‘After Neoliberalism’: Environmental Education to Education for Sustainability

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Education for Sustainability is presented as a swish alternative to old fashioned pessimistic Environmental Education. ‘Sustainability’ takes a position ‘after’ Neoliberalism (Craig, 2005), that purports to absorb and resolve some of the critiques of Neoliberalism, such as too great an emphasis on rational individualism, and a theological faith in God’s Invisible Hand for ‘balancing’ the Market (Devine, 2004). The Prime Minister of New Zealand, Helen Clark stated in her State of the Nation speech in 2007, “The invisible hand of the market doesn't deliver a sustainable nation, as an earlier era of New Zealand politics showed only too well” (Clark, 2007). Yet, they can only present themselves in this manner because ‘sustainability’ itself, does so much work for them. The market no longer needs emphasis because it is embedded in the meaning of sustainability. ‘Sustainable development’ has been described by Anthony Giddens in his book on *The Third Way* as encouraging efficiency (Giddens, 198: 74). Efficiency might be admirable in economic terms, and it does have some environmental benefits but it should not be conflated with conservation, or with reducing consumerism. Sustainable ‘development’ links economic growth to environmental measures. It allows the metaphors of market liberalisation to overtake each and every environmental issue, even of such immense proportions as human extinction through greenhouse gas emissions and resultant climate change. ‘Sustainability’ is a key measure to the deployment of expanding markets into areas which hitherto remained ‘external’ to the cost-benefit exercises of Pareto optimality. Sustainability introduces new measures of surveillance over businesses and individuals that enable the deepening of governmentality (Foucault) and enhance the ability for tax revenue. It also serves multiple purposes by addressing, albeit in very limited fashion, environmental concerns, and at the same time, allowing politicians to distance themselves from long held, and sophisticated critiques of the principles of Neoliberalism. At the same time, sustainability removes all of the unpopular consequences of deeply understood environmental concern so that the consumerist lifestyle is able to continue unchecked. The consequences of the rhetoric of sustainability is the continuation of the modern consumer culture and an ability to keep ignoring the scientific evidence that modernity is resulting in radical climate change, pollution, deforestation, and extinctions.

This is a very pessimistic analysis of the Neoliberal usurpation of the meaning of ‘sustainability’ from hippy, greeny, conservation methods towards the marketisation of all practices, events, items, and knowledge as potentially consumable ‘resource.’ The determinism of Neoliberal discourse is even more overwhelming when we consider how it permeates multinational corporations, pan-global organisations, many NGO lobby groups, national governments, local body Councils, educational policy, institutions, curriculum, and sometimes even pedagogy. One might begin to believe that despite the apparent flexibility of conceptual meaning – after all, sustainability swung from one side of the spectrum to the other – that there is some kind of teleological movement, that increasingly defines every aspect of humanity and nature as part of the market rubric, and that increasingly, this determinist position is impossible to escape. This is the thesis of Francis’s important text “The End of History” (1992). It echoes (or inverts) in apocalyptic terms, Hegel’s thesis of the dialectical telos to history (Hegel, 1807). It refers back to our half-baked knowledge of Marx and the determinism commonly associated with his materialist analysis and dialectical method of the capitalist structure of political economics (Marx, orig. 1865). At the risk of revisiting the arguments held between Marxists and liberals during most of the 20th century, it is the question of determinism, the processes of change, and the mobility of meaning in language that interests me in this paper. It is of interest then, when

colleagues with a background in sociology, education, geology, and post-structuralist philosophy begin talking about 'after-neoliberalism,' (Craig, Lewis, Larner).

In this paper, I am not making a 'comparative' analysis of environment education across nations, but rather using New Zealand as a case study for the interaction between a particular nation state and the pan-global political-economic situation. Neoliberalism (or 'late-capitalism) is not a radical change from older Liberal principles, but has a particular set of policies that differentiate it from Keynesian approaches to Liberal governance. Keynes was interested in stabilising the unstable 'dialectic' between the workers and the owners of capital. If the owners kept siphoning off surplus value, then the workers would eventually be so frustrated, that they would 'negate the negation' and overthrow the super-structure of owners and the State. Neoliberalism takes the Keynesian Settlement – which guaranteed universal welfare, education, and health provision – and wants to diminish the States role, and privatise these provisions (amongst others, like energy, transport, civil engineering, and so forth). Neoliberalism makes the case for free market provision of absolutely everything. The market, they argue, is the most equitable, a-political, mechanism for balancing the costs and benefits of the desires and needs of individuals. There is only room for a minimal State to act as legal regulator when utterly necessary. This rhetoric, which used to be considered far-fetched, idealistic, and right wing, has become largely normalised and although it never actually eventuates, all additional elements to the State apparatus are considered 'extra' to the minimal State advocated by Neoliberalism.

The point here is not to make a political stand that advocates a more Keynesian, or a more Socialist, or a more Anarchist, or a more Neoliberal position. Instead, I want to look at the emerging mode by which the market is transforming from a mechanism, to a political position, to a metaphor for all human-environmental interaction, and finally into the hidden metaphysical law that is subsumed in words like 'sustainability.' Increasingly, the market has become a metaphor for all aspects of the world, and the assumption is usually taken, that the market is able to prioritise and distribute valuable commodities more fairly than any given political system. I want to argue that the market has moved from a practical, sophisticated, material set of nodes that allow the exchange of goods and services to a metaphor with metaphysical connotations. The metaphor of the market now permeates, saturates, and surrounds *everything.* It has become a cosmology. It is *Gestell,* enframing. It is a very determinist position.

Personally, I do not believe in determinist positions. I take a leaf from the Friere, Marx, tradition –that if we attempt to understand the structure and momentum that is letting certain forms of governance dominate, we can ascertain faults and fissures, 'lines of flight' (Deleuze and Guattari, 1999) and means of improvement. 'Consciousness raising' helps take advantage of the ripe conditions for change. When looking at large scale, well ensconced, cultural norms, like the Neoliberal market model, it can be overwhelming to try and discover what is useful, and what is destructive about that particular system. 'After-Neoliberalism' tries to take exactly this stance. But Climate Change is creating the ripeness for change in a completely unprecedented way. The danger is, that Neoliberal metaphors will co-opt this chance, and entrench the market's formula, at the moment that the possibility for renegotiating the emphasis on consumerism is most necessary and most possible.

There are important critiques of Liberal philosophy and its Neoliberal side-shoot that have been around for a long time. Criticism of the 'individual' has emerged from feminism (de Beauvoir, Irigaray, Kristeva and many others), criticism of rationality and the rational individual (Nietzsche, Heidegger, Foucault, Derrida, Marshall, Lankshear, Peters and more) criticism of science is less straight forward but important (Canguilhem, Heidegger, and N. Gough), and the claims to universalism (Nietzsche, Said, Malouf, Tuhiwai-Smith, and many more). These philosophical assumptions lend themselves to legitimating (Neo)Liberal modes of culture and governance. For example, Gough writes,

If the knowledge produced by Western scientists was 'consumed' only in cultural sites dominated by Western science, then their claim to its universality would be a relatively harmless conceit. However

attempts to generate global knowledge in areas such as health (necessitated, in part, by the global traffic in drugs and disease) and environment (for example, global climate change) draw increasing attention to the cultural biases and limits of Western science (Gough, 2002: 1226).

The universal mandate of pan-global organisations lends itself to this tactic of a legitimate, authoritative, all-inclusive, mode of governance that is deeply embedded in the institutional practices and the language of everyday interactions throughout the modern world. However, if we understand the way that the language is being captured by the market metaphor as a universal metaphysical foundation and we are able to highlight and critique this position, then we are better able to see how these particular people, in these institutions that are historically specific, not universal, are trying their best to achieve a better situation for as many people across the globe as they are capable. This means, we can have a charitable reading of the efforts of institutions and their medium and long term goals at coping with the trans-national character, and problems of global proportion in the situation that we all face; global climate change. It also gives us leverage to change the institutional practices and the cultural norms at a very deep level, in an ongoing way that is not impossibly idealistic but rather focused, perceptive, and strategic. The environmental education curriculum is one of these strategic sites.

How do we know what words really mean? In contemporary education, we know that teaching others about meaning leans heavily on dextrous use of language and metaphor. Educators aim to get across specific ideas that bear relation to particular events or items. Yet meaning is no longer considered a direct correlation from the word to the truth, the signifier to the signified. Meaning is always deferring to the network of relations of other words and meanings in the cultural context (Derrida). But some words remain more stable than others. ‘Sustainability’ has become one of those key Neoliberal terms, that has encroached upon an older, more authentically defined set of environmental factors that positions humanity as a species amongst many, and inverted the meaning towards a metaphor for efficiency, economic development and the Ideal Market. The stabilisation of ‘sustainability’ as this new metaphor for market orientated, Neoliberal ethos of maintaining resources radically alters the spectrum of approaches towards environmentalism. This plays out in educational policy and curriculum. In today’s society, many ‘modern’ nations are shifting ‘environmental education’ (if they had one) towards ‘education for sustainability.’

Meaning is continually in flux, and it is a contingent stability that lends itself to communication between people, in any given socio-historical context. Familiarity and context lend nuances and meaning to terminology, but there is embedded in the meaning of words (whether technical and specific or as common as conjunctives like ‘and’ or ‘is’) deeply held commitment to certain assumptions about the metaphysics, or structure that underpins the human interaction with the environment.

The assumption that there are philosophical implications embedded in all cultural languages is opened up to anthropological question by Gough 2002. Heidegger makes a similar point when he denigrates das Mann for total immersion in the busyness of daily life without any reflective cognizance about why we undergo such work. It is possible to conceive of people who make no conscious effort to understand their own philosophical foundations. Given that each attribution of ‘structure’ and ‘laws’ or ‘foundations’ are themselves culturally ascribed, even if they are considered universal, opens up the spectre of a thorough-going relativism. But as far as I am aware, there is no cultural group that does not have sophisticated appraisals of the structure, taxonomies, and psychologies that go along with their particular cultural mores. These principles may not resemble western metaphysics. Once we can ascertain those ‘underlying principles’ or consistent traits and strokes, it is possible to mount ethical and political critique – and the problem of unaccountable relativism disappears. This is the reason that philosophical critique is so important in a ‘post’ modern world where the universal claims of Idealism have been resituated as merely one set of philosophical assumptions, amongst others.

The philosophical question is, how do we discern the metaphysics embedded in key terminology, and how does the metaphysical assumptions impact on the community's world view, the policy makers, the implementation, the educational institutions, the ways teachers, students, and shop keepers understand themselves, and accordingly, how people normalise particular behaviour and ostracise others. Proper consideration of these questions requires switching from the macro to the micro and back again. It includes examining our conception of the universe, and the minutae of practices, it takes cognizance of economics, chemistry, social mores, democratic norms, and the weather. In today's modern culture, these questions require a global outlook and an understanding of the nation. They also require a hard look at the discipline and regulation of persons, of bodies, of social groups, families, institutions, of individual and mass behaviours. 'Sustainability' has become one of these key terms that holds within it this broad range of concerns. Its novelty, at the present time, enables 'sustainability' to do a lot of 'work' that was hitherto relegated to other, more overt, signifiers. 'Sustainability' is part of a process of normalising and shrouding the metaphysical assumptions of Neoliberalism[1], that were thriving, until recent widespread cynicism began to erode Neoliberal authority (Dale, Devine, Fitzsimons, Lankshear, Larner, Marshall, Peters, amongst many others).

My initial question revolves around these two distinct understandings and associations of the term 'sustainability.' Both ends of the spectrum are problematic for vastly different reasons but ironically (and not surprisingly given that they both emerge from western cultures) the problems for both are associated with philosophical Idealism. Sustainability and ecology belong to an earlier Hippy era where the environment was understood as reified and pure.[2] Sustainability was often synonymous with conservation. 'Pure nature' tends to reinforce the Idealist philosophy of Descartes, Berkeley, Kant and others, who divorce human subjects from natural objects (solipsism). Whilst Hippy sustainable ecologists might have avoided the 'Great Chain of Being,' the conservationist ethic keeps modern society in a completely separate box (marked evil) and nature in a different box (marked pure) that is free of the clutter, pollution and aesthetically displeasing detritus of humanity.

Sustainability and economics is a philosophical shift towards understanding the earth as resource rather than pure thing-in-itself. Yet elements of environmental care and conservation is imported into the new understanding of the term. Sustainability is the application of long term projections on resource use, and the conservation and sustaining of resources for 'future generations.' These goals are to be achieved without jeopardising the incremental growth of economic prosperity.

So it comes about that both sustainability-and-ecology, and sustainability-and-economics do not conceive of humanity as a natural species, that cohabits in complex interaction with other species.[3]

Pollution used to be held apart from the cost-benefit calculations of businesses and market value. Turning a blind eye was profitable, and environmental awareness was politically undermined. Sustainability has changed all of that. To some extent, the saturation of market goods in wealthy consumer societies has meant that including those erstwhile externalities of pollution is the latest and most creative area for economic expansion. Pollution vouchers enable the continued expansion of economic growth by broadening the market to include more factors of the environment in monetary terms. And while carbon credits may make an impact on the types of energy that we generate, it is one, relatively clumsy tool in what should be a wide range of practical initiatives for altering the culture of modern consumerism to a culture embedded in an environmental ethos.

Environmental education is almost non-existent in New Zealand at present. It gets a small mention in Social Studies and Geography. However, now that 'sustainability' has moved to central stage in global and national policy, and in many international corporations, it is likely that curriculum aiming at the environment will emerge. The government has already put some effort into investigating and formulating an approach to the environment and the role of education. Curriculum development is struck on the debate between older,

greeny and 'pessimistic' approaches to 'environmental education' or the more 'optimistic' Neoliberal version of 'education for sustainability.'

The topic is by no means straight forward. Like many aspects of our native curriculum, it is influenced by international concerns and prevailing discourses that help governance, economics, and policy implementation. In the context of a global climate of Neoliberalism, it is perhaps not surprising to find that the preliminary documentation has engaged with the debate between an older, more emancipatory and far-reaching approach to 'environmental education' and a newer, more 'optimistic' approach that embraces the global discourse of 'sustainable development.'

New Zealand's response to climate change is almost entirely generated by the policies of pan-global organisations. The government has accepted the rhetoric of 'sustainability' and the extremely limited policy toolbox offered by Neoliberalism. Our own cultural history of 'number eight fencing wire,' the original think-big projects, such as the Manapouri dam and electricity generating plant, and a strong local green movement give plenty of scope for a far more genuine and affective response to the problem of climate change. However, New Zealand's whole hearted embrace of the Neoliberal market as the metaphor for all interaction, items, and value ensures that the government has given higher priority to international market transactions, for example carbon vouchers, than to local initiatives, infrastructure, and priorities.

Nation states are enrolled in complex global agreements, like the Kyoto Protocol, that seek to find global solutions for global problems. Climate change is a good example of an issue that is far larger than any given nation state, and yet is a result of the modern lifestyle enjoyed by many countries in the 'first world.' We are used to thinking of national states in Keynesian terms, whereby the government supplies a basic infrastructure and welfare network that facilitates the ongoing, stable backbone for a 'healthy economy.' But the role of the nation state has changed as a result of the stock market and cheap transport. Containerisation has transformed trade and encouraged a shift from local resources, factories, and markets to international production, distribution, and consumption. Many items get made in a wide variety of places, the materials are extracted from different countries, the manufacturing is spread over many countries and the assembly tends to happen reasonably close to markets, which are themselves globally distributed (Dale and Robertson). Even ownership is no longer the preserve of local elites, but is distributed and international.

The globalisation of capitalist production has removed the accountability for labour relations, production safety, pollution, sustainability of resources, and locality of transport from any given nation state. Responsible practises are not controlled by any particular legislative body. Rather, large scale corporations often exceed the revenue of many nation states, and are in a very strong position for negotiating special concessions that alleviate them from local laws and guidelines that were designed to protect national resources, pollution and working relations. Governing bodies have responded to the globalisation of production with pan-global organisations that aim to legislate across state boundaries. This puts national governments in a rather awkward position. Despite being voted in by local populations, national governments are increasingly bound by pan-global agreements that transgress national boundaries and time-frames. While we may applaud these arrangements as the only adequate way of regulating the monolithic global corporations, they also extend the reliance on the market as the regulatory model for global relations – this is not just the World Trade Organisation, but most pan-global organisations, perhaps with the limited exception of the United Nations. Thus, environmental issues are subsumed under market metaphors, rather than human endeavours existing in a subset of the wider environmental context.[4]

For this reason I want to turn to the history, pragmatic restraints, and goals and aims of some of the pan-global organisations and then return to New Zealand's attempt at generating environmental education policy.

The most significant attempt by pan-global organisations to address environmental concerns since the 1980s has been the United Nations Agenda 21. The anxiety about the environment at pan-global level tends

to be seen in anthropocentric terms. In the early stages of UN meetings, pollution and exhaustion of 'resources' along with rapid global population growth was the dominating concern (UNCED).

Rapid population growth is commensurate with the emergence of industrialisation and modernity. One can see from the graphs that the exponential increase in global population lags slightly behind the infrastructure introduced with the steam engine, trains, wide-scale printing presses and so forth. Only in the last 5 years have we been able to ascertain that, while the population continues to grow at an alarming rate, the *rate* of growth has fortunately begun to slow. The estimates of peak population have dropped from some 16 billion to around 10 billion, in 2200. I have written about population elsewhere (Irwin, forthcoming 2008a), and I argue that the initial increase in population is a result of modernity; particularly improved medicine and health care. Furthermore, the reduction in family size is also, ultimately, due to modernity, as societies adjust to the improved levels of predictability for their own security; reliable welfare, health and education, and food, housing and clothing. This is more a matter of Malthus and primary needs than the Keynesian argument for continuous gradual economic growth. Family size relies on the predictability of peace and security, but this is not at all the same as consumerism.

Another pan-global organisation, the World Meteorological Association, has had concerns of their own. They helped to form the IPCC, the International Panel on Climate Change. The IPCC has been assigned to systematically survey all research and data related to the climate. From all of this information they produce graphs, and develop models that estimate and predict the impact of 'business as usual' on the climate. The IPCC report in 2001 and the most recent, in 2007, shocked policy makers through-out the world with its clear evidence of rapid global warming, commensurate with the onset of modernity and industrialisation.[5] In particular, methane, carbon dioxide and sulphur dioxide emissions from industry, transport, and domestic heating, are responsible for thickening the planet's atmosphere and producing a 'greenhouse' effect that is gradually warming the planet and altering weather cycles and ecosystems. In order to facilitate fully informed leadership and optimum policy development, the IPCC have developed a range of scenarios based on different levels of greenhouse gas emissions on the future of the planet. Suffice to say, the lighter our environmental footprint, and the smaller our global population, the better. There is quite clear indications however, that greenhouse gas emissions will produce feedback systems that dramatically and irreversibly alter the climate, to the point that suitable habitation for mammalian life will probably be extinguished. No-one knows precisely where this boundary lies. There are many indications though, that we are dangerously close to it. For example, the ocean used to be a 'carbon sink' – absorbing vast quantities of the CO_2 that modernity has been belching into the atmosphere. However, in 1998, the oceans stopped absorbing CO_2 and for the first time, began to emit CO_2. This will vary according to seasons and the mean ocean temperature. As the temperature rises, the oceans are less able to assimilate CO_2 and they 'breathe' out, instead of in. A similar event is happening to the frozen tundra in Western Siberia. Thousands of years of frozen soil has begun to melt. As it melts, it changes from icy white to peaty black, speeding up the melting process. Furthermore, the exposed peat has begun to rot and as it does so, it releases vast quantities of methane. These events are the result of the mean increase in the planet's temperature, which is an indirect affect of the thickened atmosphere and the 'greenhouse' effect which is trapping more sunlight than hitherto, and gradually warming the globe.

The IPCC data suggests that if the average planetary climate rises above 2˚ (some argue for as much as 2.5˚, Monbiot, 2007) then we may switch over the threshold, and this could trigger conditions that surpass the viable for most mammals, including humans.

Serious concerns indeed. Policy makers are beginning to respond to them. Sir Nicholas Stern, for example, the Royal Economist for the United Kingdom, released a report at the beginning of 2007 which stated "The scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response" (Stern, 2007). The Review goes into great detail about the effects of

different temperature levels on environmental conditions, and the consequences for human cities and habitats.

Nicholas Stern is an advisor to the British government, and his voice is sounding as loud as possible for meaningful and immediate change. But so far, the new Prime Minister, Gordon Brown, is making very few policy initiatives based on reducing greenhouse gas emissions. This is not wilful ignorance, nor the denial that the Bush Administration in the USA has been actively encouraging. It is extremely difficult for nation states to begin the process of change (as we shall see in closer detail, regarding New Zealand) because of slippages in the nature of sovereignty and the international nature of global corporations.

Nation states (whether democratic, monarchic or dictatorial) do not actually wield the type of sovereignty they ostensively possess. Governance is not simply a top down oppression but rather a permeation of ideas and acceptable or normal behaviours that contribute to an ongoing, stable set of structures and world view (cf. Foucault, Deleuze and Guattari, "1933: Micropolitics and Segmentarity" 1999: 208- 231). This internal dissent has been attributed to many 'causes,' for example, colonial oppression and indigenous unrest, or Marx's argument, that a states population has the potential power to uprise. To a large degree, the Keynesian Settlement justifies the modern machinery of the State. The large State was designed to tradeoff some of the wealth from the owners of capital for the provision of basic welfare, health and education on the grounds that ultimately, stable and secure populations create better workers and consumers than unstable ones. The 'happiness' of the Keynesian Settlement is built on gradual, but exponential economic growth, so that everyone can feel like they are 'making progress' – they have more disposable income for consumerism this year than they had last year.

In modern technological states, the reciprocal agreement between government and population is through welfare systems, education, prisons, health care, regulation, working conditions, taxation, and the minimum wage. However, the globalisation of capital extraction, production, distribution and ownership is a significant shift from Keynes' theory writ large. Devolved production means devolved responsibility. Nation states are no longer (if they ever were) in the position to effectively regulate multinational corporations.

Pan-global organisations as we know them today, were mostly set up after the Second World War. The OECD was initially set up as the European Economic Community to distribute the huge amounts of financial aid donated by the USA through the Marshall Plan to rebuild Europe after the war. Right from the outset, the Marshall Plan insisted on a programme of free trade as a condition of the aid money.

The United Nations was established after the Second World War, at a meeting at Bretton Woods. Its mandate is to correct the huge disparities of wealth over 'first' and 'third' world nations, in the aftermath of World Wars One and Two. The United Nations and other pan-global organisations, like the World Bank, attempt to regulate the trans-national character of monetary flows, multi-nationals and the consequences of post-colonial political situations (such as Rhodesia/ Zimbabwe and the artificial binding together of Hutu and Tutsi peoples in the modern nation, Rwanda).

There are many examples of things that are too big for national governments to adequately regulate. Pollution often crosses national borders, for example, Germany and Western Europe has to suffer the acid rain from the large scale pollution in Russia and Eastern Europe. Likewise, the use of fluorocarbons around the world was thinning the ozone layer in the upper atmosphere, especially above the South Pole. No individual nation state is in a position to adequately restrict the use of pollutants, or insist upon the level of clean technologies, that will alter the situation in the scale necessary. In a world of global commodity transactions, agreements to change practices need to occur on a global level.

While pan-global regulation attempts to address some of the slippage in sovereignty caused by the global nature of late modernity, they cannot entirely duplicate sovereignty because there are no mechanisms for local peoples to attribute their acceptance, obligation, and discipline to such organisations. Nation states, no

matter what particular form of sovereignty is in place, have modes of generating an accepting and moderately compliant populace. Tribal leaders use filial bonds and 'big man' generosity, dictators employ sophisticated public relations machines, democracies convince their populations of their own complicity and responsibility for decision making. None of these mechanisms are possible at the pan-global level.

This is why pan-global organisations remain 'voluntary' and often have trouble gaining the compliance and fealty of many nation states. The WTO has tried to alleviate this problem by 'ratcheting' their regulations, so that once a country has agreed to some WTO rules, they are 'not allowed' to renege on them and revert to previous or non-free trade modes of economic interaction. The only alterations possible are supposed to be 'progressive' or further advance the free trade road.

The United Nations has tried to address environment, pollution and degradation through Agenda 21. They commissioned a group of policy makers lead by Brundtland to write a report and have held periodic international meetings to discuss the Report and encourage as many nation states as possible to sign up and commit themselves to its recommendations. The basic remit is to attempt to bring pollution levels back to 1990 'baseline' levels by 2010.

There are many problems with implementing the Brundtland recommendations, not least, the problem of comparative international relations. Should countries that were 'under-developed' and therefore low polluters be bound to their rudimentary levels of modernity because they cannot exceed their 1990 levels of emissions? Should the levels be normalised and applied across all countries regardless of historical wealth? Should the levels of emissions be attributed per capita, so that densely populated nations have relatively more emissions than sparse ones? What were the 1990 levels of emissions? Many countries have no adequate record. There are many issues of accountability, equity, poverty, exorbitant wealth, the diffused, capitalist global distribution of production and pollution and the attribution of values to environmental 'indicators.' Consecutive UN meetings about Agenda 21 try to address many of these issues. The UN seeks a mandate through consensus, which applies a great deal of pressure to produce documents and global policy that both adequately addresses the very real problems of pollution, and more recently, climate change while enlisting the co-operation of the widely disparate nation states that make up the modern globe. One of their techniques for achieving these aims, is to depoliticise the issues about international equity, globalisation, and capitalism per se, as much as possible.

Culturally, New Zealand may have an idea of itself as "the little country that could" (Craig, 2005) but politically, our governance structures have been closely tied to global empires since the beginning of New Zealand as a modern state. Governor Grey was a Royal appointment, not a democratic leader. He governed parts of India and South America as well as serving several terms as Governor of New Zealand. Many of our politicians have served leading roles in pan-global organisations, Robert Muldoon was the Chairman of the IMF, the World Bank, and the OECD in the 1970s, Michael Moore was the leader of the World Trade Organisation in the 1990s, and until recently, Simon Upton was the Chair of the OECD's Roundtable on Sustainable Development. Our citizens may have little control over global policy and the way it impacts local initiatives, such as New Zealand's Climate Change policy, or it seems, our approach to environmental curriculum development. Yet our politicians, perhaps because of their alignment with enhancing global business opportunities, have had disproportionately strong influence on pan-global organisations.

The pan global rhetoric for coping with environmental issues is encapsulated by the phrase, 'sustainable development.' Sustainability has been wrenched from its roots in the green movement and redeployed in the Neoliberal lexicon of market metaphors. Associating 'sustainability' with 'development' keeps the façade of left wing, egalitarian ethics while extending the consumerist practices of modernity to all environmental approaches. New Zealand's environmental Minister, David Parker makes these global assumptions abundantly clear by framing our domestic policy on climate change in terms of sustainable development and monetary (dis)incentives such as carbon vouchers. There is almost no mention of government support for

real development of eco-friendly infrastructure, such as an electrified underground transport system in all major cities, or even a decent bus service. The acreage of indigenous bush is sufficient to gain carbon credits, regardless of its health so the government puts very little effort into possum, deer, and pig eradication.

There are very few active attempts to build eco-friendly infrastructure that will enable New Zealanders to easily have a light environmental footprint. The climate change policy is driven by pan-global Neoliberally orientated environmental initiatives. It widens the scope for pollution to be incorporated into the market cost/ benefit transactions on the assumption that this will change consumption patterns. It deepens the scope for governance and surveillance. However, the market has never been renowned for developing expensive infrastructure, and until alternatives are available that make it genuinely possible for the population at large to realistically change their behaviour, by riding bicycles on custom made cycle lanes instead of driving cars for example, nothing will really have altered.

The good news is that New Zealanders (and most people all over the world) are highly aware of environmental damage caused by modern consumption practices. In New Zealand, the citizens are well informed about the hole in the ozone layer, massive depletion in fish stocks, erosion and soil run off, storm and drought damage, and even ice bergs from Antarctica floating off our East Coast. As a population, we are highly cognizant of the dangers that the greenhouse effect presents to the climate. We also know, from our experience and proximity with the ozone hole, that global regulation that prohibits the emission of certain chemicals has immediate and effective impact on profoundly compromised layers of the stratosphere. Prohibition is explicitly external to the market. It is the withdrawal of goods from the market. The market is not in a position to have any impact on an items' value, scarcity, embed labour power, or material cost. Prohibition of elements, items or events are completely outside the market regime.

It is entirely plausible, that to truly halt climate change, we ought to completely halt all fossil fuel combustion. Or at least limit its combustion to absolute necessities; public transport, limited container shipping or other public necessities. This kind of impact is not achievable from within the consumer model.

New Zealand's domestic policies on environmental education is clearly influenced by the prevailing discourse of 'sustainability.' Yet, New Zealander's cannot blame this discourse exclusively on top-down policy advice from pan-global institutions like the OECD or UNCED. We need to take particular responsibility for participating in generating this global culture of Neoliberal explanations and solutions to planetary environmental problems. New Zealand was not only the first nation to give women the vote, we were also the first to create a Green Party. The old left wing policies generated by New Zealand's values Party were copied and formed the basis on the German Greens for decades. But our innovative grass roots politics took a Neoliberal turn in the 1980s, along with the Labour Party's capitulation to their Neoliberal Treasury officials.

Our expertise at Neoliberalism goes back to Karl Popper's influence at the University of Canterbury. An Austrian Jew, exiled from Europe because of Hitler's extermination policies, Popper spent his war years teaching at Canterbury University in Christchurch. His influence on economics in New Zealand is profound. Although he was never accepted by the elite of the Vienna Circle, Popper espoused similar ideas during his sojourn in New Zealand. Many of these students went on to study at the Chicago School of Economics, and brought their ideas back to New Zealand with gusto in the 1980s (Kelsey, Jesson). Famously, the Neoliberal manifesto was introduced without any democratic mandate, thrust into the hands of the new Prime Minister, David Lange, by Treasury officials, before the votes were even fully counted. The market metaphor absorbed a lot of the earlier political debate in apparent even handed distribution based on costs and benefits rather than interest groups or political affiliation. Since 1984 there has been no 'left' or 'right,' nor any viable alternative to Neoliberalism available for voters to endorse.[6] In 1990, the education system underwent radical restructured according to Neoliberal concepts of competition between schools, devolved responsibility for 'success' to school boards, and centralised control of the curriculum and funding. 'Failing' children were

now the responsibility of the school, rather than the result of widespread poverty and families living without resources to properly feed their children.

Ton Bührs mentions New Zealand's reputation for innovation and experiment when it comes to Neoliberal policy and legislation (Bührs, 2003). Furthermore, our influence on pan-global organisations has often been totally direct. One of our previous Prime Minister's, Mike Moore, was the leader of the World Trade Organisation during crucial years of expanding and legitimising the free market as the leading ideology in global trade. As the OECD's Spokesman for the Environment, Simon Upton, an erstwhile Cabinet Member of the National Party, promoted the market as the solution for global environmental problems. He has been a key advocate for tradeable pollution and the new stock market in carbon vouchers (Upton and Vitalis).

The transfer of ideas between nation states or through the vector of pan-global organisations is not exempt from the political pursuit of hegemony. The terminology that is used in policy (at global, national, and local government levels) is networked in to a fairly cohesive discursive world view. Despite reliance on words like 'objectivity' *all* terminology comes laden with political power that suits some groups and disadvantages others. Bührs is quite blunt about this. She argues that the diffusion of policy is 'laden' with 'values or principles.' "transferring policies, practices, or techniques [] may *seem* to be politically or ideologically neutral, but that in fact are derived from political-ideological belief systems and/ or have political implications such as enhancing the power, influence or status of particular groups. Paradoxically, depoliticising or de-ideologising policies, practices and techniques is perhaps one of the most insidious and effective ways of promoting and advancing particular interests and ideologies, especially those associated with business, capitalism, and science" (Bührs, 2003: 87).

We need to bear the global circulation of ideas when contemplating the implications of New Zealand's approach to sustainability, to climate change, and to environmental education. The Ministry of Education in New Zealand has a discussion document for the government offering advice on sustainable education, called "Sea Change: Learning and Education for Sustainability" (2004). Chapter three is particularly important as it outlines the history of environmental education, and the proposals for a sustainable education 'futures' outlook. Environmental 'pessimists' are criticised for being old fashioned and are linked with 'environmental education.' Optimists are akin to those in favour of 'education for sustainability.' Since the Brundtland Report (1989), sustainability has been widened, they argue, from purely ecological concerns to include economic, cultural, and social matters, as much as environmental ones. Education is important for raising public awareness about consumption and production patterns and the need for change in the face of global pollution and climate change. The New Zealand government confirms the United Nations goal that 2005-2014 be the Decade for Education for Sustainable Development (NZMoE, 2004: 37).[7]

Meaning is not caste in stone. The 'Sea Change' document makes an attempt at self-critique and puts a distance between today's public policy and yesterdays Neoliberal ideology. It tries hard to engage with the changing face of institutional structures and cultural norms in late modern society. The optimistic framework is very 'future' orientated. It includes critical analysis of past and present practices to discover more than simple scientific and technological solutions, but also "their root social, political and economic causes" (Huckle, quoted in NZMoEd, 2004: 44). It is a constructive attempt to invent values that can contribute to better ways of living and understanding in the future. Education for sustainability lends itself to a transformative education for future generations. The scope is not merely cross-disciplinary in terms of curricula, but crosses the boundaries of traditional educational institutions. Education for sustainable futures aims at the media, the family, businesses, and the workforce, to reach into realms of the population that are not involved with formal educational institutions. But the authors caution, although the strong aims of education for sustainability aim at engaging the population in a democratic restructuring of society, (in

contrast to overtly individualistic Neoliberalism, cf. Irwin and Devine, 2005) it should not merely be the responsibility of individuals to constitute change.

The document outlines the ways in which the NZ government has been involved and committed to many of the global meetings on the environment, including Agenda 21 and the UNESCO meetings. Yet despite the commitment for entrenching education for environmental sustainability, there is almost no mention of the environment in either the *Early childhood strategic plan* (2003) or the *Tertiary education strategy* (2003) (in NZMoEd 2004: 53). An earlier document called *Learning to care for our environment* (1998) sought to involve and integrate environmental education (not necessarily education for sustainability) in schools across the entire curriculum, *tangata whenua*, businesses, and all sectors of the community. The commitment to evaluating this initiative has been abandoned because it belonged to the previous party who was in power in the mid 1990s. The short term nature of democracy tends to inhibit these long term deep changes especially when they will impact on the immediate lifestyle and comfort of the present population. In fact, historically, educating for environmental sustainability does not even reach across all government strategies let alone all sectors of the community. The Sea Change document surveys exactly what is, and what is not happening in reaching into the population to inform and educate for environmental sustainability.

The Sea Change document is cognizant of the need for an imaginative generation of 'futures' and manages to take up the dominant discourse of sustainability (in contrast to 'old fashioned' environmental education) without adhering to marketised society or rational individualism. Written, as it is, for a Neoliberal government, its critique is low key but nevertheless is, if you like, 'after-Neoliberal' (Larner, Lewis, Le Heron, 2008), warning that transformation and responsibility can not be reduced to the individual or the balance of consumer choices on the market.

Education for Sustainability is characterised as forward looking, optimistic and successful in contrast with old fashioned, pessimistic, conservationalist, dour, and idealistic Environmental Education. The Sea Change document positions itself in a way that takes some cognizance of the plethora of critique of Neoliberalism for its simplistic individualism and lack of responsibility over regulation. This purported 'after' Neoliberalism tries to resolve and distance the government from an overtly market orientated rationality and the theological resonance of the 'Invisible Hand.'

The critique of Neoliberalism mounted by Nesta Devine associates the market with a metaphysical authority of God's Invisible Hand. Monotheistic authority is particularly suspicious in a secular State (cf. Feuerbach, 1841). As I mentioned in the abstract, Helen Clark has accepted this criticism and attempts to distance her government from overt Neoliberalism in her State of the Nation speech in 2007, "The invisible hand of the market doesn't deliver a sustainable nation, as an earlier era of New Zealand politics showed only too well." Yet, the government adheres strictly to Neoliberal norms, and they can only present themselves in this manner because the discourse of 'sustainability' itself, does so much work for them. The market no longer needs emphasis because it is embedded in the meaning of sustainability.

Anthony Giddens defines 'sustainable development' in his book, *The Third Way* as 'efficiency' (Giddens, 1998) As I have written elsewhere (Irwin, 2008 forthcoming), efficiency certainly has its merits, but it is not the same thing as conservation, nor does it reduce the sphere of consumerism. 'Sustainable *development'* is explicitly tied to economic growth. This creates the need to make environmental measures and 'indicators' (Upton and Vitalis) that will allow factors such as pollution to be included in the market cost-benefit equations. Effectively, 'sustainable development' transforms environmental concerns about deforestation, desertification, toxic pollution and climate change (amongst others) to become the explained away as assets on the stock exchange. The metaphor of the market gets subsumed in the rhetoric of 'sustainability' and *all factors* are absorbed into the enframing rubric of potential resource (Heidegger, 1977).

‘After-Neoliberalism’ is a ploy, and it is working most spectacularly, as many New Zealand academics struggle to find ways of engaging in constructive ways with a well entrenched Neoliberal set of governing parties, with little or no alternative venues for affecting policy, governance, or governing bodies. Before the concept of ‘sustainability’ had taken over as the key signifier of environmentalism, pollution and ‘resource’ depletion were outside or ‘external’ to the cost-benefit equations that are the key plank of the market’s ability to ‘balance’ supply and demand. The aim of ‘sustainability’ is to include indicators that account for resource depletion and pollution into the market equation. This will introduce new modes of surveillance over business practices, as governments and pan-global organisations develop the capacity to measure and monitor production and disposal practices. There are some clear benefits to this approach. But the simple expansion of the market has far more sinister consequences in determining the selfish and utilitarian relationship that human beings have with the environment.

The consequences of subsuming environmental concerns under the rhetoric of sustainability, is the continuation of the status quo and an ability to keep ignoring the scientific evidence that modernity is resulting in radical climate change, pollution, deforestation, and extinctions. Terminology can be deployed in ‘creative’ and ‘entrepreneurial’ new ways, but the consequences in real-time will ultimately come back to bite us. It is time to actively take responsibility and this is not possible while the globalised, and ecologically alienated principles of Neoliberalism and its afterwords continue to take precedence over the functional practicalities of local ecosystems, local infrastructure, local education and local expertise. Human animals are embedded in the environment. Any cultural, social, or economic activity that we engage in must always be understood in the context of environmental concerns.

In conclusion, the question is to ascertain the philosophy that operates through different approaches to environmentalism and thus the different approaches to developing curriculum for environmental education. It is important to distinguish sustainability and ecology as opposed to sustainability and economics. But sustainability itself, is not the entire framework for understanding the environment. Forty odd years ago, sustainability was understood in ecological terms, as the ability of species or ecological niche to reproduce, regenerate, and restore itself to a healthy, stable, and fully functioning state. The tendency was, to consider the conservation of ‘pure’ nature, as something apart from the contaminants of modern culture. The city State is opposed to pristine wilderness and this disjunction made environmental concerns difficult propositions for advocacy.

However sustainability and economics has shifted the emphasis by incorporating the original ecological mode into the Invisible Hand of the Market. All ecological interactions are understandable as rational economic transactions and are thus subject to economic rules and predictable according to economic models.

There is a third angle to take on the environment debate. The conservation ethic has to include humanity as part of the ecological network, so that we are able to graze and feed off various other elements of nature without compromising the ongoing integrity of the ecosystem. We landscape our surroundings, and our surroundings landscape us. This is a type of ‘pragmatism’ (with a small ‘p’ cf. Irwin, 2007) that does not alienate pure nature from impure cities but at the same time, recognises the global and local impact of each element of human technē on the earth as a whole (Heidegger, 1977).

In the first interpretation of sustainability, the ecological integrity of the earth is tied directly to the physics and chemistry of the universe as a whole. The photosynthesis of plants is reliant on the intensity and duration of sunlight and the availability of moisture through rain or groundwater. Plant perspiration, especially in the great rainforests of the equatorial regions, drives rainfall levels, creating a continuous, dynamic, cycle of wind and rain that is influenced by the mountain formations, the moon, the tide, and the ocean currents. This relatively stable climate enables the evolution of a great diversity of plants and animals, of which humanity is a particularly successful one. The sun has direct influence, but so do the gravitational pull of the moon on earth’s ecosystem. In a wider scale, the stable orbits of all the planets, has ‘cleaned’ the

local area of space from most debris and dangerous asteroids that might otherwise have caused more havoc on earth's ecology than has been the case – bearing in mind that the huge asteroid that hit the earth some millions of years ago caused the extinction of nearly all the hundreds of dinosaur species that were thriving here at the time. Ecology is the intricate connection of all aspects of the universe, in ways that humanity knows of, and in many ways that we are completely ignorant.

Sustainability as economic efficiency throws a different metaphysical caste over the universe. All is understood as directed by God's Invisible Hand. Instead of understanding humanity as clustered communities that live on the surface of the earth and have complex and various means of communicating and networking with one another, the economic paradigm reduces all interaction as some form of self-interested, rational, economic transaction. The metaphor of the market has been taken over by the more politically correct terminology of 'sustainability' but the metaphysical structure remains identical. Absolute rationality prevails. It is through the simple model of the cost = benefit equation that *all* aspects of the universe are understood. Every time that something exceeds the parameters of the equation, economists busy themselves with rationalising, and numerically estimating the quantities involved for inclusion in the market transaction. Pollution was an 'externality' for over one hundred years, but as the clamouring has increased, and the consequences of unbridled consumerism has impacted so heavily on the integrity and continuity of so many species and localities, so many indigenous communities and ancient cultures, and finally upon the climate of the earth itself, Neoliberalism has expanded and diversified to include more and more elements of the world in the commodity exchange.

There is an intersection between the two metaphysical systems; the evolution of the market to include externalities such as pollution, from a market perspective, and the economic transaction as an aspect of the integration and integrity of the human species from an ecological perspective. Ultimately, the two are incommensurate. Neoliberalism poses the Invisible Hand as a universal Absolute. This position renders everything; in every aspect, at every level – from child-birth to the rituals of death, from poetic contemplation (cf. Peters and Irwin, 2002 and Irwin, forthcoming, 2008b), to astronomy and the sublime, from the intricate networks of the climate and ecosystem, to the deepest depths of the as-yet-unplumbed ocean, from the atomic to the planetary – every element is reduced to a resource that can and should be bought and sold on the marketplace. This is an essentially anthropocentric position. It is solipsism[8] writ large.

The evolutionary perspective positions humanity as extraordinary, successful, and finite animals that scurry, as many others do, in a confined place in the vast interconnected web of ecological interaction. This displacement profoundly alters assumptions about our behaviour, and particularly our level of control over the planet, and ourselves. Paradoxically, with an increased level of humility about our own mastery we may be able to exert better control over the unbridled expansion of consumerism, and thus slow down (even if we are unable to halt) the detrimental impact of our recent disproportionate species expansion on the rest of the planet.

This may look as though distinct boundaries are being drawn: its either nature or else economics, in the same way as people used to fall on one side of the nature/ nurture debate. But I would argue that this is not the case at all. Economics is important. At this stage in human evolution, we simply cannot manage such a colossal population without mechanisms such as economics. That does not, however, lend economics a privileged epistemological status. The market is limited to clearly defined transactions that place relative value on specific goods and services. This is not a universal Absolute. It is not the lens for perceiving every thing, every item, every relation. Economic interaction is a human artifice, useful in a limited form, but an artefact of a specific historical period and with no more authority than any other form of networking.

Education for sustainability really has no more optimism than environmental education. It simply helps to subsume the substantive ethos of the Invisible Hand and the articulation of all elements of the world;

natural and human, as 'potential resource' in the market economy. There are problems too, with a reified, pure nature that is conserved in opposition to the dirty, problematic cities of modern culture. What we need to develop instead, is a curriculum that involves an understanding of ecology (and climate change), an understanding of economics (and the tendency of determinism and enframing), and an understanding of population growth. Developing curriculum is one element of a contemporary environmental education. The other is teacher's who are confident enough to engage with the ever changing information that is a feature of this field, and to teach in a way that enables critique and at the same time, a comprehension of how embedded we are, in this unique and ever-changing planet.

Notes

[1] Cf. Nesta Devine (2001) for an analysis of the history and metaphysical assumptions behind Public Choice Theory and Neoliberalism. The ideas are based on philosophical Idealism, and descend from James Stuert's book on Political Economy (1760ish) and Adam Smith The Wealth of Nations (1776), through Menge and the Austrian School, to the Thinktanks of the 20th century and promulgation through universities, such as Karl Popper at New Zealand's Canterbury University in the 1930s and 40s and the Chicago School of Economics in the latter half of the century. In general, the market is used as a metaphorical lens that reduces every element of nature and humanity to a resource, or potential resource, that can have a transaction value on the market.

[2] Noel Gough (2002: 1221-1222) points out that the concept of 'ecology' has also changed in hue, from a progressive, teleological view of ecology and change (survival of the fittest) to a much more complex and unpredictable set of inter-relations.

[3] There are important exceptions to this generalisation that environmentalists interested in sustainable ecology confirm and reinforce Idealism. Aldo Leopold is one, Callicott is arguably another, and Gregory Bateson is one more.

[4] These high profile, international organisations all adhere to some form of sustainability; The United Nations Development Programme (UNDP) promotes 'sustainable human development'; The International Monetary Fund (IMF) and the Organisation for Economic Development (OECD) promote 'sustainable economic growth'; The World Bank is committed to 'sustainable development and equitable development'; The European Union (EU), since Maastricht, examines the notion of 'sustainable economic and social development'; (in Britain) Local Authorities adopt the 'criteria of sustainability and sustainable development.'

[5] There are philosophical and methodological difficulties associated with the IPCC but nevertheless their scientific evidence that modern human behaviour is affecting climate change is compelling.

[6] The leader of the opposition National Party failed to register his own faux pas in 2007 when he referred to himself as the leader of the Labour party.

[7] Like most governmental reports, this one has no author, giving the impression of 'objective' or Ministerial authority rather than the informed opinion of particular writer(s).

[8] Solipsism is the basic concept of modern Idealism. It is the view that the only knowable thing is the self, and everything else is subsequently a 'representation' of external objects.

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