacked power, this same menstruation was viewed as "pollution" (Knight et al. 1995). The leaders of the Reformation embraced the dualism of the "Cartesian split" and rejected the earth-bound "female" mysticism.

While religious and scientific leaders have battled over ideas of truth and right for these last 500 years, they do share this one critical belief: that humankind is separate from and superior to nature. This separation was further widened by the technological advancements of industrialization into the belief that humankind could actually control the natural world. Soon "industrial society was based on 'to measure is to know, to know is to predict, to predict is to control'" (Ginneken 2003, p. 184).

This separateness and feeling of control further enabled the global spread of capitalism. "Protestant values better facilitated the progressive force of capitalism" (American Environics 2006, p. 23). The natural world was seen as an unlimited market of resources, which could be quantified, owned, trademarked, bought, and sold. This exploitation was fuelled by public–private collaboration, in which the private sector was seen to more efficiently create public good, where success meant progress and growth, and happiness meant individualism and material possession. Public–private sector collaboration on international commerce goes back to the colonialism of the British East Indies Company and the Dutch United East Indian Company (VOC) in the late sixteenth and early seventeenth centuries.

Throughout the earliest centuries of colonialism and continued industrialization, western nations dominated commerce and politics around the globe. Under the pressure of the industrial revolution in the late eighteenth century, mercantilism gave way to early capitalism. In the twentieth century, capitalism "defeated" fascism (following World War II) and communism (following the collapse of the Soviet Union) as alternative market ideologies.[2] As the "ideological victor", capitalism became embedded in the predominate western worldview, and in the second half of the twentieth century, the global spread of capitalism intensified. It is no coincidence that the European nations which ultimately triumphed in their colonial pursuits were Protestant. Two of the strongest Protestant-led nations, Britain and

[2]This paper acknowledges that other worldviews exist which have wrought environmental destruction. One could argue that the institutionalized Soviet worldview was an extreme expression of the belief in Cartesian science, e.g. the complete denial of spirituality, the belief that science could "correct nature's mistakes". As one reviewer rightly noted, the "conquest of nature" was one of Stalin's main slogans. Yet this paper focuses on the western worldview both because it is the dominant worldview in the nations ultimately most responsible for the anthropogenic component of climate change, as well as because it has been universalized and institutionalized to such an extent that it shapes policy and societies throughout the world, regardless of whether or not the individuals it affects subscribe to its core beliefs.

the Netherlands, colonized what would later become the United States, the strongest modern force behind global capitalism. Although the US eventually won independence from direct control by either of these nations, the Protestant, Cartesian, capitalistic western worldview, which justified "the conquest of nature" (White 1967), was institutionalized within its legal and social structures.

Furthermore, over the last 50 years, public and private sector leaders in the west have subjugated the universalist discourse associated with human rights to *globally* market and institutionalize this worldview around the world through the global institutions they largely control, such as the World Bank, International Monetary Fund (IMF), World Trade Organization (WTO), Organization for Economic Cooperation and Development (OECD), and parts of the United Nations, e.g. Global Compact.

This "universalizing" has marginalized alternative worldviews as dissenters counter to some sort of natural and universal aspiration to economic progress, as measured by material acquisition and profitability. Multinational profits have soared, along with the political influence of the west. The result has been an exponential spread of destructive environmental policy – as well as intertwined policies on agriculture, health, and finance, and culture – into non-western areas of the world as well.

We might argue that the environmental degradation caused by the western worldview was justified if humankind was actually better for it, but growing evidence shows that it has the opposite effect. In stark contrast to the separateness, superiority and materialistic western worldview, interdisciplinary research has shown that humankind derives meaning through a combination of deep contentment and purpose. As Wilson's (1984) work on *biophilia* has shown, deep contentment comes through contact with nature. As Csíkszentmihályi's (1990) work on *flow* has shown, purpose comes with engagement in a consuming task. And, Haidt (2006, p. 238 and 242) later put this engagement in the context of community, when he showed "we were shaped by group selection to be hive creatures who long to lose ourselves in something larger. Whenever groups of people come together to try and change the world [. . .] they are pursuing a vision of virtue, justice or sacredness". Not surprisingly, those who live in pursuit of these truly universal quests for meaning also maintain more socially and environmentally sustainable lives. Cramer (1998) called this a "deep ecology" worldview. Deep ecology focuses on a *bioregionalist* harmony with nature, instead of domination, e.g. appropriate technology and non-dominating science; believes all nature possesses intrinsic worth, e.g. *biospecies equality*; recognizes Earth's "supplies" are limited; and argues that elegantly simple material needs and living with just enough meets the larger goal of self-realization, the highest need defined by Maslow (1954).

Unfortunately, the deep ecology worldview is often framed as a life of abstention and sacrifice in which we must give up the things we love and the progress we have made to return to a more primitive life in order to save the earth. In fact, the western worldview of superiority, individualism, and exploitation and its corresponding lifestyle actually deprives humankind of its inherent desires – the need for contact with the natural world and engagement in a higher purpose. Recent

psychological research argues, "The very things that [. . .] make people happy [. . .] (are the same things that have always helped groups, going back to) [. . .] the [time of] hunter-gatherer [societies] – relatedness, autonomy, curiosity, and competence" (Velasquez-Manoff 2008, p. 2). The chasm between the predominant western worldview and this more humanitarian worldview is the root of the world's current environmental (and social) problems. Breeching this chasm can help solve them both.

Paper

The key to reconciling what appear to be two dichotomous worldviews lies not in simply shifting the surface frames of these lifestyles. It is not simply about eco-consumerism: "keep shopping, but be green about it". It is not simply about more campaigns with polar bears on melting icebergs to shame the public into caring. In fact, part of Haidt's (2006, p. 198) research discovered that while images of the natural world trigger oxytocin, the neurological impulse associated with bonding and elevation, in human beings, only vital engagement triggers the neurological impulses associated with action. Most environmental publicity campaigns focus on natural imagery to prompt action. Unfortunately, these images only promote a bonding feeling. These campaigns fail to show the connection between the imagery of the natural world and humans as an element of that world and their vital engagement to it.

Instead of surface reframing or polar bear campaigns, radically shifting worldviews requires a three step *global interpretive frame transformation* (Snow et al. 1986; Snow and Benford 1988, my emphases):

1. *Defining the problem* and causes, which I briefly outlined above
2. Predicting what solutions, strategies, and tactics could *address the problem*
3. *Understanding* how and why should *others* take action

Defining the problem requires an understanding of the actual phenomenon of anthropogenic climate change and the way the problem of and solutions for it are framed. By looking at the discourses invoked within public, private and civil discussion, we can identify the underlying worldview which informs those discourses. Fully understanding the worldview, however, requires us to unmask the deeper influences which first created it.

Universal drivers of human nature can help predict what solutions, strategies, and tactics could *address* shift the deep frames (Lakoff 2006) of the western worldview and ultimately inform how and why *others* should take action. This last point moves us from the theoretical back towards the more practical and strategic.

Aligning universal drivers of human nature to shift the deep frames starts first with *bridging the Cartesian split* found in Protestantism and Cartesian science to allow a revival of mysticism and humility vis-à-vis the natural world. Some may

argue that this would require religious revival or conversion, a rejection of scientific objectivity, or a return to primitive living. However, it simply acknowledges what we have always known. First, as climate change has shown us again, we are a part of this natural world, regardless of what we may believe comes after, and at its mercy. Second, the natural world is more complex, uncontrollable, and unknowable than ever before. We may be able to understand certain processes and be able to interfere with them, but we cannot control them, let alone recreate them. Finally, it is important that these two groups, religious and science leaders, who seem perpetually at war, finally recognize the common group between them in addressing anthropogenic climate change. As E.O. Wilson (2006) has said, "science and religion are potential allies for averting mass extinction". Even though scientific and heaven-bound religious worldviews clearly approach the subject of climate change from different motivations and backgrounds, those that hold them share a common interest in protecting the earth.

The second step in addressing the problem lies in *reshaping the north–south*[3] *relationship*. For centuries, the relationship between the "north" and the "south" has been an unequal relationship of power and money. The west has largely seen the rest as a market for its products and ideas, as well as a resources for its industries. Although the west has originated most of the environmental destruction, weapons production, warfare, enslavement and colonization of the rest of the world in modern times, it also sees itself as the champion of universal human rights, democracy and progress. While the west's contribution to the latter ideals should not be minimized, its complicity in the former have compromised its reputation, despite better intentions. In addition, the focus on western contributions to universal values has led to feelings of superiority in which the flow of ideas and learning has been largely uni-directional.

This superiority has blinded the west to learning from the rest; this must change. Inspiration for a more meaningful and sustainable lifestyle can be found from those communities which have maintained a better harmony with the natural world, which see "[divine] spirit in every tree, river, animal and bird" (White 1967). Instead of simply "farming" indigenous societies for their raw materials and specific medicinal knowledge and "exporting" universal notions, such as human rights, the west *should begin to* "import" larger notions, which guide a normative, southern "deep ecology" community. These communities minimize waste and maximize sustainability, exemplifying what the west now labels a carbon neutral or low footprint lifestyle (McDonough Architects 1992; McDonough and Braungart 2002; Smart Growth 2007). This reversal in the flow of ideas should prove interesting for a "north" more accustomed to exporting the supposed western notions of free trade and individual freedoms to a weaker "south".

[3]This paper acknowledges that the metaphorical north–south discourse does not map directly onto the northern and southern hemispheres. Instead, it roughly translates into the western nations of North America, Europe and Australasia and the rest of the world.

Embracing "Historical Obligation"

Dobson's (2004) notion of *ecological citizenship* provides the first critical step in reshaping the north–south relationship. One problem with the universal moral arguments made by people such as Al Gore for dealing with climate change is an assumption that as a universal right, all humans maintain an obligation to each other. Whether intentional or not, this can lead to quid pro quo arguments from the powerful north (west) for mutual obligation from the less powerful south. This was exemplified by Todd Stern, the special envoy for climate change of the US State Department, when he said, "[we] are keenly aware that the United States, as the largest historic emitter of greenhouse gases, and China, as the largest emitter going forward, need to develop a strong, constructive *partnership* to build the kind of clean-energy economies that will allow us to put the brakes on global climate change" (Wong and Revkin 2009, my emphasis). The counterargument from China reflects an ecological citizenship stance. "It's difficult for China to take quantified emission reduction quotas [. . .] because this country is still at an early stage of development. Europe started its industrialization several 100 years ago, but for China, it has only been dozens of years". One could easily argue that unless China makes some commitment, as the largest future emitter, efforts of smaller emitters would be pointless. However, the argument is not about whether or not China will take the steps, but who will pay for them. Considering that emissions cuts will be made from now into the future, it is arguable that China's total emissions will never reach that of the US.

Taking an ecological citizenship approach will have a larger effect, however, beyond simply requiring historical emitters to fund their historical damage; this approach shifts the conversation about the nature of these payments away from the current benevolent "aid" discourse, and creates an obligation from the north to the south for "damages", instead of forcing the south to continue to beg for aid. This shift will help eliminate the superior northern perspective of the south as a cheap resource and easy market, essentially creating an equity that is non-existent today. Proponents of Contraction and Convergence (Global Commons Institute 2009) argue that, as the world is forced to contract its use of fossil fuels, the west should have to contract more in order to converge at a common global per cap emission rate. "Accelerating convergence to equal shares per head, relative to the global rate of contraction [. . .] is the constitutional way of solving the climate's opportunity-cost to developing countries while sharing future constraint at rates that avoid dangerous climate change".

Reframing Climate Change from Private to Public Interest

The greatest from the north–south relationship, however, will only come from greatly *reducing the influence of the private sector* on public policy. This is not to demonize the private sector at all. I myself worked in the private sector for nearly

17 years. Private sector organizations simply work from a self-centered profit motive that does not and cannot, by its very nature, truly take public good into account in its decision-making processes. However, many in this sector truly believe they hold the keys to public problems such as climate change and believe themselves to be working in good faith for the common good. All too often, public officials are happy to depend on the private sector for easy, silver bullet technologies, instead of making brave policy decisions. The World Bank is often seen as an enabler of the very free market economic policies blamed for globalization, poverty, the food crisis, climate change, etc. However, their tagline reads, "Working for a world free of poverty", and the imagery they employ is typically African families.

It is possible that the spiral of crises in the global financial systems, which began in late 2007, will eventually discredit capitalist ideology but the actual reversal of its influence has not yet materialized. Despite mounting evidence, and a public push for more market nationalization, regulation and protection, the structure and base beliefs of free market capitalism, embodied by the *ecological modernization* (Hajer 1996) frame, still dominate the way policy issues and solutions are framed in the western public and private sectors. *Ecological modernization* frames climate change as an economic issue, e.g. the Stern Report, and often a business opportunity as well, which centralizes the way both the problem of and solutions for climate change are imagined, e.g. focusing on carbon trading and technology development instead of localized, community-based solutions. Even the ostensibly scientist-based Intergovernmental Panel on Climate Change emphasized in its Summary for Policymakers (Climate Change 2007, p. 14) "there is high agreement and much evidence of substantial economic potential for the mitigation of global GHG emissions over the coming decades".

Even in the discourse about the staggering government investment being pumped into financial institutions has upheld the basic tenets of free market capitalism: that the market will eventually solve public problems; the markets will self-correct and public policy should play the role of market enabler. Even the deliberate decision by the US Treasury to only use the US$700 billion bailout for intervention in financial institutions instead of easing individual foreclosures resounds with the logic of Reagan's *trickle-down economics*. Unfortunately, the US public discourse on economic stimulus programmes, where the personal savings rate is effectively zero (Ferguson 2005), focuses on getting Americans to spend money again on consumer goods.

One major western tenet that has such a dramatic effect on the environment is the commercial notion of progress and growth. It is a commonly held and unquestioned belief in the commercial world that an organization must grow to survive. There is no room in the market for a solid business which earns the same year after year from a stable and happy group of customers but does not grow. This was less of a problem in the past, when companies were more often private, family-run operations. In the modern reality of public companies, i.e. a company whose shares are traded on the stock market, growth is what drives stockholder returns. Theoretically, the difference in a stock's price from one moment, day, year to the next is the expectation of an increase in value of the company. This increase in value is

typically driven by an increase in earnings. Public companies have the option of simply sharing its profits with its investors in the form of dividends. However, in the trade speculation mania and short-term profit mentality that has characterized the past couple of decades, dividends alone are not often sufficient motivation to invest. Companies come under increasing pressure from stockholders to drive up the price, and this is translated down the organization into the need to drive up earnings. Hence, the attraction of growth. Unfortunately, this focus on short-term growth (typically quarterly) is not always healthy; not for the company, employees or customers. At the expense of employees and natural resources, this growth relies on marketing to push a consumption which is greater than need. Constraints on speculation and marketing, as well as policies which reward company health instead of growth and restrict marketing activities to vulnerable groups (e.g. people with lower incomes, children, schools), could have a large ripple effect.

Finally, in the discourse on anthropogenic climate change western societies are often faced with *false discursive choices*, two ideals which appear mutually exclusive by nature and imply that society must choose one or the other. Addressing climate change will require stakeholders to *replace this false choice discourse with "common" or mutuality discourse* (Fellman 1998), for "discourses of opposites are limiting, violent and exclusionary of the richer variety of possibilities in the middle". Two of the most potent false choices surrounding the problem of and solutions for anthropogenic climate change are "environmental justice *versus* social justice" (Hawken 2007) and "economic health *versus* environmental sustainability".

In the final step, we need to understand how and why others should take action. Addressing climate change requires the engagement of millions of individuals performing multiple steps to reach a rather esoteric goal in collective, massive, public synchronization. The good news is that westerners largely understand the urgency of climate change, and, more importantly, are prepared to do their part in addressing it (WPO and CCGA 2007). In one typical study, the Royal Institute for Public Health and the Environment in the Netherlands (Rijksinstituut voor Volksgezondheid en Milieu 2004) found that 70% of Dutch citizens see climate crisis as a social dilemma, expect the government to organize a response, and are prepared to adjust their own behavior if others around them do as well.

The bad news is that policy makers, academics, the private sector and the media reporting on climate change often severely underestimate the willingness of individuals to engage in this process. Assumptions are made that "lifestyles must be maintained" by business and governments, who, not coincidentally, may benefit from increases in energy usage.

Following the attacks on 11 September 2001, most US citizens were prepared to sacrifice a lot in order to prevent another attack. Unfortunately, instead of calling for a reduction in arms proliferation or oil usage, or for an increase in diplomacy and personal reflection, former US President Bush (2001) told Americans to go shopping. This was supposed to show the terrorists they would not beat the American public by changing the (consumer) lifestyle. This is in sharp contrast to the calls for rationing during WWII, the oil crisis-induced run on energy-efficient cars in 1973–1974, and water rationing during the California drought in 1976–1977.

During the California droughts, residents were not allowed to wash their cars or run their water sprinklers. They were encouraged to take short, military-style showers. Even in the most Libertarian-Republican types of neighbourhoods, this kind of specific policy was welcomed. It was a collective cause around which neighbours rallied, made jokes, and used social pressure to ensure the reluctant conformed. This constituted what Turner and Killian call an "emergent norm", whereby "a shared understanding [. . .] of what sort of behavior is expected in the situation [. . .] encourages behavior consistent with the norm, inhibits behavior contrary to it, and justifies restraining action against individuals of dissent" (van Ginneken 2003). Emergent norm is often referred to in layman terms simply as peer pressure.

Building public engagement on climate change and the broader issues of environmental degradation, requires *a leap of faith in the willingness of the western public to engage* in the process, instead of leaving them to the human tendency towards environmental fatalism, which has been documented since the first century BC (Hudson 1993).

Secondly, public engagement must *re-conceptualize the* "*pursuit of happiness*" in the west. McKibben's (1989) finds that the same lifestyle practices which lower carbon emissions – living closer together, re-localizing food production, consuming less – are the same lifestyle practices which ultimately make humankind happy. According to the findings of the World Values Survey, Puerto Rico and Colombia, while not economically wealthy, are the second and third happiest countries in world. Wealth beyond a basic standard of living – about £10,000 a year – shows no direct correlation to happiness. In fact, in some cases the "standard of living (in the western world) has increased dramatically and happiness, [. . .] in some cases has diminished slightly" (Rudin 2006, p. 2). Inglehart et al. (2008, p. 276) conclude: "The relationship between economic development and happiness follows a curve of diminishing returns". In other words, once a foundation of economic security is achieved, initial *subjective wellbeing* peaks. Further economic growth does not buy additional happiness. They postulate that the US reached this economic peak in the mid-1940s and note: "Happiness is shaped by social and psychological factors at least as much as it is by economic and genetic ones" (p. 274). The Happy Planet Index (New Economics Foundation 2008) rated the US the 150th happiest nation out of 178 countries (about the same level as the Ivory Coast, Rwanda or Sierra Leone), based on how ecologically efficient nations provide for the wellbeing of their citizens. American Environics (2006) has tracked this decrease in economic wellbeing and noted the increasing focus on pure survival, as well as polarization, in the US. In the same period, the strong safety nets of western Europe and Canada allowed its citizens to focus on fulfilment, i.e. self-actualization. In contrast to the production-oriented measures of western nations, Bhutan promotes national gross happiness (NGH) as a measure for policy success. Conversely, "insecurity fosters a materialistic approach to life. Policies that combat insecurity – universal healthcare, say, or good, affordable education – promote happiness [. . .] advertising promotes consumption, fosters insecurity, and hinders self-acceptance, another predictor of lasting well-being" (Velasquez-Manoff 2008, p. 3).

This alternative pursuit of happiness will require a general de-mobilizing of western lifestyles and a re-acquaintance with local sources. The United Nations identified transport and commercial livestock as problematic market sectors. Food philosopher Michael Pollan (2009) believes that anthropogenic climate change scares westerners because it will likely force them to do more tasks for themselves that they have become accustomed to outsourcing. Examples include growing food, making clothes, cooking meals, building and fixing things, raising animals (i.e. husbandry). However, these kinds of changes will greatly contribute to Local Economies (Berry 2001) and food security, as well as reinstalling the confidence brought by self-sufficiency. These arguments are cited by multiple social movements, including Slow Food (versus fast food), farmer collectives, and vegetarianism, and cross political lines. Part of re-localizing communities rejects the current "throw-away" culture and reinstates a "repair" culture in which it makes financial sense again to fix or retrofit electronics, appliances, computers, and vehicles instead of dumping them for an upgrade.

Finally, mobilization relies on engaging the public on a personal flow level, but on a mass scale. For clues into how contact with nature can be used for engagement, human ecologist David Key (2003) proposes that: "Outdoor activity and immersion in nature can stimulate opportunities for self-actualization (again calling to Maslow's "hierarchy of needs"); peak experience, self-actualization and nature are inextricably linked". This finding is backed by Paul Maiteny's (2000, p. 248) interdisciplinary research on influencers and predictors of positive environmentally responsible behavior, which finds that: "Only behavioural change that is meaningful to the individuals will itself be sustainable in the long term. The more it promises to satisfy the inner existential yearnings, the more meaningful it will be. And the less satisfaction of the yearnings is believed to result from consumption of physical resources, the more ecologically sustainable it will be". Personal experience especially associated with those personally unique activities, which put individuals into a state of flow, clearly has the ability to reshape environmental behaviour.

According to a study by Nancy Wells and Kristi Lekies of Cornell University "participation with "wild nature", e.g. walking, playing or hiking in natural areas; camping; or hunting or fishing, [. . .] before the age of eleven [. . .] has a significant, positive association with both adult environmental attitudes and behaviors" (Wells and Lekies 2006, p. 13). Their research indicates the importance of early exposure to wild nature and unstructured play. In their own words, "To interact humbly with nature we need to be free and undomesticated in it [. . .] allowing for extensive, spontaneous engagement with nature". Yet today, American children spend an average of thirty minutes (or one per cent) of unstructured time outdoors each week and 27% of their time watching television (Hofferth and Sandberg 2001). The American Academy of Pediatrics even recommended vitamin D supplements for children (Associated Press 2008), something unnecessary with basic exposure to the sun. Policy initiatives, such as the No Child Left Behind movement originated by Richard Louv (2007), could reverse this trend and promote responsible environmental behaviour in future generations.

Finding "Flow"

Experiential design is the art of telling a compelling story about an often complex subject in a three-dimensional, physical space in a way that engages the general public without losing credibility with the experts. One of the secrets of experiential story designers is to ask the subject experts about the origin of their specific passion, whether it be sports or plants, ancient history or modern science. Inevitably, their passion was sparked by something that happened when they were about 12 or 13 years old. In fact, the most successful Hollywood films, besides being based on the universal Hero's Journey, are targeted to this same age group. Once the designer understands what hooked these professionals to their chosen field, that hook becomes a critical key in developing the visitor experience. Some examples follow:

1. While one firm was designing the Abraham Lincoln Presidential Library and Museum, the librarian–historians disclosed that the sense of discovery they experience when delving into old documents and books – the sense that they could discover something that no one had noticed about Lincoln before them – drove them into library science and the study of Lincoln.
2. On an individual level, Jane Goodall's love of chimpanzees stemmed from her favourite childhood books: *The Story of Dr. Doolittle, The Jungle Book*, and *Tarzan* and she dreamed of one day becoming a literal "Jane of the Jungle". By the age of 11, Jane Goodall dreamed of going to Africa to live with animals, which was a radical aspiration in those days for a young girl, but Jane had encouragement from her mother.
3. A top British volcanologist revealed that a single teacher and a field trip to the Lake District when he was 12 years old sparked the amazing career that led him to climb volcanoes on six continents, culminating in a recent expedition to Antarctica.

This hook illustrates that humankind is most easily motivated when engaged in its own unique skills and interests.

Collective "Flow"

Pine's (1992) theories on *mass customization* may demonstrate how this hook, i.e. vital engagement or flow, could be realized on a massive scale. The basic concept was to build flexibility into the components of the products themselves so that each consumer saw their product as tailor-made, e.g. mobile phones with customizable ringtones, sleeves, and screensavers. Organizations were encouraged to "make it ever easier and less costly for [. . .] (disparate parts) to come together to satisfy unique customer requests" (Pine et al. 1993).

This kind of constant shifting of components into ever changing wholes is reflected in the social sciences through the concept of dynamic "social assemblages".

The basic theory holds that the influencers and people who make up any social group are infinitely complex and constantly evolving, in direct contrast to the linear and static ways in which they are often categorized and studied. Any given influencer or person can be part of any number of groups at any given time. Groups assemble, evolve and disassemble, dynamically dependent upon the changing needs which the group addresses. Mexican philosopher Manuel de Landa explains: "Assemblages are made up of parts which are self-subsistent and articulated by relations of exteriority, [. . .] so that a part may be detached and made a component of another assemblage" (DeLanda 2006, p. 15).

The key to mass vital engagement lies within policy that is flexible and changeable, depending upon the unique interest of the receiver and situation at hand. Some internet activist organizations, such as Amnesty International and the Natural Resource Defense Council, provide interesting role models for how these dynamic social assemblages can be created and leveraged to engage the masses on a vital, flow level.

Conclusion

Of course, one PhD dissertation cannot answer all of the questions I have raised herein. The purpose of my dissertation is to begin this critical discussion, not to end it. Furthermore, the ideas and concepts outlined above are by no means conclusive. Encouragingly, though, there is rising concern not only to address climate change but also our broken relationship with the natural world. Some readers may accuse me of placing too much blame for anthropogenic climate change and the broader ramifications of environmental destruction on the west. I offer in response the parable of the pond and the rock:

> A rock is thrown into a still pond, and it creates waves. The rock sinks from view but remains a silent presence the pond must navigate around. The pond shifts, and the waves reverberate. If the waves cause the pond to overflow its bank and do harm, which is to blame?
>
> The rock, the thrower, or the waves?
>
> The west threw the rock of an individualistic, realistic, and materialistic worldview.
>
> How can we blame the waves?

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