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The Future of Environmental Policy in a Time of Global Crisis

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'How does an environmental policy mean? Some dilemmas, conundrums and paradoxes in public policy making in Australia'

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Abstract

Environmental policy making in Australia, and arguably globally, is in a postmodern funk. The promises of the environmental reforms ushered in by governments in the early 1970s, and subsequently of new institutional arrangements foreshadowed in the sustainable development process in the 1990s, have fallen short of delivering substantive change. In short, institutionally, nothing has really changed about how we go about developing public policy. Furthermore, the direction of environmental policy seems to be increasingly subject to somewhat arbitrary decision making by governments.

Public policy is in the end a highly pragmatic and ostensibly rational instrumental business. Any policy proposition must be able to be argued according to some coherent logical line of reasoning, even theory, as to why it is the right course of action to take.

In this paper, taking a critical and interpretive policy perspective, I argue it is difficult enough to provide an adequate account of how environmental policy is made in hindsight; it is, however, almost impossible to predict with any conviction what the outcome of any given policy process (for example, to do with water, climate change or biodiversity conservation) will be. That is, despite attempts to de-politicise policy making, the underlying and basic objectives of environmental policy are difficult to state with clarity, or to rationalise, and they remain contested at a deep ideological and conceptual level.

Informed by and consistent with the ideas of environmental political theorists, who are concerned with whether and how politics and environmentalism can be reconciled in western liberal, capitalist, democracies, I suggest there are several profound and conceptual reasons why public policy in this area is in such a funk. Most critically, I argue that environmental, or ecological, issues challenge our dominant cultural and political ideas of how we conceptualise the relationship of humans to nature, and of how we think about how we govern ourselves.

Such lines of inquiry raise ontological and epistemological questions about the nature of the environmental challenge itself and the difficulty of confining it to a particular 'issue area' of government policy, civil society action, or academic discipline (Meyer 2008, Gabrielson, Hall et al. 2016). Amongst other things, they also raise questions about the dominance of modes of rational instrumental policy analysis underpinned by positivist and empiricist methodologies, including

economics and science, the relationship between science and policy, normative reasoning, and moral philosophy.

Whilst environmental political theory is premised on humanity facing an ecological crisis, it is also critical of the failure of environmentalists, to grapple with social and political realities. Indeed, while ecology may be a subversive science, in fostering an interconnected and holistic view of the world, in contrast with scientific reductionism, it has struggled to deal adequately with humans being a natural part of the environment as well as having an impact on the environment. Consistent with this view, environmentalists are criticised as not having formulated an adequate or convincing political strategy for change.

In summary, we are yet to witness an 'ecological turn' in public policy making, one that recognises we face a political as much as an ecological crisis in how humans relate to the environment that they are a natural part of. On the available evidence, despite the emergence of concepts such as the Anthropocene, such a turn still seems like a long way off.

Introduction

Leading scientists, public intellectuals and environmentalists in Australia, as in other parts of the world, are concerned by the lack of substantive progress being made to ensure ecological sustainability. Claims are made regularly that the world is facing an existential crisis driven, amongst other things, by the threats that climate change, biodiversity loss, and degradation of soil and water resources pose to the future of human civilisation (Millennium Ecosystem Assessment 2006, Rockstr,àö,àÇm, Steffen et al. 2009). There is a widespread belief that governments are giving, at best, token rather than systemic attention to environmental issues (Daily 1997, Sneddon, Howarth et al. 2006, Norgaard 2010, Folke, Ebbesson et al. 2011, Morton, Sheppard et al. 2012, Butt and Beyer 2013, Dovers and Hussey 2013, Ritchie 2013).

My interest has been to understand in the Australian context how it can be that we have these very serious concerns being expressed whilst at the same time public policy seems largely unwilling or unable to respond in any systemic way. As Clive Hamilton (2017) puts it in relation to climate change:

> "Our best scientists tell us insistently that a calamity is unfolding, that the life-support systems of the Earth are being damaged in ways that threaten our survival. Yet in the face of these facts we carry on as usual."

In this paper I offer a critical and interpretive perspective on the trends in environmental policy making in Australia over the last 25 years since the emergence of the sustainable development paradigm and discourse. Such trends can be analysed in a variety of ways. My main interest here is to examine what has occurred in Australia at an ideational and paradigmatic level rather than, say, by analysis of changes in the choice and application of policy instruments, though these two phenomena are clearly related. By doing so, I aim to reflect critically on the broader institutional context in which policies are developed and implemented.

I argue, firstly, that environmental policy making in Australia, and perhaps globally, is in a postmodern funk and we are yet to see the rise of an 'ecological turn' in policy analysis. The promise of the environmental reforms ushered in by governments in the early 1970s, and subsequently of new institutional arrangements foreshadowed in the sustainable development process in the 1990s, has fallen short of delivering substantive change. In sum, institutionally,

nothing has really changed in how we think about, and hence in how we go about, developing public policy when it comes to the question of environmental sustainability. Indeed, if anything, I argue that an economically rational governmentality has become even more entrenched and is inimical to achieving the goal of environmental sustainability because of its inability to address the ecological embeddedness of human beings.

Secondly, I seek to understand why this should be so. I theorise that the environmental movement has largely failed to convince the wider polity of the need, or at least the urgency of the need, to adopt an ecological rationality to guide policy making in the stead of the prevailing ideologies of liberal capitalist democracies. Nor has it been able to demonstrate how the principles of such a rationality could be applied in policy practice.

A post-truth world?

What are we to make of a world where conservative politicians of no lesser standing than then Australian Prime Minister John Howard could openly avow in 1996 that "We're all Greenies now" while his former Minister for the Environment, Robert Hill, could proclaim "the whole debate has changed… Everyone now is an environmentalist" (Hutton and Connors 1999). Nearly two decades later, another conservative Prime Minister, Tony Abbott (2014), would refer to Tasmanian forestry workers as the "the ultimate conservationists", accusing the Greens of being ideological, all as he sought to remove areas of native forest from the World Heritage list?

Yet some years later, as a former Prime Minister, Howard (2013) could see it fit to call scientists and others seeking more affirmative action on global warming "zealots" whose "cause had become a substitute religion" while Abbott talked of a market based approach to reducing carbon emissions as "socialism masquerading as environmentalism" (Abbott 2013). There is something clearly ideological going on here.

In the wake of President Trump's election in the United States, there has been a lot of commentary of late about 'post-truth' politics. Such commentary presumes, of course, that there ever was a 'truth' politics. This situation must be driving those who rail against post-modernism, and what they see as its nihilism and futility, mad. It could be seen as vindicating their fears that we risk slipping into a world of relativism and uncertainty, where all claims to authority are suspect.

When it comes to the environment at least, it is difficult to argue that we have not always lived in a 'post-truth' world where the fairly basic fact of the ecological embeddedness of human beings in this world seems to have had little affect on how we think about 'doing' public policy.

How does an environmental policy mean?

The title of my paper is borrowed from a much cited book in the interpretive policy analysis field by Dvora Yanow (1996), *How does a policy mean?* with the underlying idea that policy texts can in fact convey many and varied meanings (for readers).

Use of the word 'how' grates on the reader as being almost ungrammatical; it is harsh and difficult to make immediate sense of. Shouldn't it be 'what'?

But this is the point, to draw attention to and provoke thought on how "policies convey their meanings", how they are to be understood in the wider societal and political context in which they are embedded, and "the various ways in which we make sense of public policies" (Yanow 1996: ix). Indeed, it is to ask how certain definitions of problems, and hence ideas about what to do about them, come to dominate politically (Hajer 1995, Bacchi 2009).

My main purpose in adopting Yanow's title in the context of Australian environmental policy is to highlight that, while there is much support from all quarters for the sustainable development agenda in Australia, and it has provided the paradigmatic framework for virtually all environmental policy that has followed, when it comes to resolving major problems or disputes we find the protagonists offering distinctly different interpretations of what it should mean. Quite quickly, rather than the views of economic development and conservation being reconciled, we re-enter familiar polarised territory, usually expressed as 'jobs versus the environment'.

The funk – my proposition

What do I mean by the claim that environmental policy making in Australia is in a postmodern funk?

Put broadly and simply, we are bedeviled by policy uncertainty: as Lyotard (1984) observed in *The Postmodern Condition*, 'uncertainty is the only certainty'. This uncertainty arises from multiple sources, including empiric and epistemic. We're caught betwixt and between when it

comes to environmental policy: we really don't know what the right thing to do is. We don't really know what it means to say something, for example, our land, water, vegetation, or an ecosystem, is being managed in a sustainable way. Part of this dilemma derives from the sheer complexity of many environmental issues: the multi-scalar nature and ecological inter-connectedness of issues; the difficulty of discerning causes and effects, and understanding cumulative as well as discrete impacts; the potential for effects to occur over long timeframes; and the challenge of balancing short term versus long term considerations, and public versus private interests (Vernon 1996, Dovers 2001, Dovers 2013).

My argument is that our sustainability discourses are contested and policy questions often become essentially questions of value not fact. Underlying this, we don't know how to think through, to conceptualize, the relationship between humans and their environment when it comes to formulating public policy. The 'environment' has come along as simply another category of problem to be added to the others, another set of interests to be accommodated by the policy system, rather than ecological sustainability "the central overarching framework for government across all policy domains" (Eckersley 2003). So while on the one hand there is a tendency to conceptualize and address environmental problems as 'single issue', at the same time the issues are potentially all embracing and cross-cutting across the spectrum of social and economic activity.

Precisely what constitutes an issue being recognised as an environmental issue, and an environmental 'problem' worthy of policy attention, can itself be problematic. The 'environment' by its very nature pervades everything and can be difficult to separate from other ways of conceptualising issues and policy. As Barry (2007: 7) points out, "the problem … with the concept 'environment' … "is that it can take a number of different meanings, refer to a variety of things, entities and processes, and thus cover a range of issues and be used to justify particular positions and arguments". Taken literally, environmental policy can apply to virtually every (other) area of government activity. Indeed, as Dovers (2013) comments, "environmental policy initiatives and legislative provisions by *definition* exist to attend the environmental implications of *other* policy sectors or the use of policy within those sectors to improve environmental outcomes: trade, taxation, agriculture, fisheries, transport, energy generation, urban planning, housing, mining,

tourism, and more." In many ways, how we attempt to reconcile this problem with the ontological reality of human interdependence with natural systems lies at the heart of our funk.

Because of this uncertain and complex policy context, many environmental policy issues can be considered 'wicked problems' and there are no unambiguous criteria to judge what is a successful outcome. However, there are two attributes which really set environmental issues apart from most other social and economic policy issues. This first is the uncertainty of the consequences of our actions, for example of where ecological thresholds or limits might lie and therefore of the risks of addressing or not addressing them, which leads to the question of whether the human project is actually making 'progress'. The other is the fact that environmental policy often stifles activities that otherwise lead to economic wealth creation, as narrowly construed. In the Australian context, as Vernon (1996: 6) notes, this particularly applies to policies "concerning the conservation of natural resources" because they "cut across the interests of powerful economic interests within government and the economy."

I question whether we are really making progress in our modern analysis of the issues. The history of the last fifty years, since the emergence of modern environmentalism, shows that pretty much the same things are being said and called for now on either side of the argument as they were then, whether it is Naomi Klein's (2015) 'call to arms' for a war on capitalism in *This changes everything* or the discursive construction of the Anthropocene in which humans are theorized as being the major force affecting environmental (geological) change on the planet.

For a long while I was wallowing about in a mist of hazy confusion as to why normative calls for 'cultural transformation' and changed worldviews, entailing recipes for a socially just and ecologically sustainable, as well as economically efficient, world seemed to ignore the obvious role played by politics and the exercise of power in society. These goals tend to be spoken of in ways that imply one of two things: either everyone knows exactly what it means and more or less agrees on what ought to be done about it; or those who oppose the proposed course of action would concur that they somehow don't share these social goals. Neither would seem to be true.

My contention, my proposition … in the institutional funk[1]

And so, what do I mean that institutionally, little has changed in how we go about thinking and making environmental policy in Australia in the last 25 years?

My central proposition is that when it comes to environmental policy making in Australia, institutionally, nothing has really changed about how we think about it, and how we go about doing it. This is not to say that nothing has changed materially in these last 25 years; clearly it has, but I argue that the policy promise of sustainable development remains unfulfilled. That is, the way we think about how we 'do' policy, how we do policy analysis, the reasoning process and rationality that we apply, has not changed much at all.

Environmental politics in Australia has been focused primarily on conflicts over resource development and land use, and in more recent years climate change. Essentially, there has been an ongoing conservation versus development debate. This has tended to reflect the rise in political and electoral power of the environmental movement from the 1970s onwards, with a high point of influence arguably achieved in the 1980s and 1990s.

Modern environmental policy at the national level in Australia, as a distinct entity, began in the early 1970s as a political response to the rise of environmentalism in the late 1960s. It isn't that policy and legislation relating to the environment did not exist before that, only it wasn't framed in such terms and was concerned more with problems affecting human well-being, such as air and water pollution. And environmental policy at the state (or provincial) level in Australia across a much wider ambit of issues has existed for well over a century. Nationally, a raft of new laws, agencies and inquiries were established in the early 1970s, under the then Labor Government led by Prime Minister, Gough Whitlam. The first federal environment department was established, a minister for the environment was appointed, environmental impact assessment legislation was passed, and new independent statutory agencies such as the Australian National Parks and Wildlife Service, the Great Barrier Reef Marine Park Authority, and the Australian Heritage Commission were put in place. These were the first steps towards ensuring environmental factors were taken into account in federal decision-making processes though they were constrained mainly to achieving limited pollution and conservation outcomes (Vernon 1996).

[1] By 'funk' I mean a state of uncertainty, a stew, a fluster, flap tizzy, a low mood that one can't get out of readily, a state of depression…. it can also have a strong odour about it.

More significantly, in terms of trends in environmental policy, it has been 25 years since the adoption of the principles of ecologically sustainable development (ESD), including development of the *National Strategy for Ecologically Sustainable Development* in 1992 (Ecologically Sustainable Development Steering Committee 1992). After more than a decade of major environmental conflicts[2], and their bitter politicisation, this strategy was developed through a highly consultative process with other governments, industry and NGOs to provide a strategic policy framework in which to deal with development and conservation issues on an agreed principled basis rather than the *ad hoc* and conflict-ridden processes that had characterised the 1980s - what Vernon (1996: 118) calls "the opportunistic/adversarial phase" of the 1980s.

Adoption of the ESD agenda in Australia mirrored developments internationally, in particular the release of the seminal Brundtland Report, *Our Common Future* (World Commission on Environment and Development 1987), and subsequently the Earth Summit held in Rio de Janeiro in 1992. The agenda was driven by the desire to address the highly divisive conflicts over resource development and land use that had started to arise in the 1970s and become highly political in the 1980s. The aim was to find more strategic and predictable ways of managing resource development conflicts and to move beyond the binary framing of jobs and economic development versus the environment. Extracts from the Cabinet memorandum that initiated the ESD process in November 1989 sum up the tension it sought to resolve:

> "Australia's resource based industries are at the forefront of the public debate over economic development and the need for enhanced export performance on the one hand, and the need for conservation and resolution of conflicting priorities for land use on the other. These industries are now loudly asking that the Government give a clearer direction to both environmental and development strategies in Australia. They want better planning and decision-making. The sector as a whole has lost some of the confidence necessary to continue to expand their productive base.
>
> At the same time there is a view that there is not the necessary awareness within the resource based sector that its productive base depends importantly on its environmental and ecological capital. Importantly, there is a clear need to increase awareness in this

[2] Examples of such conflicts include proposals for mining in Kakadu National Park, construction of the Franklin Dam in the south-west Tasmanian wilderness, sand mining on Fraser Island, a series of forestry disputes such as the Lemonthyme Southern Forests, Daintree Wet Tropics, Wesley Vale Pulp Mill construction, woodchipping etc.

> sector that this capital must be protected and enhanced such that economic development can be sustained in the long term."

Although the Government had committed itself to the concept of ESD in a wide-ranging statement on the environment *Our Country Our Future* (Hawke 1989), the principles had not been defined nor was there "a conceptual policy framework on which to deal with development and conservation issues."

Since this time, virtually all environmental policy developed in Australia derives, either explicitly or implicitly, from the concept of ecologically sustainable development with its aim of integrating or balancing social, economic and environmental concerns in decision-making. As Dovers (2013) notes, the goals and policy principles articulated in the strategy "have since found their way into hundreds of statutes and policies, albeit often weakly expressed." Critically, "it elevated biodiversity and the integrity of ecological life support systems to major policy goals".

At the heart of ESD was the principle that "decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations" (Ecologically Sustainable Development Steering Committee 1992). Essentially, this meant incorporating an ecological perspective into policy decision-making processes in ways that had not occurred previously whilst retaining a focus on economic growth.

So the critical question arises as to how such a principle should be put into effect. How should decision-making processes proceed? Indeed, what does integrating environmental and economic considerations in policy making look like in practice?

Sectoral strategies developed under the ESD banner for agriculture, forestry, rangelands, biodiversity and water aimed to do this. They were "directed at breathing life into Australia's sustainable development policy agenda and meeting the challenge of integrating the practice of sustainable development into economic and sectoral decisions" (Organisation for Economic and Development 1998: 17).

Policy actors must, of course, act: integration

Public policy is in the end a highly pragmatic and ostensibly rational instrumental business. As (Colebatch 2002: 8) observes, fundamental to the idea of policy is the assumption of instrumentality: "policy is to be understood in terms of objectives and the way to achieve them." Policy is a way of organizing, "a device for the pursuit of particular purposes."

Any policy proposition, any decision, must be able to be argued according to some coherent logical line of reasoning, even theory, as to why it is the right course of action to take.

There is a basic tension over how sustainable development, should be interpreted, both technocratically and politically. Jacobs (1999) identifies "the first and most important faultline in the interpretation of conceptions of sustainable development" as concerning "the *degree of environmental protection"* implied by sustainable development. The essential difference is whether or not a 'strong' interpretation should be adopted, whereby economic activity is confined within with some predetermined ecological limits, or a 'weak' interpretation whereby there should be a 'balance' struck between economic, social and environmental considerations. The first interpretation is an ecologically rational conceptualisation and the latter an economically rational conceptualization.

In many senses, the debate concerns how to determine the hierarchical order in which the respective goals should be pursued. They also reflect distinct ontological positions, with the ecologically rational method of reasoning holding that it should take precedence over other forms of rationality such as utility maximization or the protection of rights because in the end maintaining "the human life-support capacity of natural systems is *the* generalizable interest *par excellence*" (Dryzek 1987: 204).

Sagoff (1989) sums this up well in a review of Dryzek's (1987) *Rational Ecology* when he states:

> "Prudence recommends that humanity, if it seeks to survive over the long run, should preserve various aspects of its natural environment. There are also aesthetic, ethical, and cultural reasons for protecting nature but these reflect a respect for nature in itself, more than a concern for our own health, safety, and welfare. So there are prudential reasons for environmental protection and there are ethical and aesthetic

> reasons. These latter may derive from many sources, for example, from a conception of justice or from a literary or artistic or religious heritage."

In acknowledging "the principle of interdependency", Donald Worster (1995: 78-82), asked what rules, what constraints, may be required for long term survival. He concluded: "The challenge is to determine which changes are in our more enlightened self-interest and consistent with our most rigorous ethical reasoning, always remembering our inescapable dependence on other forms of life."

On the other hand, the economically rational approach allows wide scope for substitution of different forms of capital, and emphasises the pursuit of efficiency in 'balancing' economic, social and environmental outcomes. This interpretation derives from the dominant neoclassical welfare economics approach to public policy analysis; one that informs what (Stone 2002) calls the 'rationality project'. This approach, whereby the decision maker counts up the costs and benefits of alternative pathways and this leads, instrumentally and rationally, and "ineluctably to a single best choice," has "dominated the study of policy and policy analysis in the postwar period" (Stone 2002: 134). Similarly, in Australia, Macintosh (2015) identifies that it "has undoubtedly been the dominant normative framework for policy making in the last half century". In this approach social, economic and environmental factors may be traded-off against one another in the pursuit of an 'optimal' outcome; there is no hard ecological constraint applied. People may express a preference for environmental values over others but ontologically 'the environment' is treated as merely the stage upon which the human drama unfolds.

For example, in water policy, the approach essentially sees consumptive and environmental 'uses' as being able to be traded-off against one another in pursuit of an 'optimal' outcome, such as articulated by the Productivity Commission (PC 2010: 59):

> "… sustainable water use is not inconsistent with maximising the net benefits (or wellbeing) to the community. This requires consideration of all benefits and costs of different options for using water, including all relevant private and social impacts (including impacts on the environment)."

This problematisation, with its call to efficiency, is intuitively appealing – after all, who would not want the allocation of resources to maximize social welfare, or to ensure the benefits of any

proposed policy intervention exceeds its costs? However, as Macintosh (2015) observes, because "optimality is defined in terms of maximising the present value of human consumption streams" it may lead to a decline in well-being over the long term as the needs of future generations are discounted. Ackerman Ackerman and Heinzerling (2002) dissect in some detail the flaws in this type of approach. They identify, for example, how cost-benefit analysis fails to deal adequately with long-term and thus inter-generational issues quite apart from the problems of eliciting consumer preferences and ascertaining a value for non-market goods and services. In addition, this economic rationality doesn't take adequate account of the possibility of irreversible ecological events or recognise sufficiently that consumptive uses of the environment are fundamentally dependent, spatially and temporally, on maintaining a healthy functioning environment at some level.

The social sciences have always struggled with how to theorise and analyse the human-nature relationship, and to take account of the structural constraints imposed by the environment on human kind (Giddens 1982, Rayner and Malone 1998, Barry 2007). Part of the challenge arises because of the sheer difficulty in defining, or agreeing, what should constitute the main object(s) of study. Shaped at a time when natural resources were considered abundant, Giddens (1982) explains that in the social sciences literature nature tended to be treated "simply as a medium of human social progress." Barry (2007: 31) notes: "Historically, social theory has been largely concerned with reflecting on human society, critically analysing it, proposing the best arrangements of society for human beings". The emphasis has been on "that which humans have historically overcome in their evolution from the Stone Age to the modern industrial age", that is, how modern societies have overcome or transcended the limits or constraints imposed by the natural environment, as part of 'progress', not considering that humans may become a threat to their own life-support systems.

Now, the proposition, and the argument, is that the big issues to do with ecological crises are inherently questions concerning the collective interest, and should be front and centre to how politics and policy are constructed.

As Macintosh (2015) asserts, "What is [meant to be] radical about ESD is how it constrains the application of welfare economic principles." Institutionally, if the adoption of ESD as a national meta-policy was meant to change the way we conceptualise the relationship of humans to their

environment, and what social and economic development should mean in this context, then it must imply more than an efficiency-based approach to managing the environment. According to Curran and Hollander (2002), ESD was meant "to instil new principles and practices into both the public and private spheres, changing decision-making and policy priorities." In short, it "was supposed to change the 'rules of the game'" (Macintosh 2015). If this was not the case, then, as Macintosh (2015) observes, "there is little to distinguish ESD from the more traditional welfare economics policy framework that has dominated Australian policy making from white settlement." Langhelle (2000) puts it this way:

> "Environmental sustainability ... therefore, is not the primary goal of development, but a precondition for this goal in the long term and for justice between generations. Thus, physical sustainability becomes an inherent part of the *goal* of sustainable development. It is defined as 'the minimum requirement for sustainable development': 'At a minimum, sustainable development must not endanger the natural systems that support life on Earth: the atmosphere, the waters, the soils, and the living beings' (WCED, 1987, pp. 44–45). The relationship between social justice and physical sustainability, therefore, is not just 'empirical' or 'functional', but also 'theoretical' and 'normative'."

In this approach, then, environmental sustainability acts as a constraint on, or conditions, the goal of economic development so that it must occur in a way that maintains ecological processes and essential life support systems.

Using a similar line of reasoning, in the Stockholm Statement (Alkire, Bardhan et al. 2016) *Towards a Consensus on the Principles of Policymaking for the Contemporary World*, a group of the world's leading economists in providing policy advice to promote economic development, concluded that "environmental sustainability is a requirement not an option". They asserted that such problems "cannot be left to the free market to solve" and that "regulatory interventions by the state" are indispensable. The question arises as to how such intervention should occur, how much is needed, and how it should be determined what is 'optimal'? Indeed, what is 'environmental sustainability' when it comes down to it?

Ecological rationality

In the Australian context, the framing of the goal of the *National Strategy for Ecologically Sustainable Development* as "Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends", and specific inclusion of the core objective "to protect biological diversity and maintain essential ecological processes and life-support systems" reflected an ecologically rational outlook (Ecologically Sustainable Development Steering Committee 1992).

As the World Resources Institute (2000: iv) notes:

> "There are times when the most difficult decision of all is to acknowledge the obvious. It is obvious that the world's national economies are based on the goods and services derived from ecosystems; it is also obvious that human life itself depends on the continuing capacity of ecosystems to provide their multitude of benefits."

The challenge which emerges at this point is how to apply such a sustainability constraint and hence operationalise the ESD goal and objective, the aim of which, as Macintosh (2015) observes, "is not to protect biodiversity, ecological processes or any other aspect of the natural environment for their own sake; it is to ensure that each generation of humans has the capacity to enjoy at least the same level of well-being as those that came before them." Similarly, Bonyhady (2012) notes how governments enact such legislation "not just to protect the environment on its own account but also because it has recognized that such environmental protection is itself vital for the economy and society." This is a foundational premise of almost every environmental and biodiversity policy statement and strategy. Yet at the same time it is largely a hand waving gesture, for as Diesendorf and Hamilton (1997) observed, what remains problematical is the question of just how much biodiversity and natural values must be conserved to maintain an ecologically sustainable society. Herein lies a major scientific dilemma: what biodiversity and ecological process are essential, and how do we know when we pass a threshold that may compromise life-support systems? How do we determine a set of rules to decide this? Macintosh (2015) observes, after Pezzey (1992), that in many cases such a rule can be imposed through a "system-level limit such as maximum sustainable yield for fisheries and forestry, conservation areas for biodiversity …" However, these are very blunt policy instruments which tend to confuse and conflate the objectives of protecting the environment for its own sake

– that is, intrinsic value - with that of environmental sustainability and maintaining life-support systems in a world in which humans modify the environment to produce the goods and services they need to survive and prosper.

In practice, there have been several major attempts to implement policy prescriptions, which reflect such an outlook in Australia. Bonyhady (2012), for instance, provides several examples of how governments have enacted legislation – relating to decision-making about conservation areas, fisheries and water use - which gives priority to the environment over social and economic considerations. However, he also notes how governments have been poor at maintaining their resolve on this when challenged politically by sectoral economic interests.

More broadly, Bonyhady (2012) reports that when an independent review of Australia's *Environment Protection and Conservation Act 1999* recommended that protection of the environment should be given primacy over other considerations it was rejected by the government on the basis that environmental considerations were already given "appropriate weighting" by the established principles of ESD in the legislation.

Perhaps the most notable example, and arguably success, at least in resolving a politically contentious issue for a lengthy period of time, has been the negotiation of ten Regional Forest Agreements across four Australian states during the latter half of the 1990s and into the 2000s. Crucial to these agreements was negotiation of a set of criteria for establishing "a national comprehensive, adequate and representative forest reserve system" that set in place a range of quantitative biodiversity targets (Mobbs 2003: 95). The agreements also specified that ecologically sustainable management practices would be applied in those native forests which remained available for logging. Notably, these agreements also provided industry with certainty of access to wood resources for twenty years and provided compensation and support for industry restructuring. Notwithstanding the enormous political conflict that accompanied the process leading to each agreement, with the exception of Tasmania, which has the greatest economic reliance on the forest industries of any state in Australia, they have largely stood the test of time and removed forestry issues from the national political agenda. The question over whether they substantively delivered an outcome, which may be described as achieving ESD, remains arguable.

Another prime example concerns water reform in Australia's Murray-Darling Basin, which I have written about extensively elsewhere (Donaldson 2015a, Donaldson 2015b). Allocation of water in this river system, which spreads across five state jurisdictions and accounts for about 40% of national agricultural production, has been argued over for more than a century. In more recent decades the debate has concerned how to share the waters between consumptive uses and the environment. In the midst of the severe prolonged 'millennium drought' from 1997 to 2009, under the *Water Act 2007*, the Murray-Darling Basin Authority was tasked with determining "an environmentally sustainable level of take", where this was defined as meaning:

> "… the level at which water can be taken from that water resource which, if exceeded, would compromise: (a) key environmental assets of the water resource; or (b) key ecosystem functions of the water resource; or (c) the productive base of the water resource; or (d) key environmental outcomes for the water resource."

To determine this, the MDBA technocrats drew upon the dominant scientific discourse of eco-hydrology, which is based on the 'natural flow paradigm'. In this paradigm, a natural flow pattern is assumed to drive key ecological processes in healthy river habitats and "the greater the departure from the natural flow pattern, the greater the likelihood that the river will not be ecologically sustainable" (MDBA 2011: 14).

Although concern for evident decline in the environmental health of the river system formed the basis of the case for change (MDBA 2011), as Postel and Richter (2003: 59-60) point out, in setting ecological goals for rivers, an overarching question that needs to be addressed by society at large is "How healthy do we want any particular river to be? Is some degradation of river health acceptable?" Likewise, Hamstead (2009: 2) asks: "How far can we go in trading off environmental assets for economic benefits and still call it environmentally sustainable?" These kinds of questions "pose a quandary that is common to virtually every river restoration effort" (Postel and Richter 2003: 63).

For ecologists, although the concept of ecosystem health is an appealing one and "an intuitive way to describe the complex patterns and processes of an ecological system," it is also complex, relative, and suffers from an inconsistency in definition (Davies, Stewardson et al. 2012). Fundamentally, the question of how to deal with humans as an integral part of ecosystems and

hence how to assess the health of ecosystems in relation to serving multiple societal functions is vexing. According to Hamstead (2009: v), while there is a desire for 'health' to be scientifically determined, there is a lack of clarity as to whether environmental values can be "independently defined". Similarly, Vugteveen, Leuven et al. (2006: v) note that 'health' is "not an ecological property but a societal construct," a metaphor, and can only be defined and assessed against a set of normative criteria, which means it is a flexible notion that is open for interpretation and argument.

In practice, such assessments of environmental health or condition are "generally assessed in relation to a reference or benchmark set of measures. This reference comparison is generally made using observations of the ecosystem in a 'natural' condition and/or when major human stressors are absent" (Davies, Stewardson et al. 2012). Using this approach, "an unhealthy system is one substantially changed from its natural state… It may have lost and/or gained species, it may be affected by environmental changes, or its resources may be intensively exploited. None of these factors is inherently unhealthy, but may become so if they exceed the resilience of the system. The differences between 'healthy' and 'unhealthy' systems, then, may be matters of degree" (Davies, Stewardson et al. 2012).

Ecological scientists assert that although a specified reference condition "represents a river ecosystem in good health, it is not used here as a target, or an implied objective for management. This would be unrealistic because true pristine conditions in the Murray–Darling Basin, as elsewhere, may be neither attainable nor desirable, as human alteration, impacts and management have become integral to many parts of the Basin's riverine ecosystem. Further, they argue, management targets are properly determined by integrating ecological values with social, cultural and economic ones – a policy underpinning the Basin Plan" (Davies, Stewardson et al. 2012).

Yet, it is quite apparent from legal advice that in determining an 'ecologically sustainable level of take' environmental objectives were obliged by the legislation to be given primacy over social and economic considerations. Further, as Bonyhady (2012) concludes: "There has never been a greater test of whether Australian legislation intended to prioritise the environment actually results in the environment being put first." Indeed, as Macintosh (2015) states, "If ESD is not

given a clear meaning, both through how it is defined and the context in which it is applied, it is incapable of ensuring that decisions are kept within the bounds of strong sustainability."

Although in this case the caveat is placed by ecological scientists on the meaning to be attached to a systematic assessment of the health of river ecosystems in the Murray-Darling Basin, the benchmark for setting environmental targets under a 'natural flow paradigm' could only ever be one of naturalness. Defined in this way, any deviation from 'natural' compromises environmental sustainability. The question, then, is how much, and how much is acceptable?

In a review of conceptualisations of river health used in the scientific literature, Vugteveen, Leuven et al. (2006) found not only is there "no consistent meaning of the central concept Ecosystem Health," but that approaches to date have failed to integrate adequately the notion of ecological health with the social and economic domains of sustainability. They proposed a new more holistic approach to do this whereby "a healthy status is flexible in definition within the limits of sustainable functioning whereby societal values drive the level of ecological quality that is attainable within a river system." That is, what is 'healthy', or 'environmentally sustainable', can only be defined with respect to a socially defined purpose. Ultimately, however, no one knows for sure what this looks like, and the socioeconomic system, like the ecosystem, is dynamic and constantly changing, both temporally and spatially. As Rayner and Malone (1998: 3-4) observe, "the possibility [the inevitability] of human choice" underlies all consideration of responses to environmental issues: not just choice of solution to a particular problem but of interpretation of the problem itself.

So the question of how (ecological) scientists define ecological sustainability is framed by this conception of what is natural, which is considered to be inherently 'right' and ordered in some sense. It is not driven, for example, by the question of what is required to sustain human use of the environment; that is, to support agricultural industries and human settlements. These two conceptual framings of sustainability are obviously related; however, they present quite different conceptual logics for how we problematise the question of how to allocate natural resources and what the objective of policy should really be.

Initial development of the Murray-Darling Basin Plan can be seen as a bold attempt to 'put the environment first' in policy making, which was based on a 'strong' ecologically rational

interpretation of the conceptualisation of sustainability. This approach had previously proven elusive in the federal system of governance in the Basin. In the end, policy change did eventuate, with more water being re-directed back to the environment from irrigated agriculture. Nevertheless, in terms of institutional practices, the discursive construction of the issue resulted in a failure of the attempt to put the environment first, and a return to, and reproduction of, a more traditional pragmatic economically rational or 'optimisation' approach to sustainability policy-making, where social, economic and environmental factors were 'balanced' (Donaldson 2015b). This approach has resumed its dominance in the discourse about what constitutes 'a healthy working Basin'.

The State of the Environment (SoE) reporting

The conundrum concerning how to reconcile the basic ontological fact of human embeddedness in ecological systems also arises in relation to the State of the Environment reports produced by the Australian federal department of the environment every five years. The main function of the report is "to assess progress towards the goal of ecological sustainability" (SoE 1996: 9) and provide "an assessment of how effectively the Australian environment is being managed" (Jackson, Argent et al. 2017: 1).

Every report since 1996 has included a pronouncement pointing out the links between maintaining a healthy environment and social and economic well-being. For example:

> "Progress towards ecological sustainability requires recognition that human society is part of the ecological system and integration of ecological thinking into all social and economic planning" (SoE 1996: 8).
>
> "Australians have a high stake in the state of their environment. Our lifestyles and livelihoods depend on its health" (SoE 2001: 1).
>
> "At a more practical level, the environment is fundamental to Australia's economy and wellbeing – without a healthy environment, we cannot thrive." (SoE 2016: 6)

From this logic flows a statement such as:

> "Understanding the effects of environmental degradation on economic activity and social wellbeing is therefore critical to creating a sustainable future" (Jackson, Argent et al. 2017: 6).

In the framing of the problem it is purporting to address, there is clear acknowledgement of "the complex interactions between the environment, human society and the economy, and that these interactions are dynamic, and subject to cumulative and historical effects" (Jackson, Argent et al. 2017: 3). The reports bemoan the "lack of a nationally integrated and cohesive policy and legislative framework that deals with the complex and systemic nature of the issues facing our environment, and provides clear authority for actions to protect and maintain Australia's unique natural capital" (Jackson, Argent et al. 2017: 53).

Not surprisingly, all the SoE reports identify population and economic growth as the drivers of the pressures on the Australian environment, with "climate change, land-use change, habitat fragmentation and degradation, and invasive species" identified as being amongst the main pressures (Jackson, Argent et al. 2017: 14). However, they note that establishing clear causal relationships between the drivers, pressures and environmental impacts is not easy.

In relation to what they term an "institutional pressure" they state:

> "A major pressure on Australia's land has been the slow recognition and acceptance of the fact that landscapes are used and valued for more than one things at a time. Products that have a dollar value (such as crops, minerals or forestry products) have generally been given primacy over 'products', such as landscape function, biodiversity, carbon balancing, water quality or heritage, with a value that is difficult to measure. This has been the case for generations, but it nevertheless must change in the context of a wide range of macro-economic, competition and other generic policy settings that affect land management practices" (SoE 2006: 75).

A consistent theme identified in all the SoE reports is how to reconcile "the longer-term perspective of environmental polices with the relatively short-term focus of social and economic policies (Jackson, Argent et al. 2017: 11). The view, made repeatedly in report after report, is that substantive progress in addressing environmental decline and ecological sustainability won't be made until there is "integration of environmental with economic and social policies",

"commitment to fully integrated decision-making", and "a willingness to build environmental thinking into our economic planning" (SoE 1996: 8). The challenge is seen as being "to decouple national growth from increased pressures on our environment" (SoE 2011: 42). Much faith is placed in the belief that such decoupling is possible in Australia "if we use the right choices, policies, management and technologies" (Jackson, Argent et al. 2017: 73).

Despite this, and somewhat incongruently, the underpinning concept is that "threatening processes are interpreted as those processes of human origin that distort or disrupt natural processes" (SoE 2001: 46). The SoE report "is based on a modified version of the OECD's 'pressure-state-response' model. This model is based on the concept of causality: human activities exert pressures on the environment; these change its state or condition; society responds by developing or implementing policies that influence those human activities, and so change the pressures" (SoE 1996: 10).

Like the assessment of river health, such an approach places an emphasis on measuring change from a 'natural', pre-1750, reference condition. It can only ever paint a negative picture of a degraded and damaged environment. Barry (2007: 12) suggests terms like the environment and nature are often used in this way "to express, justify or establish particular values or judgements, courses of actions and reaction, policy prescriptions and ways of thinking." He argues, that interpreted in this way, "whatever is 'natural' or 'part of nature' is simply the way things are and ought to be, and there is nothing we can [or should] do to alter it" (Barry 2007: 27). With 'health' assessed like this, it is no surprise, then, to learn that the most environmentally degraded parts of Australia are where socio-economic development has been greatest. So, when it comes to addressing the pressures and drivers (i.e. causes) of the observed decline in the condition of the environment, we find, also not surprisingly, yet paradoxically, that these are the same things which are the drivers of socio-economic development, or growth, which governments on the other hand are busy encouraging and fostering.

Another way of viewing the paradox is that our human uses of land and water resources, that produce the food and fibre we need for example, depend upon the ecosystem functions provided by biodiversity – for nutrient cycling, soil production, water availability – yet at the same time it is these land uses and their associated management practices which have the greatest impacts on biodiversity. Mace, Norris et al. (2012) explain how "the relationship

between biodiversity and the rapidly expanding research and policy field of ecosystem services is confused and damaging efforts to create coherent policy" because "biodiversity has multiple roles in the delivery of ecosystem services, as a regulator of ecosystem processes, as a service in itself and as a good."

A conundrum for the SoE is that while it recognises the inter-dependence of human – nature interactions, its assessments of 'management effectiveness' do not extend to considering effects beyond the environment; and it does not concern itself with general public policy and of how social and economic policy should change to generate environmentally sustainable outcomes.

As the World Resources Institute (2000: 230) explains, "… the shortcomings of this approach for policy and management decisions are clear." By judging condition against natural benchmarks – that is, by degree of non-naturalness - altered ecosystems, for example managed forests and agriculture, can only be assessed "as being in poor condition since they are quite different from the natural ecosystems that they replaced." Moreover, "given the pervasive influence of human action on the global environment, it is increasingly difficult to define what a 'natural' or 'undisturbed' ecosystem would look like."

They note further that with this focus on naturalness "… none of these traditional indicators provides the information about the underlying capacity of ecosystems to continue to supply their life-sustaining goods and services." At the same time, these desirable indicators – "physical factors such as soil fertility or water's dissolved oxygen content that lie at the base of the ecosystem's ability to function" are not easy to obtain or make sense of (World Resources Institute 2000: 45).

An alternative approach more attuned to human modified use of the environment notes that while "assessment relative to a reference condition may be appropriate for situations such as the conservation of native biodiversity where a 'natural' or 'undisturbed' state can be regarded as an ideal", it is less appropriate for situations where landscapes are deliberately modified to provide a range of outcomes" (Chesson and Kingham 2005: 19). In this situation, condition of the environment might be assessed in terms of an "ability to produce various goods and services", for example in relation to water quality or the capacity to produce food on an ongoing basis.

However, such an approach to measuring sustainability, if it only focuses on a specific sector, for example agriculture or forestry, and ignores other values, "is insufficient today, when ecosystem management must meet conflicting goals and take into account the linkages among environmental problems" (World Resources Institute 2000: 230). The argument is that a more integrated ecosystem assessment, which assesses the capacity of the system to provide each of the various goods and services, and then evaluates the linkages and tradeoffs among them, is more appropriate.

Is there an alternative? What might an ecological turn look like?

The World Resources Institute (2000: viii) argues that such an 'ecosystem approach' "requires reorienting how we see ecosystems, so that we learn to view their sustainability as essential to our own." It "means we evaluate our decisions on land and resource use in terms of how they affect the capacity of ecosystems to sustain life, not just human well-being but also the health and productive potential of plants, animals, and natural systems." The approach explored in this report was one of the precursors to the seminal Millennium Ecosystem Assessment (2006). The goal of the ecosystem approach "is to optimize the array of goods and services ecosystems produce while preserving or increasing their capacity to produce these things in the future." Under this approach we would see an assembling of information "that allows a careful weighing of the trade-offs among various ecosystem goods and services and among environmental, political, social, and economic goals."

In theory, the ecosystem approach represents a more realistic basis upon which to assess sustainability, for it recognizes that people are an integral part of, and modify and manage, ecosystems "to enhance the production of one or more goods, such as crops, or trees or water storage" and that such decisions involve trade-offs where "not all benefits can be obtained at the same time, and maximizing one benefit may reduce or eliminate others" (World Resources Institute 2000: 16). At the same time, it recognizes the risks and dangers of such trade-offs and the need to manage, more consciously, for the sustainability of the ecosystem as a whole. That is "there are limits to the amount of alteration that ecosystems can tolerate and still remain productive" (World Resources Institute 2000: 16). They argue that an ecosystem approach allows us to consider "the entire range of possible goods and services" and attempts "to optimize the

mix of benefits for a given ecosystem and also across ecosystems. Its purpose is to make trade-offs efficient, transparent, and sustainable" (World Resources Institute 2000: 21).

The concept and principles of an ecosystem approach is claimed to have been growing in theory and application. It is, for example, said to be the primary framework for action under the Convention on Biological Diversity (https://www.cbd.int/ecosystem) and has been applied to the management of forests and fisheries. The US Forest Service has taken steps to adopt such an orientation, yet "… it has struggled to articulate what this means for its timber harvest policies, grazing practices, recreation activities, and management of roadless and wilderness areas". In short, "the wide-scale reorientation of business practices, government policies, and personal consumption habits around an ecosystem approach is still far from reality" (World Resources Institute 2000: 226).

In many respects, however, the ecosystem approach is just another way of articulating ESD, and suffers the same problem: "the principles of ESD tell us little about how to translate the concepts into practical action" (Bates 2003: 293). As the World Resources Institute concludes, "While our dependence on ecosystems may be obvious, the task of integrating considerations of ecosystem capacity into decisions about development is difficult" (World Resources Institute 2000: v).

Reports such as the SoE and by the World Resources Institute correctly identify the human-nature integration challenge, and make pleas for cohesive policy settings to enable it to happen, yet are unable to advise precisely how to bring it about. All of this analysis can be quite depressing and lead to pessimism about the tractability of our ecological crises and to question whether our institutions are in fact capable of dealing with them.

The SoE reports show that the sorts of policy tools available as 'responses' to 'environmental' policy makers are pretty ineffectual in leveraging change given the systemic socio-economic development drivers at work in a liberal democracy and market-based economy such as Australia's. For example, in relation to population growth, the environment department does not control immigration policy or social welfare policy. On urban and coastal development, it doesn't set policies on land supply or the provision of associated services such as transport etc. In short, environmental policy makers are reduced to assessing the effectiveness of management actions

designed to address the symptoms, but not the causes, of the environmental problems they observe.

Two fundamental challenges remain: the fact that human choice is central to determining societal objectives and what the 'good life' is; and the reality that there is no standard definition or measure of what constitutes ecosystem health or resilience. Inevitably, with such challenges, we are led to the question of how societies make collective choices and determine normative goals. Stone (2012: 10-11) identifies "the essence of policy making in political communities" as being "the struggle over ideas" and "ideas are a medium of exchange and a mode of influence even more powerful than money and votes and guns".

Business as usual or systemic change?

Much faith is placed in belief that more and better monitoring and data collection, increased research to improve our knowledge base, better accounting for ecosystem values, increased investment of financial resources, technological innovation, and improved integration of policy approaches – across and between governments, across sectors - will provide the solutions.

These calls demonstrate a clear techno-optimist faith, that we can indeed decouple economic growth from ecological degradation without making much change to our political and economic institutions. For example, Hatfield-Dodds, Schandl et al. (2015) argue that in Australia, "decoupling economic growth from environmental pressure before 2050 would not require a change in societal values." Yet in doing so they appear to ignore the deep systemic drivers and institutional settings which frame the goals of our social system and determine the bounds in which it functions. Donella Meadows (1997) in her influential paper *Leverage Points: Places to Intervene in a System* argues that substantive system change is unlikely to occur in the absence of a change in our paradigm, or worldview, "the mindset out of which the system – its goals, structure, rules, delays, parameters - arises". Paradigms in this view constitute "shared social agreements about the nature of reality" and are the sources of systems: "The shared ideas in the minds of society, the great big unstated assumptions, constitute that society's paradigm, or deepest set of beliefs about how the world works (Meadows 1997).

As Bates (2003: 258) points out, one of the purposes of our great social institutions, like the law, is "to protect the social values enshrined in society" and the dominant social value espoused by

our system of government is capitalism; so it is no surprise to find that law and policy relating to natural resource management traditionally supports the economic utilization of those resources." This means it has little sense of environmental values. Furthermore, environmental policy "has had to be applied in the context of a social system that hitherto placed few restrictions on the exploitation of natural resources by private owners."

The sustainability challenges for agriculture provide an interesting case in point, as it is implicated in many environmental problems, such as biodiversity loss, carbon emissions, water quality decline, loss of wetlands and riverine health, soil degradation through erosion, runoff, salinisation, and acidification, as well as having a substantial effect on social well-being in rural Australia. The SoE (2001: 11) commented that, "Some economic and social imperatives require individuals, communities, financial institutions and governments to give priority to wealth creation, whereas there is a powerful and growing desire to pass on to the next generation a land in better shape than was inherited. It is increasingly recognised that individual interests, operating through the exercise of property rights in a market economy, cannot be the sole mechanism for ensuring sustainability." These 'imperatives' are powerful drivers in a competitive capitalist market-based economy. Ophuls (1977: 148) sums up the dilemma well when he comments, "the good husbandman cannot survive in a market economy; if he maintains his soil while his neighbors mine theirs for maximum yields, sooner or later he must either abandon farming or become a subsistence farmer outside the market. He cannot afford to benefit posterity except at great personal sacrifice."

Australia through its microeconomic deregulation drive to become internationally competitive from the 1980s onwards has largely a market-based approach to agricultural policy. It advocates free trade in the global marketplace. While this provides significant economic benefits to Australia, as narrowly construed at least, as agriculture is an export driven industry, there is a general downward trend in the terms of trade facing farmers, meaning there is constant pressure to find efficiencies and generate productivity savings: in the end, producing commodities where they compete on price to produce more output for less cost. The choices facing farmers often include taking steps to expand their enterprise through the acquisition of more land or by intensifying production, with its consequent increase in use of energy, fertilisers and chemicals. In such a system, there are few levers available for environmental policy, which

because of its public good character and the fact that environmental problems usually need to be managed at larger geographic scales, require scaled up, coordinated and collaborative ventures. The approach adopted in Australian natural resource management policy, through collaborative government-community partnerships under the *Landcare* initiative, is largely a voluntary one aimed at improving farm management practices. When faced with the relentless challenge of being economically sustainable it relies a lot on the altruism of farmers to tackle public good environmental problems, or even to take management actions which provide private benefit if the nature of the return is unclear or too distant. In the end, calls for farmers to manage their land in a more ecologically sustainable way run head long into the demand that they be economically rational.

The challenge here, then, concerns the extent to which ESD as a social goal and a set of principles has been adopted as the central objective of public policy making, indeed of governance and of management regimes more generally, rather than just for environmental policy making as a subsidiary endeavour or as another set of factors which needs to be taken into account alongside others. As Eckersley (2003: 488) asks, does ESD provide "the central overarching framework for government across all policy domains"? Bates (2003: 293) asserts that in practice sustainability tends to be treated in law "as part of a procedure for, rather than as a focus or an outcome of, decision-making".

A question arises as to "whether new environmental policies can be successfully implemented in the absence of shifts in the overarching hierarchy of policy goals" (Eckersley 2003: 487). The argument is that dominant higher order goals are driven by an economic rationality. And the interpretation of the discourse of sustainability which has been dominant in Australia has drawn upon and been coincident with the broader turn in the philosophy of government action in Australia from the late 1980s to adopting more 'economic rationalist' (or neoliberal) policies (Pusey 1991, Quiggin 1999, Curran and Hollander 2002, Higgins 2014, Stokes 2014, Weller and O'Neill 2014). It is a policy orientation that tends to see society in the model of a market (Stone 2002). As Bridgman and Davis (1998: 49) observe, this dominant economic analytic hegemony, which frames analysis though the use of tools such as cost-benefit analysis, is difficult to reconcile with other analytic frameworks such as environmental sustainability.

Put simply, we live in (with) a worldview where "economic issues are given political priority over environmental and sustainability issues", as Howes, Wortley et al. (2017) reveal in their systematic review of environmental sustainability policy failure, and whether through the active encouragement of policy or benign neglect there remains economic incentives to exploit the natural resources of our environment. Not only do economic issues continue to be given priority over environmental and sustainability issues, the very conceptual lens through which we view and analyse these issues has become increasingly economistic in recent decades. The overarching trend in environmental policy in Australia over the last 25 years has been economistic, towards an economically rational governmentality, albeit tempered by a pragmatic politics responsive to the particularities of an issue, the unfolding of events, and broader socio-political context (Dovers 2013). This can be seen in the push toward adoption of market-based approaches in natural resource management policies and programs, first through experimentation then through moves in some quarters to more mainstream application, for example in the establishment of markets for carbon and environmental water (Coffey and Pearson 2007, Hajkowicz 2009, Robins and Kanowski 2011, Higgins, Dibden et al. 2012, Curtis, Ross et al. 2014). This reshaping by neoliberal reform actions has added to and tended to sit alongside rather than wholly displace pre-existing regulatory approaches and voluntary government-community partnerships, such as *Landcare*, leading to a certain hybridity in Australian natural resource governance (Lockwood and Davidson 2010, Dovers 2013, Evans 2016). These 'reforms' are consistent with the neoliberal trend and quest for 'efficiency' that has characterised social and economic policy more broadly in Australia over the last three decades or more.

Governance is a social and political practice. As William Ophuls (1997: 261) observes in his treatise *Requiem for Modern Politics: The Tragedy of the Enlightenment and the Challenge of the New Millennium*, "no human group can exist without governance – that is, without a fundamental agreement among its members on how their communal life is to be conducted, both in general and with regard to particular issues." And what is critical about the adoption of an increasingly economically rational governmentality is the way in which it determines, almost hegemonically, how we represent and can 'know' what an environmental problem is and hence how it frames the options, the governing strategies, of what to do about it. Such "rationalities of government" not only articulate the ideals or principles that should direct government but also

suggest the "technologies of government" – the complex of techniques, procedures and mechanisms - through which the governing occurs (Miller and Rose 2008). Likewise, Lövbrand, Stripple et al. (2009) state that "the governmentality concept draws attention to the systematic thinking that renders different governing strategies possible."

As Eckersley (2003: 487) asserts "there is room to argue that the higher order ideological shifts on government economic policy (which must also be located in the context of intensification of economic globalization) are exerting stronger pressure on the direction of environmental policy than the new philosophical discourses in environmentalism." She further observes how "formal and final responsibility for resolving economic and ecological contradictions principally lies with the political system" (Eckersley 2003: 488).

Deborah Stone (2012: 13) in *Policy Paradox* characterises "the essence of policy making in political communities" as being about "the struggle over ideas." She argues that, "… the very categories underlying rational analysis are defined in political struggle" and that we need to recognise "… analytical concepts, problem definitions, and policy instruments as political claims themselves, instead of granting them privileged status as universal truths" (Stone 2012: 10).

"The crisis is not environmental. It is political."[3]

The line of thinking that suggests we may need more paradigmatic or ideological shifts in public policy is not new. For example, Murray Bookchin (1980), active in the 1960s and 1970s, asked in *Toward an Ecological Society*, "if the environmental crisis does not have its roots in the very constitution of society as we know it today, if the changes that are needed to create a new equilibrium between the natural world and the social do not require a fundamental, indeed revolutionary, reconstitution of society along ecological lines." And as Lynn White (1967) noted in his seminal paper *The Historical Roots of Our Ecologic Crisis*, as now, there were many calls to action, with most of the proposed solutions being "partial, palliative, negative", often amounting to simple calls to stop the relevant activity or "revert to a romanticized past" in an attempt at "deep-freezing an ecology" to resemble a state "before the first Kleenex was dropped." In calling

[3] Statement made by Pepe (Jose) Mujica, former President of Uruguay (2010-15) on 11 September 2015 when talking about the need for better governance and a "planetary consensus" to deal with climate change.

for a more fundamental look “in some historical depth, at the presuppositions that underlie modern technology and science” of our emergent “entirely novel, democratic culture,” he asserted, “neither atavism nor prettification will cope with the ecologic crisis of our time.” He asserted that we could not expect to find a “solution for our ecologic crisis” from within the prevailing Western worldview, with its arrogant view of human-nature relationships. Whether one agrees with White’s argument that the roots of this worldview, and hence of our ecological troubles, were largely religious or not, one can agree with his conclusion that the ‘remedy’, to the extent one might actually exist, must also essentially be found by questioning the roots of this worldview. White (1967) concluded that humans needed to act with a greater sense of humility, cosmic humility, in their relations with nature rather than by simply applying more science and technology: “We must rethink and refeel our nature and destiny.”

In *Catastrophe or Cornucopia: The Environment, Politics and the Future*, Stephen Cotgrove (1982: 1) refers to the common message coming out of “a flood of reports, books and articles”, including the Club of Rome’s *Limits to Growth* (Meadows, Meadows et al. 1972) and The Ecologists *A Blueprint for Survival* (Goldsmith 1972), “that the industrial world could not go on as it was; that continued exponential economic growth was a physical impossibility, and that growth in population, pollution, production, the use of energy and non-renewable resources had reached a point where, unless drastic action was taken, crisis and collapse was inevitable.” He asked whether post-war economic wealth and material abundance might lead to a questioning of societal values, a challenging of “economic individualism and the market ideology”, and demands for changes in the political system of liberal, democratic, western states (Cotgrove 1982: v). Further, he asserted that what distinguished the growth in the environmental movement in the late 1960s and 1970s from concerns expressed in the previous century about humankinds treatment of the environment was the social evolution of a new environmental consciousness that had a radical political orientation (Cotgrove 1982: 1-2). The message of this movement “was that environmental catastrophe could be avoided only by fundamental and radical changes in the values and institutions of industrial societies” (Cotgrove 1982: 3).

However, if the 1996 SoE report is any guide to progress in this regard, which I argue it is, the outlook is not prospective. The report concludes, as has every SoE report since, by noting that although environmental awareness is increasing:

> "… we do not yet have an integrated, system-based approach to the management of natural resources. Until we do, environmental management will be characterised by *ad hoc* responses to urgent, emerging problems. Despite the adoption of national strategies for ecologically sustainable development and conservation of biological diversity, there is little evidence that this broader approach and commitment to sustainability has been fully integrated into decision-making.
>
> Overall, economic planning appears to take little account of environmental impacts."
>
> "The economy is a subset of human society which, in turn, is part of the environment. Progress towards sustainability requires recognition of this fundamental truth, and a willingness to build environmental thinking into our economic planning" (SoE 1996: 15).

In political terms, as David Suzuki (2013) points out, despite the success of the environmental movement in running campaigns against particular destructive activities from the late 1960s and 1970s onward, it has largely failed to shift the paradigm – a case of winning battles but losing the war - and so we are still stuck, perhaps even more deeply entrenched, in the old ways of doing things. Dovers (2013) notes how in Australia the emergence of environmental issues may vary greatly and erupt unexpectedly without a great deal of control.

Howes, Wortley et al. (2017) argue that the environmental movement – scientists, activists, policy advocates among them - has been not been able to convince decision-makers or the wider populace why sustainability matters or that there is an urgent need for change. As Suzuki (2013) puts it, the failure is being unable "to broaden the public understanding of why [environmentalists] were battling", to explain and convince the public there could be a different way of looking at the world:

> "Environmentalism is a way of seeing our place within the biosphere. That's what the battles were fought over. But we have failed to shift the perspective; or in the popular jargon, we failed to move or shift the paradigm. We are still stuck in the old way of seeing things."

This is represented as the "failure of the environmental movement" in that the same old battles continually need to be re-fought and re-litigated case by case, and can just as readily get rolled

back case by case (Suzuki 2013). In the Australian context it is claimed that by the 1990s "the goal of environmentalists – [was] to incorporate environmental protection into the very fabric of Australian political culture" (Hutton and Connors 1999: 250). On these terms it has evidently failed.

In a similar vein, Shellenberger and Nordhaus (2004), in a stinging critique *The Death of Environmentalism*, argue that the environmental movement in the United States has been its own worst enemy because of the way in which they have used science to define problems as being 'environmental' and hence they become "technical problems with technical solutions" as though politics didn't matter. They decry the lack of recognition by environmentalists that "they are involved in a 'culture war' concerning the core values of society."

Their key point is that by defining problems as being narrowly environmental, they no longer advance an alternative worldview which acknowledges that everything is inter-connected, including humans to their ecology, nor demand a political response to set in train systemic changes in how we organise our socio-economic affairs. That is, the problems are seen as ones that are 'out there' in the environment and able to be 'fixed' and not internal to how humans organise their society.

By way of contrast, Badham (2016) says she's "… come to understand that whenever we are protesting the direct site of potential destruction, it's essentially a rearguard action. What we are really fighting are the implications of our movement's failure to show leadership in proactive industry policy and provide communities and potential political allies with support for a meaningful jobs plan." She argues further, in relation to the case of the threats posed to the marine environment off Australia's southern coastline by plans to drill for oil in the Great Australian Bight: "The fight for the environment and the fight for blue-collar jobs are one and the same." It is difficult to fight against many of the proposals for resource development that offer jobs and economic growth, no matter how vague these promises might really be, if the bounds of the problematisation of the conflict does not take a wider, more systemic, socio-political view.

Bookchin (1980: 57) notes how already, in the 1970s, there was a growth of "a backlash against 'extremists' who are raising 'radical' demands for arresting environmental degradation, despite "massive public support for environmental measures" by "industry and by the White House,

where Mr. Nixon complacently assures us that 'America is well on the way to winning the war against environmental degradation; well on the way to making our peace with nature'." He notes that "this rhetoric is suspiciously familiar" with the emergence of advertising campaigns urging Americans: "to be more 'reasonable' about environmental improvements, to 'sensibly' balance 'benefits' against 'losses', to scale down norms for cleaner air and water that have been adopted by [environmental regulatory agencies], to show 'patience' and 'understanding' for the ostensibly formidable technical problems that confronts our friendly neighborhood industrial oligopolies and utilities." Similarly, Hutton and Connors (1999: 250) explain how by the 1990s in Australia industry had begun to mount a more sophisticated counter-attack, including by contesting the definition of ESD and arguing the need for 'balance' or 'compromise' between economic and environmental objectives.

It would seem sometimes, nay most often, that in thinking about how we manage our relationship with the environment we have failed to heed, and indeed may be incapable of heeding, the central lesson of Rachel Carson's (2000) book *Silent Spring*, that "the 'control of nature' is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man." As noted environmental philosopher, Warwick Fox (1990: 5), points out:

> "The effect of Carson's critique was to suggest to many people that what was needed first and foremost in regard to ecological problems was not bigger and better technical solutions but rather a thorough rethinking of our most fundamental attitudes concerning our place in the larger scheme of things."

Environmental political theory

Although Baskin (2015) suggests that, as a concept, the Anthropocene "radically unsettles the philosophical, epistemological and ontological ground on which both the natural sciences and the social sciences/humanities have traditionally stood", it is clear from the above discussion that philosophically and politically this ground has been shifting for some time. Early political critiques emerged from William Ophuls (1977) and Murray Bookchin (1982) for example, and scholarship in the broad and muddy domain of environmental political theory has grown ever since (Meyer 2008, Gabrielson, Hall et al. 2016).

John Meyer (2008: 780) identifies that two of the main issues addressed by environmental political theory concern the "the question and meaning of 'nature'" and "the role and limits of liberalism as a political philosophy" in terms of its compatibility "with effective action on environmental problems." He notes how contestation over the meaning of nature "is tied to questions of ontology and epistemology, and has been central to discourse about postmodernism." Similarly, Ophuls (2011: xii), in advocating the need for a new political order which responds to "what ecological reality demands", focuses "on the epistemological, ontological, and ethical basis of politics".

In considering the relationship between political theory and the environment, Meyer (2008: 773) explains that:

> "The most familiar view of 'the environment' in politics today, at least in liberal-democratic societies, is that it is an issue area." And as such, "… environmentalists are seen as representing a particular set of interests—one among many—that a nominally democratic or pluralistic political system should attend to when making policy."

He notes further that, "If the view of environmental concerns as interests or preferences—a private conception of the good—were either the only one or an unequivocally successful one, then there would be little point in discussing a relationship between the environment and political theory." That is, there may be aesthetic, ethical and other reasons for being concerned about the environment but these can all be readily accommodated within an economically rational analytical approach. Yet "there is a widespread conviction that this view is neither accurate nor adequate." For, it fails to deal with "the centrality of humans' embeddedness within the natural world" (Meyer 2008: 774). Environmental political theory, then, seeks "to move beyond 'issue area' environmentalism" (Meyer 2008), and to shift thinking about the human relationship with nature, or the non-human, to the centre of its inquiry (Gabrielson, Hall et al. 2016). This is an enormous challenge.

Unfortunately, as a field of study, environmental political theory itself is described as being positioned at the periphery of political theory, which itself is described by Dryzek, Honig et al. (2008) as "something of a mongrel sub-discipline" with no dominant methodology, an interdisciplinary field, and involving an approach largely set against the mainly positivist oriented

political science. It is in many ways a paradox in itself, for while seeking "to move beyond 'issue area' environmentalism" (Gabrielson, Hall et al. 2016), it endures an internal debate about even what to call itself – with some alternatives being green political theory, political ecology, or political theory of sustainability. It is somewhat of an irony that these scholars themselves define their own field as a single 'issue' area; this serves in many ways to demonstrate the myriad problems of language and the challenge of shaping new concepts and discourses.

The idea of 'cultural transformation' underpins many contemporary narratives aimed at envisioning and designing a more sustainable future for humankind, from local to global levels. Discussions pervading the literature about the resilience of socio-ecological systems, ecological economics, and human ecology, for example, often emphasise the criticality of "creating a shared vision of a sustainable and desirable future" (Costanza and Kubiszewski 2014), where people live with greater social equality and within 'planetary boundaries'.

While this is clearly a highly normative idea, the obvious role of political power in realizing such future visions, and the relationship of the 'political' to achieving the institutional change required to realize any such vision, often appear to be overlooked. Appeals to cultural transformation by academics appear constructed so as to stay within the bounds of a non-threatening 'problem solving' approach and to avoid calls for more radical, systemic, economic and political changes. It often seems there is a belief that if enough intelligent people just say it often enough, and the relevant scientific data and information is provided, people will simply accept the need to culturally transform without politics getting in the way. In contrast, Meyer (2008: 777) argues the emergence of environmental political theory "as a distinct form of analysis is concomitant with the loss of the innocent conviction that such change can be accomplished in the absence of close and careful consideration to relationships of political and economic power and inequality within the human community, as well as the role of current political ideas, values, and institutions in either challenging or reinforcing these."

The Enlightenment and the subsequent development of liberal western capitalist oriented democracies has left us with two key legacies of relevance here: one is the political philosophy and ideology of liberalism, the legacy of great thinkers such as Thomas Hobbes and John Locke, whereby we live as individuals in a world in which we are liberated from the tyranny of the state and equal before the law. The other derives from the thinking of Adam Smith and neoclassical

economics where “self-interested participants in a competitive marketplace will be unwittingly led to promote the common good by the ‘invisible hand’ of the market. That is, with consumers and producers acting rationally to maximize their own gain, the market will allocate resources with greatest efficiency and generate a maximum of individual and social prosperity; thanks to the invisible hand, self-seeking individuals, despite the lack of any intention to do so, will benefit their fellows as they enrich themselves” (Ophuls 1977: 168). Dryzek, Honig et al. (2008: 14-15) summarises the relationship of liberalism to politics as follows:

> “In its classic guise, liberalism assumes that individuals are for the most part motivated by self-interest, and regards them as the best judges of what this interest requires. In its most confident variants, it sees the material aspects of interest as best realized through exchange in a market economy, to the benefit of all. Politics enters when interests cannot be so met to mutual benefit. Politics is therefore largely about how to reconcile and aggregate individual interests, and takes place under a supposedly neutral set of constitutional rules.”

In terms of the role and limits of liberalism as a political philosophy, environmental political theory is positioned “against the longstanding practice of political theorizing narrowly focused upon a rational, liberal, individual human” and is “premised on the recognition that political action exists within an ecological context” (Gabrielson, Hall et al. 2016: 5). Central to such a recognition is coming to understand the dialectical relationship between humans and nature, or what Takacs (1996: 7) calls “the role of nature in culture and history and of the role of culture and history in nature”. In positioning itself in this way, environmental political theorists not only explicitly reject the dominant individualist ontology of liberalism and economic rationalism but seek to raise “questions about power, the role of and control over the economy, and the limits imposed by a dominant discourse upon the popular imagination” (Meyer 2008: 785). In emphasising this dimension, Meyer (2008) is highly critical of those environmental advocates who place great stress on the need to acknowledge ecological embeddedness, and seek a changed societal consciousness, but fail to address the issues from the broader perspective of socio-political ideas and practices.

While this may be true, when it comes to environmental policy, and more so to how we think about the environment in public policy, it is also clear that ideas matter. Ideas, adopted, have

material consequences. As Takacs (1996: 2) has observed, if we change our ideas about nature, we change nature. However, as argued above, in a world where economic issues continue to not only be given political priority over environmental issues, but where we conceptualise sustainability itself in economically rational terms, as entailing a 'balance' between social, economic and environmental issues rather than the desired outcome itself, it is difficult not to conclude there has been a substantive failure of the environmental movement in all its forms and capacities to shift the dominant discourse, to change the terms of debate and the way we think about sustainability and environmental policy.

This outcome seems to reflect somewhat of a conundrum or paradox we observe with sustainable development. On the one hand, it recognises ostensibly that development needs to occur within the constraints of the planet's life support systems (World Commission on Environment and Development 1987, Kates, Parris et al. 2005), yet on the other hand a virtue of sustainable development "has been its ability to serve as a grand compromise between those who are principally concerned with nature and environment, those who value economic development, and those who are dedicated to improving the human condition" (Kates, Parris et al. 2005). And, as Kates, Parris et al. (2005) note further, "much of what is described as sustainable development in practice are negotiations in which workable compromises are found that address the environmental, economic, and human development objectives of competing interest groups". Based on this approach, determining what is sustainable appears to be essentially left to political and deliberative processes. It implies there is no critical ecological bottom line, there are no resource use 'limits', nor 'planetary boundaries', to be observed in shaping how social and economic development occurs. Everything appears highly normative and subject to values and preferences being expressed and negotiated in economically rational terms in the political and economic market place.

Conclusion

We know that the state of the environment, and biodiversity and natural values in particular, are generally in decline both in Australia and globally. Many call it a crisis: an ecological crisis and an existential crisis, because we also know that humans depend on nature, its biodiversity and ecosystems, for their existence. Not only do we depend upon, we are a part of it. Humans have always used and manipulated the environment to meet their needs and wants – it can't be but

otherwise. So what's at stake here is not whether or not humans should 'exploit' the environment, but what sort and extent of use is consistent with sustaining the capacity of ecosystems to produce the goods and services we need and want over the long term.

It is apparent that it is often exceedingly difficult to translate the import of ecological sustainability, what it means, what it requires, into practical decision-making processes about how humans interact with their environment and manage natural resources. The ontological and epistemological challenges confronting our political and policy making systems are immense.

So, politically, we seem destined to continue the old conservation versus development battles of the past fifty years, which pitches the debate at the superficial level of being about jobs and economic growth versus the environment, and continues the clash of rationalities between the economic and the ecological. Fundamentally, an economically rational view of ecologically sustainable development, framed in terms of neoclassical welfare economics, with decision-making framed around the 'balancing' of social, economic and environmental costs and benefits to achieve the most efficient allocation of resources fails because it does not recognise a bottom-line ecological constraint and assumes a high degree of substitutability amongst these different forms of 'capital'. More than this, an economically rational or optimisation perspective assumes that the market is the best way to deliver such outcomes and maximise social welfare, unless it can be proven otherwise, when specific steps may be taken to rectify the identified 'market failure'. On the other hand, the 'environment first' version of the ecologically rational position, although premised on the underlying idea that without a healthy environment there cannot be healthy communities or sustainable production, tends to measure success in terms of degree of protection of the natural environment rather than a capacity to sustain human livelihoods into the long term. However, it is also clear that an 'ecosystem approach', which tends to address questions concerning how to sustain human uses more directly, struggles with defining precisely what constitutes 'ecosystem health' and, in itself, does not resolve the question of how to determine what societal purpose should be. And this is one of the seemingly irresolvable paradoxes, the inability to know where between these approaches, assuming them to be technically feasible, an appropriate measure of sustainability lies.

The idea that the advent of ecologically sustainable development would change the rules of the policy game about how decision-making occurred, by constraining the application of welfare

economic principles, has not eventuated (Macintosh 2015). Indeed, rather than adopting a framework in which some form of ecological rationality guides policy making, to date, coincident with the rise of neoliberalism more broadly, we have witnessed the entrenchment of an economistic approach, an economically rational governmentality, making the possibility of systemic change appear more illusory than ever.

In the end, for those who believe sustainable development must be based on an ontological acceptance of "what ecological reality demands", and that an 'ecological turn' in public policy making is required, one that recognises we face a political as much as an ecological crisis in how humans relate to the environment that they are a natural part of, it seems difficult to disagree with William Ophuls' (2011) call for a more radical change in political philosophy. He argues a "new level of consciousness" is called for, with political change driven from a new political philosophy, from which "the requisite practical measures" will be generated. As he notes himself, and despite being unable to lay out precisely what a new political order would look like, his position is radical because he recognises that most will object that such "a radical change in public philosophy is hardly a practical or feasible solution." That is, because it lies outside the bounds of "received ideas" and "existing institutions." But his response is

> "… if our problems have been created by a certain way of thinking, then the only real solution is to adopt a new way of thinking …" (Ophuls 2011: xii)

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