FOUNDATION FOR DEMOCRACY AND SUSTAINABLE DEVELOPMENT

The Future of Democracy in the Face of Climate Change

Paper Three

The Futures of Sustainable Development and of Democracy

Literature review and relevance to an enquiry into 'the future of democracy in the face of climate change'

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Any mistakes or omissions are the authors'.

"Our leaders speak of tomorrow, while their dreams and those of their citizens, are shaped by the concepts, metaphors, logic and assumptions of yesterday".

Ruben Nelson

Contents

Page

Introduction 7
Halina Ward

Part I: Sustainable Development 10
Halina Ward

Introduction: the scale of the problem 10
Glacial evolution and stellar change 10
The state of ecosystems 11
The history of sustainable development 13

Challenges for sustainable development 17
Substitutability of capital 17
Sustainable development at what level? 18
The mis-use of language 18
Framing sustainable development challenges 19
The environmentalist threat to democracy 20

Scenarios for the future of sustainable development 21
Near term: to 2027 21
Near to medium term: political ideas that could shape the future of sustainable development 26
Medium term: to 2045 27
Medium term: energy scenarios to 2050 31
Near to longer term: energy and climate scenarios 33
Near, medium and long term scenarios for climate change and governance systems 36

Futures for sustainable development governance 39

Part II: Democracy 44
Halina Ward

Prospects for the spread of democracy 44

The future of monitory democracy 45

Democracy and futurology 49
Anticipatory democracy 49
Democracy and futures 50
Democracy in the turmoil of the future 51

Green Paper on the future of democracy in Europe 56

The coming democracy 62

Part III: Faultlines for Democracy and Climate Change 64
Halina Ward and Emma Woods

Introduction 64

Transparency, access to information and accountability 65

Expertise, politics and the wisdom of crowds 67

Religion and the state 71

State, market and civil society 74
Introduction 74
Changing forms of the state 74
Civil society 76

E-democracy, the Internet, and the media 78

Part IV: Global Change, Global Governance 82
Halina Ward

Geopolitical perspectives on the future 82

Global governance 83

Part V: Systems Change for the Long-term 88
Halina Ward

Introduction 88

Long-termism, future generations and intergenerational conflict 88

Culture and sustainable development 90

Science and human behaviour 93

Institutional innovations for long-term thinking and non-anthropocentric decision-making 95

A concluding note on leadership 100

Bibliography

Tables, Figures and Boxes

Table 1: A new era for sustainable development: challenges to 2027

Table 2: SustainAbility scenarios for the future of sustainability to 2027

Table 3: The interaction of climate change and governance responses

Box 1: Millennium Ecosystem Assessment scenarios

Box 2: Response options to ecosystems challenges: Millennium Ecosystem Assessment

Box 3: The Scramble Scenario

Box 4: The Blueprint Scenario

Box 5: Categories of expertise

Introduction

In April 2010 and for months beyond, people around the world had access to the shocking sight of the environmental and livelihood devastation in the Gulf of Mexico following a blow-out in an offshore oil platform operated by British oil and gas multinational BP. The company dramatically underestimated the scale of the leakage; its Chief Executive Tony Hayward was hammered for remarking on the record that the leak was a 'drop in the ocean'; that he wanted his life back; and for consistently and visibly being a foreigner, not an American.[1] Wild talk suggested that a nuclear detonation might be the best way to stem the flow.[2] The company, despite marshalling huge resources, was unable to stop the leak for months on end, only finally stemming the flow of oil in September 2010 with the completion of a relief well drilling operation.

BP, which had previously largely been regarded as a 'responsibility leader' in its sector, sank like a stone in the estimation of publics in the US and the UK. The UK's new Coalition government was forced to step up to lend political support to the company in the face of intense criticism as BP's shares dropped in value dramatically and alarm grew over the extent to which the British savings public as a whole, and pension funds particularly, were exposed to significant losses.

We cannot yet tell what the long-term implications of the BP/Gulf of Mexico saga might be for governance of sustainable development. And yet the unfinished story of the BP disaster shows potently just how much the future course of history is susceptible to influence by events that, whilst not unforeseeable of themselves, do not form part of everyday consciousness. Those events cannot be predicted, but one thing that is certain is that they will continue to occur.

The future of democracy, of climate change and of sustainable development will be marked by the impact of such events. And whilst it is certain that the unexpected will happen, it remains useful to prepare for possible futures armed with the best possible foresight.

This is the third paper in the Foundation for Democracy and Sustainable Development (FDSD) project on *The Future of Democracy in the Face of Climate Change*. The project aims to develop scenarios that can help to answer the question : '*how might democracy and participatory decision-making have evolved to cope with the challenges of climate change by the years 2050 and 2100?'*

As we work towards scenarios on the future of democracy in the face of climate change to 2100, this paper reviews and offers preliminary comments on three broad existing bodies of work: those on 'the future of sustainable development', 'the future of sustainable development governance', and 'the future of democracy'.

The future of democracy is clearly centrally relevant to an analysis of the future of democracy in the face of climate change. And we review literature on the futures of sustainable development and sustainable development governance because we consider that it is the process and goal of sustainable development that offers the overall set of goals and aspirations towards which an optimal relationship between democracy and climate change should strive.

That leaves climate change. Paper Four considers in more detail possible climate futures, drawing in particular on the work of the Intergovernmental Panel on Climate Change (IPCC).

Each of the three bodies of work considered in this paper, for all that is broad, is rather scant. In the case of work on the future of democracy, one particular problem is the lack of a strong development (or rather development studies) orientation in such futures work as does exist.

More generally, existing literature presents challenges in that whilst ideas about what *should* happen abound, those ideas are rarely placed on a temporal scale that extends very far into the

future. When advocates or campaigners want things to happen, they typically call for them to happen now, or over a three or five-year period, or, recognising that the calls for change appear currently utopian, at some unspecified point. As is the case often with politicians, too, there is a short-termism in the calls of advocates and campaigners that limits the value of their work from a futures perspective.

For this reason, we also touch on broader bodies of thought that provide relevant understanding for our project. We stop short, in this paper, of assessing systemic 'external drivers of change' – such as population growth or technological innovation, for example. But we do outline broader 'futures' thinking and other bodies of work that will shape the futures of democracy and sustainable development.

The wider selection of ideas in this paper are those which we consider reflect important currents in contemporary thinking about sustainable development governance; or longstanding archetypes or faultlines in discussions about governance or the relationship of human beings to sustainable development. Whilst the authors of these ideas did not always consider their 'futures' relevance, they point the way to possible stories about the future.

At the same time, given the central focus on 'the future of sustainable development governance' and 'the future of democracy', there is a great deal of human endeavour that is underplayed or missing from this paper. Any exercise in prognostication that falls short of the Herculean must accept its own inevitable defects.

The remainder of this paper has the following structure.

- Part I focuses on sustainable development. It highlights the scale of current problems of *un*sustainable development, and reviews both the history and such work as exists on the possible futures of sustainable development and its governance.

- Part II builds on Paper Two (what is democracy?), and reviews work on the possible futures of democracy.

- Part III, co-authored by Halina Ward and Emma Woods, goes beyond 'democracy' and 'sustainable development' futures to outline a number of distinct bodies of analysis on some of the underlying faultlines at the interface of democracy and climate change. Separate sections consider transparency, access to information and accountability; expertise, politics and the idea of the 'wisdom of crowds'; religion and the state; and the possible changing relationships between state, market and civil society respectively. Each of these themes speak to systematic challenges highlighted in Paper One.

- Part IV turns to global governance; the state and future of which could have a profound impact upon the potential for internationally coordinated action to deliver solutions to the challenge of climate change.

- Part V considers a number of dimensions of the need – and potential – for systems change so as to factor longer time-horizons into decision-making; one of the central weaknesses of liberal democracy in relation both to climate change and sustainable development. After an introduction to the issues, separate sections consider the relationships between culture and sustainable development; scientific understanding of human behaviour as it relates to the long-term; and the range of institutional innovations that have been proposed to bring long-term thinking or future generations into decision-making processes. This Part concludes with a note on leadership.

The aim throughout is to identify the broad range of ideas, drivers and contextual factors rather than to achieve exhaustive analysis. One significant weakness of this paper is its sadly inevitable anglo-centricity. The paper does not review the range of ideas that have been put forward within the wider 'democracy' and 'democratisation' literatures for innovations designed to tackle some of democracy's current ailments (partially addressed in Paper Two). And another gap is the lack of a survey of how in the past democracy has tended to respond to external shocks. We will turn to some of the outstanding gaps as we begin to outline scenarios for the future in Paper Five.

Part I: Sustainable Development

The scale of the problem

Glacial evolution and stellar change

Our project on *The Future of Democracy in the Face of Climate Change to 2100* takes 2050 and 2100 as its staging posts; forty and ninety years into the future.

Going *back* forty and ninety years is one way to ground a sense of scale for what might be possible going forward, and this paper does a little of that. But it would not be appropriate to take the pace of transformation over the past forty and ninety years as a benchmark for the coming forty and ninety years. For one of the most dramatic changes over the past ninety years is the deep intensification in the potential for single or small groups of human beings to generate global impacts in the physical, natural and economic environment.

A paper for the International Union for the Conservation of Nature (IUCN) quotes a paper by Peter Vitousek and colleagues which comments that "*we are changing the earth more rapidly than we are understanding it.*"[3] Equally, futures researchers note that the increasing pace of change across technological, economic and societal phenomena is one indicator among others that the Western model of democracy will face considerable challenges in the future.[4]

The physical science basis for this comment, and others like it, is striking. In words adopted in a summary of the authoritative 2005 Millennium Ecosystem Assessment: "*Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel*."[5] Worse, scientists also worry that there is an increasing risk of nonlinear changes, in which multiple, currently unknowable, environmental (and therefore social) impacts are generated as a result of dramatic changes in ecosystem health.

The rapid pace of overall change is one feature of globalisation (when that word is understood in its simplest form as 'interconnectedness'). And it is also an effect of the exponential pace of technological change and the spread of new technologies.

Nuclear weapons and nuclear power have potential to cause colossal global damage across borders. The internet has the potential to bring people closer together; to spread messages and ideas around the world as never before; and to foster the development of forms of identity and 'belonging'. But it can serve the opposite goals too, creating isolation, new inequalities and gaps between the 'haves' and the 'have-nots', and a myriad of new sources of misinformation and hatred. Global physical travel and international trade provide new vectors for the spread of diseases that might in past times have remained geographically isolated. The fear of a new global pandemic that is beyond the knowledge of humankind to cure is not only very real, but far from unlikely.[6]

At the same time, the pace of change remains static in some areas. For example, consistently improving average IQ test results are less likely to reflect some exponential evolutionary leap than flaws in IQ tests and questions.[7] This is one area where, despite an argument that the IQ of the average citizen of Victorian England would have been far lower than that of the average citizen today, there has probably in reality been rather little change.

Former Israeli Commissioner for Future Generations Shlomo Shoham reviews a number of definitions of intelligence, charting a shift from dealing with intelligence at the level of the individual

to intelligence on a broader societal level as exemplified by the work of Daniel Golemann who defines social intelligence as *intelligence that sees advantages for both sides in a relationship*.

Shoham goes further than Golemann, seeing social intelligence as *a network which exerts influence over humanity as a whole*. He defines 'future intelligence' as *the human and social ability required to fashion and implement desirable future, for humanity, for the planet's biological diversity and for the world*". Yet far from practising this 'future intelligence' as yet, he suggests that "*we are like the driver of a car whose front windshield is entirely blacked out, navigating by looking in the rearview mirror at the road that has already been travelled"*.[8]

This is a central challenge for the relationship between democracy and climate change: to integrate a form of 'future intelligence' within the practice of democracy so that it is capable of anticipating and reflexively adapting to possible future states.

The uncomfortable fact is that the human mind and the physical boundaries presented by our physiology have not evolved at the same pace as the outcomes of applied human creativity and intellect. Certainly, technology allows some people to extend their reproductive lives, and medicine and diet our physical wellbeing and lifespan, but the human mind has not evolved at the same pace, whatever the arguments might be about the transformative potential of developments in robotics, genetic engineering, or research into the human genome.

Our failure to match the pace of technological evolution with the pace of evolution in the human species itself is one of two defining 'mismatches' of the twenty-first century. The second is the failure of human governance institutions to catch up with the intensification in globalised economic activity and the impacts of rapidly growing human consumption.

Global governance institutions have certainly evolved dramatically over the past ninety years; a period which has encompassed the creation of the League of Nations and the United Nations; a proliferation of new international institutions; bodies of law and policy in subject areas that had not even been thought of as policy arenas even thirty years ago (e.g. genetically modified organisms or nanotechnology); the rise of an interconnected 'global civil society'; and increasing experimentation with negotiating processes that involve parties from multiple organisations, geographies and interest groups.

As the failure of the December 2009 Climate Summit in Copenhagen shows (see further Paper One), the United Nations is not nimble when it comes to providing space, or rules of the game, for negotiating global agreements on contentious wicked problems. Neither do multistakeholder consensus-based governance tools (such as the standards of the International Organisation for Standardisation, ISO) provide a substitute for the authority of intergovernmental agreements.

The state of ecosystems

The Millennium Ecosystem Assessment (Millennium Assessment) was published in 2005 after more than four years of work involving over a thousand experts.[9] The Assessment was a response to a 2000 call from the United Nations Secretary General and four separate intergovernmental agreements. The entire process was managed under a multistakeholder governance framework. The Millennium Assessment is based on a global assessment of the state of the world's ecosystems, marking out both the policy territory and the systemic changes that must be achieved to stem a dramatic decline in ecosystem health. The overall focus is on 'ecosystem services'; namely the benefits that people receive from services provided by ecosystems.

The Assessment worked to develop scenarios for the year 2045 (close to the 2050 staging-post for our own project). We consider these scenarios in outline later in this Part of this paper. For the time

being, it is worth noting that a number of the Assessment's analytical conclusions on underlying drivers of change provide are relevant in our own project. In particular:

- Population is projected to grow to 8–10 billion by 2050
- Per capita income is projected to increase two- to fourfold
- A further 10-20% of grassland and forestland is projected to be converted to cultivated uses by 2050
- Ecosystem pressures as a result of overfishing and excessive exploitation of natural resources are set to grow
- Invasive alien species are set to continue to spread
- Disruption is set to occur in the natural nitrogen cycle. Flows of reactive nitrogen could increase by roughly a further two thirds by 2050, generating a wide range of negative health and environmental impacts. These could contribute to global warming, and the impacts could also include widespread eutrophication of freshwater and coastal ecosystems; loss of biodiversity; increased risk of cancer and other chronic diseases from nitrate in drinking water; increased risk of asthma and a variety of pulmonary and cardiac diseases from production of fine particles in the atmosphere.
- The impacts of climate change include changes in species distributions and population sizes; changes in the timing of reproduction or migration events; and increase in the frequency of pest and disease outbreaks. By the end of the end of the century, the Report suggests that *"climate change and its impacts may be the dominant direct driver of biodiversity loss and changes in ecosystem services globally"*. Whilst some ecosystem services in some regions may initially be enhanced by projected changes in climate, *"as climate change becomes more severe the harmful impacts outweigh the benefits in most regions of the world"*.[10]

Two of the drivers of ecosystems change identified in the Millennium Assessment – population and income – are also considered as drivers of greenhouse gas emissions for the purposes of emissions scenarios developed within the process of the Intergovernmental Panel on Climate Change, which we consider further in Paper Four.

A range of other overarching 'framing' projections are identified in the Millennium Assessment which provide insights that are directly relevant for our project. They include the following:

- Demand for food crops is projected to grow by 70-85% by 2050, and water withdrawals by 30-85%
- Food security will not be achieved by 2050, and child under-nutrition will be difficult to eradicate (and is projected to increase in some regions in some Assessment scenarios)
- Globally, the number of 'equilibrium' plant species is projected to be reduced by roughly 10–15% as a result of habitat loss over the period of 1970 to 2050 (though this is a projection that the Assessment says is associated with a low degree of scientific certainty).
- Whilst global water availability increases under all Millennium Assessment scenarios by between 5-7% by 2050 (depending on the scenario), demand for water is projected to grow by between 30% and 85%

- All four scenarios developed within the Millennium Assessment project progress in tackling hunger but at rates far slower than needed to attain the globally agreed Millennium Development Goal target of halving the proportion of people who suffer from hunger by 2015.[11] The Millennium Assessment suggests that improvements are likely to be slowest in those regions in which the problems are greatest: South Asia and sub-Saharan Africa.

- Three of the four Millennium Assessment scenarios project reductions in child undernourishment of between 10% and 60%, but undernourishment *increases* by 10% in the 'Order from Strength' scenario.[12]

The principles and goals of sustainable development have been developed as a response to these and other challenges facing the Earth's ecosystems. Yet clearly something has gone very wrong in our overall stewardship of the Earth and its resources.

We turn next to the history of sustainable development and the challenges that continue to face it.

The history of sustainable development

There are many ways to tell the story of the social and political concept of sustainable development over the past fifty years or so. Its core idea – that human activity and decision-making needs to be take account of environmental, social and environmental issues in an integrated way – is connected at multiple levels to multiple areas of thought about how best to structure and guide human endeavour; and to ideas that are hundreds of years old, if not thousands.

The term may first have been used in a mandate adopted by the International Union for the Conservation of Nature in 1969, but the use of 'sustainable development' is most often pinned to 1987, and the publication of the report of the World Commission on Environment and Development.[13] A major review of the state of sustainable development and our progress towards it is on the immediate horizon for 2012, in the form of a 'Rio plus 20' session of the United Nations Commission for Sustainable Development.[14] Rio plus 20 marks a fourth global sustainable development conference over the past forty years. The first, the UN Conference on the Human Environment, took place in Stockholm in 1972.[15] The second, the United Nations Conference on Environment and Development (UNCED), took place in Rio de Janeiro in 1992.[16] A third, the World Summit on Sustainable Development, was held in Johannesburg ten years later in 2002.[17] Each of these conferences has, whatever their pluses and minuses, set the stage in providing an intergovernmentally led multistakeholder framing of the policy stage for the relationship between economy, environment and society. Rio plus 20, too, will be a World Summit on Sustainable Development and, like UNCED before it, it too is to be held in Rio de Janeiro.

Further global impetus is provided by the Millennium Development Goals.[18] These eight international development goals and their associated targets were adopted by 192 United Nations member nations and more than twenty international organisations, along with the Millennium Declaration, during the United Nations Millennium Summit of 2000. The eight Goals have a target date of 2015. Surprisingly perhaps, they have proved a significant benchmark for business as well as policy progress.

Only the second of the three global environment and/or sustainable development conferences to date delivered more than the typical 'soft law' declaratory fare of such gatherings. The UN Conference on Environment and Development produced not only the Rio Declaration, 'Agenda 21' (a blueprint for action around the world by different groups and sections of society towards sustainable development) and a Statement of Forest Principles, but also two legally binding

intergovernmental agreements: the Convention on Biological Diversity, and the United Nations Framework Convention on Climate Change.[19]

In the nearly forty years since the 1972 Stockholm Environment Conference, the overall institutional and political framework for the governance of sustainable development has taken root and flourished. Legal and policy principles, such as the Polluter Pays Principle, the Precautionary Approach, or the principle of common but differentiated responsibility (as between developed and developing countries) that were unheard of before the birth of 'sustainable development' thinking have not only crystallised conceptually, but also found their way into numerous international agreements.[20]

International (and national) environmental law has now become a distinct specialism. The economic, environmental and social dimensions of climate change have spurred an internationally mandated process, the Intergovernmental Panel on Climate Change, for review of climate science and its potential implications.[21] Almost all countries have implemented environmental laws; most have a Ministry of the Environment, or Natural Resources. An environment movement within civil society has also grown.

Milestones of progress in sustainable development over the past fifty years can also be marked by books as well as conferences or governance institutions. Aside from marking Rio plus 20, 2012 will be the fifty year anniversary of the 1962 publication of biologist Rachel Carson's book *Silent Spring*[22]; an iconic work which highlighted the devastating impact of pesticides, particularly DDT, on the human and natural environment. This single book, written by a scientist to raise awareness and promote responsible use of pesticides, has been widely credited with helping to launch the global environment movement. Scientific analysis (in this case an intervention from a single individual based on research gathered over a four-year period) generated ripple effects that can still be felt nearly fifty years later.

Ms Carson's work was subjected to derision and vicious attack; particularly from economic interests who felt threatened by it. *Time* magazine reflected in 1999 that a huge counter-attack was launched; particularly by the chemical industry. But as *Time* argued, "*[i]n their ugly campaign to reduce a brave scientist's protest to a matter of public relations, the chemical interests had only increased public awareness.*"[23]

Biochemist and former American Cyanamid industry spokesman Robert White-Stevens is famously said to have remarked that, "*[i]f man were to follow the teachings of Miss Carson, we would return to the Dark Ages, and the insects and diseases and vermin would once again inherit the earth.*"[24] A growing anti-chemical movement continued to be countered by heavy lobbying from the chemical industry, and to this day, discussion continues over the pros and cons of a total ban on the use of DDT.

Today, there is a worldwide environment movement. And whilst it remains highly heterogeneous, it has learned gradually (though imperfectly) how to integrate the social and human dimensions of its work into environmental advocacy and campaigns. Dissenting environmental groups and activists were among the drivers for the collapse of Communist governance in the countries of Eastern Europe and the former Soviet Union. Environmental groups, argues one commentator, even served as a *"mobilising agent for populist protest against the totalita of the Communist regime"*.[25]

But now, as ever, environmentalists face derision (not least from so-called 'climate sceptics') and in some cases even persecution or false imprisonment – for example as in the case of Turkmen

environmental activist Andrei Zatoka, jailed for five years in October 2009 on what appear to be trumped-up charges of hooliganism.[26]

Rachel Carson's was by no means the only book to define the environmental movement. At the time of the Stockholm conference in 1972, the Club of Rome's report *Limits to Growth*[27] highlighted the problem, not of pollution (as with *Silent Spring*) but of the exhaustion of natural resources; the idea that there are natural 'limits to growth'. And that is a theme that is very much alive today and is only likely to intensify for the future.

1987, five years before the 1992 UN Conference on Environment and Development, saw the publication of a book which served to popularise the idea of 'sustainable development' more widely. *Our Common Future,* the report of the World Commission on Environment and Development (often referred to simply as the 'Brundtland report' after the Commission's Chair Gro Harlem Brundtland), contains what remains to this day the most frequently adopted definition of sustainable development: "*development which meets the needs of the present without compromising the ability of future generations to meet their own needs"*.[28] As Professor W.M Adams argues in a 2006 paper for IUCN, "*This definition was vague, but it cleverly captured two fundamental issues, the problem of the environmental degradation that so commonly accompanies economic growth, and yet the need for such growth to alleviate poverty"*.[29]

Both the Brundtland report definition itself, and its subsequent development, have come to be associated with a number of accompanying principles. Some of these principles flow directly from the Brundtland Commission's articulation of sustainable development. Others draw on that articulation of sustainable development, but have been expressed in numerous intergovernmental agreements and non legally-binding Declarations, including for example the 1992 Rio Declaration on Environment and Development[30] and the 2002 Johannesburg Declaration of the World Summit on Sustainable Development[31]. The key principles include:

- Intragenerational equity (that is, equity between people alive today)[32]
- Intergenerational equity (that is, equity as between people alive today and those who will be born in the future, or alternatively between the different generations alive today)[33]
- Access to information, public participation, and access to justice, based on the insight that sustainable development is best pursued with the participation of all concerned citizens; and that individuals should have access to environmental information held by public authorities, opportunity to participate in decision-making processes, and effective access to judicial and administrative proceedings.[34] In a 1995 paper, international lawyer Philippe Sands goes so far as to argue that *"the principles of good governance and participatory democracy may now be considered as central to international law in the field of sustainable development*".[35]
- The precautionary principle (sometimes referred to, with less normative force, as an 'approach') which posits that, "*where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation"*.[36]
- The idea of recognition for the special situation and needs of developing countries, sometimes expressed, in the intergovernmental sphere, through a principle of 'common but differentiated responsibility'. This recognises the common responsibility of states to take care of the environment, but also a need to take account of the different (differentiated) circumstances of different states.[37] The principle has proved particularly contentious in the contest of intergovernmental climate talks, because of lack of agreement on how to distribute the costs and benefits of action to mitigate and adapt to climate change as between states.

The 1992 UN Conference on Environment and Development served to emphasise the links between environment and development. The social dimensions of sustainable development were not fully articulated at UNCED, but international awareness of the links between social justice and sustainable development subsequently became stronger as a result of the 1995 UN World Conference on Social Development (the World Social Summit).

By the time of the 2002 World Summit on Sustainable Development, the social dimension of sustainable development, particularly the imperative to reduce, alleviate and ultimately eradicate poverty, had arguably tipped the rhetoric in the overall intergovernmental scales. In its introductory chapter, the WSSD Johannesburg Plan of Implementation[38] (one of the two formal inter-governmentally agreed outcomes of WSSD[39]) suggests that *"poverty eradication, changing unsustainable patterns of production and consumption and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development"*. Chapter II of the Johannesburg Plan of Implementation agreed at WSSD is devoted to Poverty Reduction, and notes that: *"[e]radicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development, particularly for developing countries"*.[40]

Whatever else, it is clear that sustainable development emerged to provide a powerful critique of dominant economic models based on a commitment to never-ending 'economic growth' that, coupled with a rising global population and depleted non-renewable natural resources, cannot possibly provide a firm foundation for the future survival of either the human race or the earth's ecosystems. As James Lovelock puts it, "*Economic growth is as addictive to the body politic as is heroin to one of us; perhaps we have to keep the craving in check by using a safer substitute, an economist's methadone"*.[41]

The international community's renewed focus on poverty reduction at the 2002 WSSD arguably allowed economic growth to re-establish itself as a 'good' in its own right. For example, within the international implementation process for the Millennium Development Goals, the 2005 UN General Assembly World Summit Outcome adopted at the United Nations on 16 September 2005,[42] includes a statement that nations present "*reaffirm [their] commitment to eradicate poverty and promote sustained economic growth, sustainable development and global prosperity for all."*[43] But this notion of '*sustained* economic growth' is potentially inherently antagonistic to sustainable development.

As preparations get under way for the next scene-setting global sustainable development conference, Rio plus 20, it seems inevitable that the economic dimensions of sustainable development will dominate. The financial recession that hit the world's richest countries in the closing years of the first decade of the twenty-first century is spilling into the second decade, its repercussions likely lasting for many decades to come and casting a long shadow over efforts in many other fields of human endeavour. No surprise then that one of the two core themes of Rio plus 20 is set to be the 'green economy'.[44]

Almost everyone with an interest in it would agree that sustainable development has an economic, a social and an environmental dimension. And yet, for all that sustainable development has been defined and redefined by authoritative books, three global conferences, and policy and practice around the world, the fact remains that to this day there is no single blueprint, authoritative and accepted by all kinds of stakeholder groups, for what must happen to achieve sustainable development – or sustainability. Worse, there are many people who continue to think of the term sustainable development as primarily 'environmental'; the terrain of environmentalists alone.

Neil Adger and Andrew Jordan argue that the process of redefinition and interpretation of sustainable development is mostly concerned with "*exploring the interplay between different sub-principles of sustainable development in different decision-making situations.*"[45] For example, a managerial perspective points to poverty, lack of property rights and unpriced ecological services, and lends itself to prescriptions based on economic growth. In contrast, a perspective which points to problems associated with disempowerment, gender inequality, trade and consumerism lends itself to remedies for unsustainability which involve "*a redistribution of the world's wealth, more democratic decision-making structures and precautionary approaches to technology development...*"[46] Different diagnoses of the problem lead to different governance remedies.

Whilst the economic, social and environmental dimensions are commonly referred to as 'pillars' of sustainable development (or sustainability), there is not even unanimous agreement on the number of pillars. For example, many analysts are used to referring to 'governance' as the fourth pillar of sustainable development. And the case has also been made that 'culture' forms a fourth pillar of sustainable development.[47] If indeed democracy is to adapt to the challenge of climate change, so that it is able effectively to meet head on the demands that it places on political systems, it is likely that the cultural comfort zones of millions of people around the world will need to change. We consider this in a later section of this paper.

Challenges to sustainable development

Several persistent - pernicious - challenges nag at efforts to develop applied approaches to the implementation of sustainable development, breathing life into it as a concept that is capable of practical application by organisations, and by people and their representatives. The challenge of taming economic growth aside, this section reviews some others that are particularly important in terms of the interface between democracy and climate change.

Substitutability of capital

There is no global consensus on whether, in pursuing efforts to attain sustainability (understood as the end goal of sustainable development), the different forms of 'capital' that together make up sustainable development should be considered substitutable.

Advocates of 'strong' sustainability argue that trade-offs as between social, natural and financial capital are only acceptable insofar as the total stock of natural capital remains intact. But a vision of 'weak' sustainability posits that different forms of capital may be traded off, one against another, so long as overall environmental, social and economic considerations are integrated. It is the weak model, unsurprisingly, that is the most politically dominant, for arguably only the weak model can be assimilated within the kinds of balancing acts that are achieved through democratic process; and only the weak model can be made compatible with sustainable development.

The differences between the two models are particularly pronounced in discussions about the exploitation of non-renewable natural resources, such as minerals. A strong view of sustainability leads to the view that no exploitation of mineral resources is compatible with sustainable development. A weak view would allow for exploration of ways in which continued exploitation of exhaustible natural resources might nonetheless be compatible with the maintenance of overall stocks of capital.

Sustainable development at what level?

There is no consensus on the level at which sustainable development should either be pursued, or ultimately exist as a state. Whilst the development of 'sustainability' or 'sustainable development' indicators sets is now well-established in environmental policy circles, it is politics, participation, and more or less democratic decision-making in organisations and institutions that determines the relative allocations of 'sustainabilities' in time and in space. As Alvin Toffler puts it "*the appropriate place to solve a problem doesn't stay put. It changes over time*".[48]

For a community member displaced by a new mine, or faced with unemployment as the mine closes at the end of its life cycle, mining my well appear to be an activity that is inherently 'unsustainable'. And yet in the 'weak sustainability' sense, taking account of the human needs that are meet by the resource, and its potential to deliver financial and other resources for the nation, carefully balanced exploitation of even non-renewable resources may be compatible with certain weak forms of 'sustainable development'.

Trade-offs are inevitable as between the different levels of sustainability from the local to the global; in finding ways to achieve integration across its economic, social and environmental dimensions; and as between the interests of different stakeholders today, let alone as between those alive today and those who have not yet been born. In the words of Katrina Brown, "*[h]ow society can evaluate, negotiate and manage these trade-offs is at the core of current dilemmas in governance for sustainable development*."[49] For political scientists, this is comfortable territory, as Albert Weale reminds us in the contrasting pair "*Sustainable development need not be a zero-sum competition between well-being and environmental protection, say the environmentalists; never forget that politics is about the choice among competing values, say the political scientists"*.[50]

Sustainable development implies winners and losers; but there are no globally agreed blueprints for the distributional outcomes of the inevitable trade-offs.

The mis-use of language

Sustainable development has developed its own policy agenda over the past fifty years. Governments around the world have been able to conclude 'soft law' declarations and agreements which set the scope of action to achieve sustainable development. And yet, the term is considered nebulous or ideologically suspect by many, precisely because of its lack of clarity. As a paper for IUCN argues, *"The problem with sustainability and sustainable development is not that the aspirational values they represent are wrong, but that they are over-worked and tired. As currently formulated they are too loose to drive effective change on the scale required".*[51]

There is a contemporary retreat from sustainable development that is partly cultural, partly political, and partly simply linguistic. There has too often been a tendency to add the word 'sustainable' to any major problem facing society, as an expression of the desired outcome of efforts to tackle the problem ('sustainable growth', 'sustainable education', or 'sustainable democracy' even). That this should be so is in one sense a manifestation of how very much we desire continuity; that our efforts should be 'sustainable.[52] But the word has sometimes been used so carelessly that some environmentalists have even advocated abandoning its use.[53]

The risk that the misuse of language could weaken the political potency and international resonance of 'sustainable development' is today very real. Even so, the concept of sustainable development has been adopted by almost all of the world's states as an aspirational societal goal. Recognising this, IUCN argues that *"the most effective strategy is to adopt an incremental or evolutionary approach, re-orientating the concept of sustainability, re-emphasising what it means and moving forwards; a strategy of 'keep it but fix it'"*.[54]

The lazy or disingenuous use of terminology is now a threat to sustainable development.

Framing sustainable development challenges

A further sustainable development challenge related to language and human cognition concerns the 'framing' of sustainable development challenges: how the language that is used to describe those challenges sits with established underlying worldviews or values that shape human understanding. For example, IUCN's 2006 paper on 'The Future of Sustainability' argues, "*the language of 'environmental limits' is in many ways a political non-starter. However, it is also central to the challenge of sustainability. Failure to understand and live within limits is the main reason why current patterns of development are not sustainable. A core challenge therefore is how to 'sell' structural change against the immediate short-term interests of non-destitute citizens, businesses locked into current markets, financial institutions that believe they have no role beyond maintaining shareholder value, and timid politicians... The solution to the dilemma of creating change which the rich and powerful mistrust has to be in terms of presenting opportunities and not threats....*". The paper goes on to note that "*Environmentalism's traditional capacity to speak like the prophet Jeremiah, promising hell to come, does not promote creative thinking and openness to change. The path-dependence of environmentalist rhetoric in the twentieth century has become dysfunctional*".

Ruben Nelson warns, in a paper for the Finnish Parliamentary Committee for the Future[55] that "*[e]ven 'sustainable development' is becoming code for, "How do we keep the present game going?" To this end all else is sacrificed"*.[56] And yet, sustainable development, with its emphasis on intergenerational equity and the future impacts of action today, is inherently future-oriented.

IUCN's proposed way forward for sustainable development: new alliances for change; capacity building; a recognition of the role of business in delivering solutions; no one size fits all, and faith in the role of consumers ("*ultimately, citizens need to provide the driving forces for new economies through their decisions as consumers*") – seem little more than a continuation of present thinking at best.[57]

Ideas about cognitive linguistics and framing offer a valuable touchstone for thinking about the future. For how stories are told, and what they choose as their motifs, can have a significant impact on how we view the challenges that we face.[58]

In the UK context, Ian Christie argues[59] that this dilemma is the key problem in UK politics about climate change: "*The government has presented climate change as a potential catastrophe, which it very probably is. Yet its statements about solutions, and its actual policies, do not match up to the story it tells about climate disruption. Mixed messages are highly damaging to public understanding, trust and sense of personal capacity to act*". The dilemma is expressed in a different way by Richard Heinberg when he points out that, relation to disasters, "*[t]ragically, officials who believe that social chaos inevitably follows disasters often delay warning communities of impending crises because they wish to avoid a panic..."*[60]

If the nature of the sustainable development challenge is indeed so great (as it seems to be) that no less than root and branch reform of economic and political systems is required, a core challenge, in the words of an IUCN paper, is "*how to 'sell' structural change against the immediate short-term interests of non-destitute citizens, businesses locked into current markets, financial institutions that believe they have no role beyond maintaining shareholder value, and timid politicians... Those with a vested interest oppose change more strongly than those with a vision for change*".

Apocalyptic visions or 'frames' of the future can seem so unmanageable as to paralyse. Yet failure to match apocalyptic vision to a narrative about root and branch reform or radical policy or political change can breed public scepticism and apathy. This is a central challenge for democracy.

The environmental challenge to democracy

There is an important emerging challenge to sustainable development from within the environmental movement. Whilst it is is not yet 'persistent', it is certainly pernicious. From some liberal democratic or environmentalist perspectives, some forms of environmentalism are emerging which are themselves becoming enemies of democracy. And because principles of access to information, public participation and transparency are embedded in sustainable development – an environmentalist threat to democracy amounts to a threat to at least some if not most mainstream visions of sustainable development.

Writer and activist Naomi Klein wrote, in April 2010, that *"after the Copenhagen debacle, an exceedingly dangerous talking point went viral: the real culprit of the breakdown was democracy itself".*[61] From a very different perspective, in the UK libertarian blogger James Delingpole wrote of the 'ecofascism' of commentators in a BBC Radio 4 documentary on democracy and climate change, in a piece in his widely-read blog for *The Telegraph* newspaper.[62]

In a 2007 book, academics David Shearman and Joseph Wayne Smith argue that democracy is doomed to fail in tackling climate change; that the future must lie with 'eco philosopher kings':

> *"We feel that there is some merit in the idea of a ruling elite class of philosopher kings. These are people of high intellect and moral virtue who are trained in a wide number of disciplines, ecology, the sciences, and philosophy (especially ethics) for the purpose of dealing with the crisis of civilization. Their goal will not be knowledge for its own sake, but knowledge in the service of life on earth. These new philosopher kings or ecoelites will be as committed to the value of life as the economic globalists are to the values of money and greed."*[63]

They propose a Real University as a training ground for a new eco-elite *"who will attempt to preserve remnants of our civilization when the great collapse comes"*; an education system that will convey *"knowledge on sustainability – correct, uncensored, unedited, and scientifically correct knowledge"* to provide "*the technocratic leaders of the future".*[64]

Shearman and Wayne Smith do not provide a pathway for 'how to get there'. Rather, they take the collapse of the present social system as a starting point, and go on to propose a system of education that could develop a generation of leaders equipped to rule in the authoritarian manner that will be required. And they decline to add the names of any individuals who could be conscripted for our alternative Intensive Care Management Government, because *"there are obviously defects in all individuals educated in our existing institutions – including us!"* Here then is the seed of preparation for authoritarian government in a belief that authoritarianism is inevitable and should be made to work for humanity as a whole.

At the grassroots, too, there is a countercurrent which does not seem interested in shoring up democracy or ensuring that it is resilient in the face of the challenge. One book quoted by Shearman and Wayne Smith, Alasdair MacIntyre's *After Virtue*, advocates "*a type of communitarian survivalism.. [believing that] only small state-independent benedictine-style communities will survive the coming dark age that liberalism is creating*".[65]

This has some resonance, too, in The Dark Mountain Project, which grounds its principles of 'Uncivilisation' in a story which begins: "*We believe we are entering an age of material decline, ecological collapse and social and political uncertainty, and that our cultural responses should reflect this, rather than denying it…We are not an 'activist' movement seeking new ways to 'save the world', but neither are we interested in 'apocalyptic' fantasies about the future. We are simply seeking to respond, as workers with the imagination, to the reality we see unfolding around us. We aim to question the stories that underpin our failing civilisation, to craft new ones for the age ahead and to reflect clearly and honestly on our place in the world. We call this process Uncivilisation*".[66]

The Project's eight principles continue: *"We reject the faith which holds that the converging crises of our times can be reduced to a set of 'problems' in need of technological or political 'solutions'. We believe that the roots of these crises lie in the stories we have been telling ourselves. We intend to challenge the stories which underpin our civilisation: the myth of progress, the myth of human centrality, and the myth of our separation from 'nature'. These myths are more dangerous for the fact that we have forgotten they are myths. We will reassert the role of story-telling as more than mere entertainment. It is through stories that we weave reality.*[67]

These principles and this text, emerging out of creative spaces within the heart of the democratic Western hemisphere, reveal a narrative that seems to care little for shaping what could emerge. It sets on edge the teeth both of libertarians and of liberal environmentalists; even those who reject an inextricable link between liberal democracy and liberal economy. And it is a narrative that describes the seeds of what could be some of the most damaging Western civil society rifts of the future; rifts which bring the different values and worldviews of anthropocentric and ecocentric rights advocates into the spotlight; rifts which art and story-telling are unlikely to heal.

Narratives from within the environment movement which take collapse as their starting point, and aim to prepare societies for that collapse, are a strange mix of fatalism and activism. Far better, surely, to work to head off the risk of societal collapse than to expend scarce activist energy devising highly improbable models of government for the future (improbable in that they are grounded in the ideal of benign authoritarianism in the face of social collapse); pathways even less probable, if anything, than the positive visions for the future that eco-survivalists reject.

Centre-left environmentalists and the libertarians of the hard right may find, over the coming decades, that they have more common cause than they had imagined. If that is the case, the future of sustainable development governance; and of democracy in the face of climate change, could be a story of betrayal and deceit more hurtful than any pitting of climate sceptics against advocates of rapid and meaningful action to tackle climate change; for it could be a story in which shared underlying values between people and across nations fail to merge into a coherent narrative for shared action.

Scenarios for the future of sustainable development

Near term: to 2027

On the immediate horizon, 2012, with its Rio plus 20 sustainable development Summit, will be a time for stock-taking; for reflecting on what the past fifty years of social action for progressive change on environmental issues has delivered, and what the next fifty years could bring.

The present, then, is as a good a time as any for taking stock and looking ahead.

In this section, therefore, we highlight a range of existing scenarios, projections and recommendations for the next stages of the sustainable development journey.

Writing in 2007, IIED's Steve Bass identifies nine features of the sustainable development toolkit as it has evolved over the past twenty years:

1. Widespread adoption of the 'three pillars' concept of integrating environmental, economic, and social objectives.
2. Adoption of international agreements which offer shared objectives for global public goods.
3. Development and use of legal principles of sustainable development including for example 'polluter pays', precaution, and prior informed consent.
4. Adoption of a wide range of plans and strategies for sustainable development at international and national levels.
1. Creation of political fora and councils to identify and debate sustainable development issues.
2. Development of specialist tools for sustainability assessment, and for market, project and fiscal intervention.
3. Spread in voluntary codes and standards to address the sustainable development impacts of particular sectors
4. Spread in 'Triad' partnerships across government, civil society and business, to tackle particular sustainable development challenges.
5. Development of a considerable body of debate and research across disciplines and perspectives

But Bass also goes on to highlight a number of problems; barriers to achieving change on the scale that is required. For even if 'sustainable development' has been widely, even near-universally endorsed, the reality is that development around the world is very far from sustainable.[68]

Poverty, he argue, remains a scourge of development, holding back human potential in ways that impoverish us all, whatever our material means. The negative social and environmental impacts of economic activity – from species and ecosystem loss to the huge social costs of fractured communities – are imperfectly factored into the prices that are paid for goods and services in the marketplace, if they are counted at all. Non-monetary values rarely carry value in markets. And the world's most affluent people, and many who are not, find themselves in a cultural environment in which consumption, and acquisition, are the touchstones of progress.

Today, economic growth is too often understood as an end goal in its own right, rather than as a means to an end in the way in which John Maynard Keanes envisaged it when he wrote, in 1930, that "*for at least another hundred years we must pretend to ourselves and to everyone that fair is foul and foul is fair; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight*".[69]

The specialist institutions of sustainable development – from Round Tables and Commissions to Environment Ministries - are rarely forceful enough in the competitive institutional environment of government and governance to ensure that sustainable development is a touchstone for new policy proposals and evaluation of the impacts of older proposals. As with the international institutional architecture, it is economic institutions – Treasuries; Ministries of Finance; monetary policy committees, ministries of industry or of trade – that tend to have far greater policy clout. And this is strange, for here is an area where governments obsessed with opinion polls have failed to absorb the real relevance of those same polls and the consistent message in recent years that it is social or environmental outcomes that are considered more important than economic growth.

In March 2009, Gallup reported that "*For the first time in Gallup's 25-year history of asking Americans about the trade-off between environmental protection and economic growth, a majority of Americans say economic growth should be given the priority, even if the environment suffers to some extent"*.[70] The majority itself was slim – but even so, 51% prioritised economic growth in 2009 compared to 42% the year previously. At a time of near-global recession the shift was symbolically significant, underscoring the challenge of pursuing sustainable development in a recession.

Whilst the sustainable development tools of measurement, management and planning systems may indeed have evolved rapidly over the past twenty years, it appears that the capacity of human beings collectively in both the public and private realms to form, and stick with, judgments on how best progressively to respond have not evolved at the same pace.

In those countries that are democracies, it is clear that democracy itself has failed to rise to the challenge of sustainable development which has been so clearly endorsed by so many countries around the world.

Any effort to link democracy directly to climate change mitigation and adaptation; consciously to evolve democracy so that it is properly equipped to tackle climate change, then, is in part an exercise in using democracy to overcome a contemporary governance mismatch; to find ways to bring a new pace of change to governance and human decision-making systems; so that democracy can rise to the challenge of climate change and, conceivably, transform the processes of societal change in those areas where they are most likely to be harmful to human and ecosystem survival.

Steve Bass highlights (notionally over the period from 2007-2027) a number of contemporary challenges that the sustainable development agenda needs to rise to, and contrasts these challenges with the characteristics of sustainable development action over the previous twenty years. His prescription for the coming twenty years (summarised in *Table 1* overleaf) is compelling, offering the core features of an ideal scenario; a wish for what ought to emerge in a global transition to sustainable development.

The task in our project is to link this to other possible futures, and to weave them together into a set of scenarios for democracy and climate change to 2100.

Steve Bass's *New Era in Sustainable Development* invites readers to focus on 'stretch challenges'. Scenarios offer another way of channelling longer-term thinking about the future of sustainable development.

UK-based consultancy SustainAbility has developed scenarios for the future of sustainablility to 2027. Not only is this mid way to our first staging-post of 2050, but it is also coincidentally the same timeline as that adopted by IIED's Steve Bass.

SustainAbility's scenarios place business, rather than citizens, at the centre, given the consultancy's preoccupation with how the future could unfold "*depending on how business attends to social and environmental sustainability*". The two central axes for the scenarios are a 'society' scale (with 'society wins' and 'society loses' as two quadrants) and an 'environment' scale (with 'environment wins' and 'environment loses' as two quadrants). The resulting scenarios are presented as suits in a game of cards: spades, hearts (the 'win-win' scenario), diamonds ('lose-lose') and clubs.

SustainAbility's summary of the four scenarios is outlined below, in *Table 2* overleaf.

Table 1: A new era for sustainable development: challenges to 2027

THE FIRST ERA – EFFORTS FROM 'BRUNDTLAND' 1987 TO DATE	A NEW ERA – 'STRETCH' CHALLENGES FOR THE NEXT 20 YEARS
SUMMARY: Top-down commitments, 'wish-list' plans and tools – but inadequate pace, scale and scope of change. An emphasis on integrated processes – a great administrative puzzle – has challenged many stakeholders, but not yet changed them. For most, sustainable development is an external or 'add-on' idea with no compelling drivers.	**SUMMARY: A shared emphasis on social justice and ecological principles changes governance and behaviour.** A focus on developing integrated systems and capacities, from UN to local levels, to internalise sustainable development. Tougher decisions are made to tackle underlying causes of unsustainability, and to improve resilience to increasing pressures.
From	**To**
Conceptual approach – offering principles and 'best practices' rooted in natural science and economics	**Operational approach –** based on 'options that work' to improve both human and ecosystem well-being
Policy change – policy research targets governments and decision makers' plans but does not yet change them	**Political change –** engaging electorates in demanding and embracing sustainability in daily lives and jobs
Generic case for sustainable development – but the implications are not clear in specific cases	**Specific case –** clarity about what needs doing first/most, and with what benefits/costs
Environment policy arena – an emphasis which insulates other policy domains from the need for real change	**Mainstream agenda –** goals are also pursued in the major domains of trade, security, industry and social affairs
Driven by elite – a 'sustainable development community' dominated by narrow (Western, environmental) initiatives	**Diverse and bottom-up drivers –** poor people, social movements and other traditions engage
Organised by governments – but politicians and civil servants have little leverage on 'implementation'	**Globally constructed –** sustainable development mandate is created and shared through the UN and diverse coalitions
'Horizontal' consultation – to unprecedented degrees in sustainable development plans, if not in action	**'Vertical' participation, too –** learning from many people, and encouraging/engaging them in shaping solutions
Scattered pilot projects – a few subsidised operational trials in exceptional, 'safe' conditions	**Mainstream institutional change –** scale-up and normalisation of rules, accountability and incentives
Focus on easy 'win-wins' – some 'low hanging fruit' (costsavings, etc)	**Tackle underlying causes –** establish priorities and trade-offs, and make hard choices
Marginal private sector changes – 'voluntary' approach increases business comfort but also cooption	**Private sector structural changes –** responding to fair legislation and developing SD business plans
Technology-led progress – on single issues, notably pollution and ozone layer depletion	**Governance-led progress –** on complex syndromes, notably climate change, poverty and inequitable trade
Uncertainty and poor information – with disciplinary separation, all constrain decision-making	**Future-searching –** plus knowledge management and systematic monitoring, improves decisions and resilience
Economic goals – set the limits for sustainable development in practice, scarcities being managed through the market	**Social justice and environmental thresholds –** a new focus on these boundaries enables a paradigm change

Source: Steve Bass, A New Era in Sustainable Development, 2007, IIED Briefing, IIED, London

Table 2: SustainAbility scenarios for the future of sustainability to 2027

	Environment loses	Environment wins
Society wins	**Spades:** Democratic societies open out higher living standards to growing populations. One key consequence is that natural resource prices rise, but another is that ecosystems are progressively undermined, with most governments unwilling to take the political risks of asking voters to make sacrifices in favour of the common good. The challenges are managed to a degree, thanks to more open societies, but not well enough. Deteriorating environmental conditions gnaw at the islands of affluence.	**Hearts:** This is a world in which demography, politics, economics, and sustainability gel. It is the future that the Brundtland Commission pointed us towards. The early years of this scenario, however, are rough, with a global pandemic shutting down global trade. But in this case the challenges come in forms that drive positive responses, underlining the importance of shared solutions and inclusiveness. Over time, virtuous spirals of improvement set in, in most places. The outcome: a second Renaissance, but across a larger canvas.
Society loses	**Diamonds:** This scenario is bleak – a domino-effect world, in which instead of Adam Smith's invisible hand, our invisible elbows knock over a series of economic, social, and environmental dominoes. Demographic trends and the spread of western lifestyles devastate ecosystems. The challenges come in forms that disable decision-makers and overwhelm society's ability to respond effectively. Over time, as fear closes down thinking and creativity, vicious spirals develop in politics, governance, economics, and technology.	**Clubs:** This is a world in which, among other things, the elites learn how to use environmental sustainability as an excuse for denying the poor access to their fair share of natural resources. One outcome is a slowing of the destruction of ecosystems locally, but this future is characterised by protracted periods of social tension – broken with increasing frequency by insurrections. The waves of change build fitfully, chaotically, with closed societies and communities often operating in denial for extended periods. Over time, this erodes islands of sustainability.

Source: SustainAbility, Raising our Game: Can We Sustain Globalization? 2007, SustainAbility, London Washington and Zurich

SustainAbility's four scenarios are constructed in a way which suggests that the challenges and barriers to sustainable development could conceivably be substantially overcome over the next twenty years. Whilst that timescale seems unrealistic for the 'hearts' scenario given the democracy challenges highlighted in Papers One and Two, it remains valuable nonetheless as a possible benchmark of a 'desirable' future.

Spades, hearts, diamonds and clubs provide helpful reminders of the potential for futures to shift from one to another potential scenario, particularly over a long time period (e.g. shifting from Spades or Clubs to Hearts as a result of a process of reflection resulting from an unplanned 'external shock'; or deteriorating from Clubs to Diamonds in response to poor people rising up to counter

'environmental nationalism'). And they are also reminders of the risks inherent in a failure to balance social and environmental dimensions of sustainability.[71]

Near to medium term: political ideas that could shape the future of sustainable development

Political forces and ideas will certainly shape sustainable development. Simon Dresner's book *The Principles of Sustainability*[72], now in its second edition, offers a series of vignettes into how they might unfold.[73] His overall conclusion, given contemporary political thought and recent political history, is pessimistic: essentially 'we must try, but it's going to be enormously difficult'.

Dresner reviews central ideas of modernity and the inevitability of progress – and the blow dealt to the ideal of progress by the horrors of the First World War and subsequently the Holocaust. Alongside these setbacks, faith in a rationally planned society was also deeply shaken by the collapse of Socialism in the wake of the economic disintegration of the Soviet system. Communism had failed consummately to show its superiority to capitalism. And with the collapse of Communism the old political debates were superseded. For Frances Fukuyama, this was because liberalism had shown itself to be the final form of human society; for Anthony Giddens a key characteristic of the new arena of political debate was the irrelevance of arguments that had previously been divided along a Left-Right axis, and for Richard Norgaard the changes heralded the end of modernism itself, rooted in the tendency of modernism falsely to understand science and its failure to understand that nature and society co-evolve.

"*With worldwide disillusionment about attempts to engineer better societies after the collapse of socialist ideology*", Dresner concludes, "*the goal of sustainability sounds increasingly ambitious for the pessimistic times we live in*".[74] After all, for success, sustainability policies would have to be capable of making long-term predictions about the behaviour of human society as well as the physical environment. But the future course of science or technology is impossible to predict. And future social evolution is even more unpredictable. At the same time, he suggests, (in contrast to writers who see potential for working for sustainable development by engaging with deeply-held values of empathy, cooperation, and common interest[75]) that bringing about sustainability would depend deeply on a rational society in which the desire for material goods could be subsumed to the imperative to pass the world on intact to future generations. This against a backdrop in which a) faith in the idea of a rational democratic society has been eviscerated by the Second World War and the subsequent collapse of (rationally centrally planned) socialism; and b) the recognition that the world has become increasingly complex and therefore difficult to manage. Sustainability, he says, is in essence about maintaining things, whilst the idea of modernity is all about change – the constant renewal of the new with the old.

Dresner points to an environmental flaw at the heart of Fukuyama's argument that democracy would gradually become universal. Fukuyama's work saw no rival to democratic capitalism, for only democratic societies could succeed, he believed, as innovative post-industrial economies. But Fukuyama's argument is flawed, for it is grounded in an assumption that it is possible for capitalist accumulation to continue into the future; that it has no environmental or other limits. Today, we cannot assume that democracy has universal appeal, nor that the process of democratisation will continue apace. Disenchantment with democracy is widespread.

Giddens draws on aspects of green thinking when he points to the tension between decentralisation and strong measures to protect the environment. But his work, says Dresner, is alarmingly comfortable about taking risks, and the idea that boldness, rather than caution, might be needed in supporting technological and scientific innovation.

Richard Norgaard's co-evolutionary approach would involve *"smaller political units, a flattening of bureaucratic hierarchies and more public participation"*, but as Dresner points out, environmentalists often emphasise decentralisation or localisation too much. Sustainability is based on an appeal to a ideas of universal justice – and *"how can such a moral claim carry weight if you deny that there are universal values?".*[76]

Dresner points out that the traditional roles of Left and Right have shifted since the collapse of socialism. Rather than pressing for better societies, the Left has increasingly found itself defending its historical achievements. And rather than seeking to defend present social arrangements, the Right, as proponent of capitalism, is now cast as defender of Progress. Importantly, Dresner argues that the vision of the Left is increasingly informed by a Green vision of the future rather than a socialist vision.

How will sustainable development adapt to current political realities? Dresner concludes that, whilst we know a great deal about what can be done to make society more sustainable (if not 'truly sustainable'), it is not possible to draw up a blueprint of a sustainable society nor the route to get to it. This third part of Dresner's book, titled 'Future', ends simply with the conclusion that there is not much choice about attempting to bring about sustainability, for all the obstacles: "*the alternative to the pursuit of sustainability is to continue along the present path of unsustainability, leading to disaster.*"[77]

Medium term: to 2045

The 2005 Millennium Ecosystem Assessment takes a fifty-year time horizon (to 2045) to adopt a series of scenarios grounded in a mixture of quantitative and qualitative analysis. It is prefaced with an overall warning; that *"the degradation of ecosystem services could grow significantly worse during the first half of this century". Box 1* below summarises the four scenarios.

Box 1: Millennium Ecosystem Assessment scenarios

Global Orchestration Globally connected society that focuses on global trade and economic liberalization and takes a reactive approach to ecosystem problems but that also takes strong steps to reduce poverty and inequality and to invest in public goods such as infrastructure and education

Order from Strength Regionalized and fragmented world, concerned with security and protection, emphasizing primarily regional markets, paying little attention to public goods, and taking a reactive approach to ecosystem problems.

Adapting Mosaic Regional watershed-scale ecosystems are the focus of political and economic activity. Local institutions are strengthened and local ecosystem management strategies are common; societies develop a strongly proactive approach to the management of ecosystems.

TechnoGarden Globally connected world relying strongly on environmentally sound technology, using highly managed, often engineered, ecosystems to deliver ecosystem services, and taking a proactive approach to the management of ecosystems in an effort to avoid problems.

Source: Millennium Ecosystem Assessment findings summary presentation, http://www.maweb.org/en/SlidePresentations.aspx

The Millennium Assessment's Assessment Board notes that some drivers of ecosystem change remain constant across the four scenarios proposed (for example, projections of global population growth; conversion of land to agricultural uses, and the overall significance of climate change as a pressure). But they continue that "*[t]he scenarios diverge when it comes to the overall state of natural services, with the most serious declines occurring in "futures" where conservation takes low priority and where governments tend to favour their own national or regional security over global cooperation. In the scenarios where natural assets see improvements across entire categories, however, the world has taken action on a scale well beyond anything under way at present—for*

instance, investments in cleaner technology, proactive conservation policies, education, and measures to reduce the gap between rich and poor".[78]

In relation to changes in overall wellbeing, in three of the four Millennium Assessment scenarios, between three and five of the components of well-being identified in the Assessment (namely material needs, health, security, social relations, freedom) improve between 2000 and 2050. However, in one scenario (*Order from Strength)* conditions are projected to decline, particularly in developing countries

For all that this is a gloomy overall picture of overall degradation, the Assessment concludes that in three of its four scenarios (all bar 'Order from Strength'), *"significant changes in policy can partially mitigate the negative consequences of growing pressures on ecosystems, although the changes required are large and not currently under way".*[79]

The Assessment also considers the potential for 74 distinct response options to yield positive results in the areas of ecosystem services, integrated ecosystem management, conservation and sustainable use of biodiversity, and climate change (summarised in *Box 2* overleaf). Overall, however, the Assessment cautions that ecosystem degradation can rarely be reversed without actions to address five indirect drivers of change. These are: population change (including both growth and migration); changes in economic activity (including economic growth, disparities in wealth and trade patterns); technological change; and what the Assessment Report calls 'sociopolitical factors' (including the presence of conflict and public participation).

Response options for climate change are directly relevant to the present project, but given that this element of the Assessment draws on the Third, not the most recent Fourth Assessment Report of the Intergovernmental Panel on Climate Change, these will be considered further as we begin to develop scenarios for 'the future of democracy in the face of climate change'.

Three of the four scenarios are associated with changes in policy and practice that yield positive outcomes. In the **Global Orchestration** scenario, major investments in public goods (e.g., education, infrastructure) and poverty reduction are made and trade barriers and distorting subsidies are eliminated. In **Adapting Mosaic,** there is widespread use of active adaptive management and investment in education, with countries spending 13% of GDP on education, compared to a 3.5% baseline in the report. In **TechnoGarden,** there is significant investment in development of technologies to increase efficiency of use of ecosystem services; and widespread use of 'payments for ecosystem services' and other market mechanisms to deliver ecosystem services.

Whilst the response options are in many cases relevant to democracy and its evolution, innovations in democracy as a political system; or weaknesses or opportunities presented by different kinds of political systems are not explicitly identified in the Assessment report. Yet our Paper One overview of overall links between democracy and climate change shows that these too must be understood as part of the 'enabling environment' for much-needed changes in governance to take place.

Box 2: Response options to ecosystems challenges: Millennium Ecosystem Assessment

Institutional: *Changes in institutional and environmental governance frameworks are sometimes required to create the enabling conditions for effective management of ecosystems, while in other cases existing institutions could meet these needs but face significant barriers.*

Promising Responses include:

Integration of ecosystem management goals within other sectors and within broader development planning frameworks

Increased coordination among multilateral environmental agreements and between environmental agreements and other international economic and social institutions

Increased transparency and accountability of government and private-sector performance on decisions that have an impact on ecosystems, including through greater involvement of concerned stakeholders in decision-making

Economics: *Economic and financial interventions provide powerful instruments to regulate the use of ecosystem goods and services*

Promising Responses include:

Elimination of subsidies (e.g. agricultural production subsidies) that promote excessive use of ecosystem services (and, where possible, transfer these subsidies to payments for non-marketed ecosystem services)

Greater use of economic instruments and market-based approaches in the management of ecosystem services (where enabling conditions exist), such as taxes or user fees, or payments for ecosystem services provided by existing sustainable use of natural resources

Mechanisms to enable consumer preferences to be expressed through markets such as existing certification schemes for sustainable fisheries and forest practices

Creation of markets, including through cap-and-trade systems. The value of carbon trades in 2003 was approximately $300 million. About one quarter of the trades involved investment in ecosystem services (hydropower or biomass)

Social and behavioural responses: *These are generally interventions that stakeholders initiate and execute by exercising their procedural or democratic rights in efforts to improve ecosystems and human well-being*

Promising Responses include:

Measures to reduce aggregate consumption of unsustainably managed ecosystem services

Education and public awareness programs, promotion of demand-side management, commitments by industry to use raw materials that are from sources certified as being sustainable, and improved product labeling

Communication and education

Empowerment of groups particularly dependent on ecosystem services or affected by their degradation

Technological responses: *Development and diffusion of technologies designed to increase the efficiency of resource use or reduce the impacts of drivers such as climate change and nutrient loading are essential*

Promising Responses include:

Promotion of technologies that enable increased crop yields without harmful impacts related to water, nutrient, and pesticide use

Restoration of ecosystem services

Promotion of technologies to increase energy efficiency and reduce greenhouse gas emissions

Knowledge: *Effective management of ecosystems is constrained both by the lack of knowledge and information about ecosystems and by the failure to use adequately the information that does exist*

Promising Responses include:

Incorporation of nonmarket values of ecosystems in resource management decisions

Use of all relevant forms of knowledge and information in assessments and decision-making, including traditional and practitioners' knowledge

Enhancement of human and institutional capacity for assessing the consequences of ecosystem change for human well-being and acting on such assessments

Source: Millennium Ecosystem Assessment Findings[80]

The Board of the Assessment recognise this, implicitly, when they note (in their interpretation of the results of the Assessment) that:

> *"Three important messages emerge from this exploration. First, protection of nature's services is unlikely to be a priority so long as they are perceived to be free and limitless by those using them—effective policies will be those that require natural costs to be taken into account for all economic decisions. Second, local communities are far more likely to act in ways that conserve natural resources if they have real influence in the decisions on how resources are used—and if they end up with a fairer share of the benefits. Finally, natural assets will receive far better protection if their importance is recognized in the central decision-making of governments and businesses, rather than leaving policies associated with ecosystems to relatively weak environment departments".* [81]

Two of these three key messages, then (the second and the third), would call for significant shifts in decision-making systems; an evolution in democracy itself. The first is in a sense an 'enabling condition' for democracy to deliver sustainable development. Yet, as with many other 'sustainable development governance' assessments or analyses, the Millennium Assessment does not explicitly address the pros and cons, or limitations and potentials, of different kinds of political decision-making systems to deliver change on the scale that is required.

The Millennium Ecosystem Assessment scenarios are clearly potentially relevant to possible climate scenarios, but there are some distinguishing factors too. For example, Steve Bass argues that the challenges of climate change and of poverty reduction have succeeded in achieving high political, business and public profiles, whereas sustainable development has not.[82] To the extent that this is the case, 'the future of democracy in the face of climate change' need not be swamped by the same problems as sustainable development or 'ecosystem services'. On the other hand, it is now abundantly clear that climate change brings its own problems of mass mobilisation and inadequate or capricious institutional settings for negotiating progress.

IUCN frames one of the key issues pithily: "*By 2020 responses to issues like climate change and 'peak oil' will be more obvious, but the room for manoeuvre will be much less. Moreover, the political stresses that result for these challenges will not necessarily be conducive to calm collaborative*

action. Change, particularly significant change in 'business as usual', needs time but the environment is the timekeeper..."[83]

In adapting democracy to meet challenges such as those presented by climate change, then, time is not on our side. And the temporal mismatch between contemporary democratic practices and the urgent need for action to stem decline in natural resources and to plan for 'energy descent' means that innovations in democracy may not be up to the task.

Medium term: energy scenarios to 2050

Energy giant Shell's 2008 scenarios report focuses on energy to 2050,[84] our midpoint staging post.[85]

Three hard truths about energy supply and demand can no longer be avoided, says the report: consumption of energy is set to intensify as developing countries enter their most energy-intensive phase of economic growth; supply will struggle to keep pace with these new demands; and environmental stresses are increasing: *even if* it were possible for fossil fuels to maintain their current share of the energy mix and respond to increased demand, emissions of carbon dioxide would, in the international oil company's words, *"then be on a pathway that could severely threaten human well-being".*[86]

Policy turbulence is likely to continue for some time if for no other reason than the lack of consensus over prioritisation as between the goals associated with Shell's three 'hard truths'. From a swing towards environmental protection over 2007-8 with global increase in concern over climate change, a volley of articles and reports have more recently argued for rebalancing in policy efforts so as to accord greater priority to energy security or peak oil.[87]

Shell's two 2008 scenarios – *Scramble* and *Blueprint* (see *Boxes* 3 and *4* below) provide a useful approach to understanding some of the choices facing citizens and their governments in the coming decades. Which scenario will prevail, if any, is by no means clear; though *Blueprint,* with its emphasis on multistakeholder cooperation and its prioritisation of environmental concerns offers a more globally comfortable transition to sustainable development.

Shell links the *Blueprint* scenario directly (if frustratingly sketchily) to democracy in a way that John Keane, with his model of 'monitory democracy', might approve of: *"...the grassroots pressures and growing transparency that characterise Blueprints also put relentless pressure on governments to become more accountable in both democratic and authoritarian countries. In some cases this facilitates orderly transitions. However, the accelerated pace of technological and regulatory change in this scenario adds additional stresses, and the more rigid societies and political regimes struggle to adapt*. *Tensions between urban and rural communities increase and there is dramatic political change in several countries, particularly where governance is poor."*[88]

Intriguingly, whilst there is no direct reference to the direct impact of *Scramble* on democracy within nation states or on processes of participatory decision-making, Shell suggests that one dimension of the Scramble scenario may be a "de-internationalisation" of concern for democracy: "*In Scramble, major resource holders are increasingly the rule makers rather than the rule takers. They use their growing prominence in the world to influence international policies, particularly when it comes to matters they insist are internal such as human rights and democratic governance."*

The political consequences of the two scenarios also carry implications for democracy. For example, in the *Blueprints* scenario, Shell emphasises the catalytic role of local and city-level initiatives: "*In an increasingly transparent world, high-profile local actors soon influence the national stage. The success of individual initiatives boosts the political credentials of mayors and regional authorities,*

creating incentives for national and international leaders to follow suit. National and local efforts begin to align with and amplify each other, and this progressively changes the character of international debate." Synergies as between the national and subnational and international policies emerge.

In contrast, in *Scramble*, national governments are the principal political actors. Curbing national energy demand (and hence growth) is simply politically too unpopular. "*Ruling regimes under stress in societies that are changing fast easily lose legitimacy in the eyes of their people, and there is dramatic political change in several countries"... "As supply-side actions eventually prove insufficient or unpopular in addressing growing demand pressures, governments finally take steps to moderate energy demand. But because pressures have already built up to a critical level, their actions are often ill-considered, politically-driven knee-jerk responses to local pressures, with unintended consequences".*

Specifically in relation to climate change, *"[a]ddressing climate change is perceived as an additional economic pressure and, given the type of response required, nobody is prepared to risk being the first to act".* Eventually, says Shell, the lack of action creates *"fertile conditions for politically opportunistic blame for extreme weather events and supply crunches — and triggers knee-jerk, politically-driven responses".*

Box 3: The Scramble Scenario

Scramble reflects a focus on national energy security. Immediate pressures drive decision-makers, especially the need to secure energy supplies in the near future for themselves and their allies. National government attention naturally falls on the supply-side levers readily to hand, including the negotiation of bilateral agreements and incentives for resource development. Growth in coal and biofuels becomes particularly important.

Despite increasing rhetoric, action to address climate change and encourage energy efficiency is pushed into the future. Demand-side policy is not pursued meaningfully until supply limitations are acute. Likewise, environmental policy is not seriously addressed until major climate events stimulate political responses. Events drive late, but severe, responses to emerging pressures.

Although the rate of growth of atmospheric CO2 has been moderated by the end of the period, the concentration is on a path to a long-term level well above 550ppm. An increasing fraction of economic activity and innovation is ultimately directed towards preparing for the impact of climate change.

In Scramble, major resource holders are increasingly the rule makers rather than the rule takers. They use their growing prominence in the world to influence international policies, particularly when it comes to matters they insist are internal such as human rights and democratic governance. Nations who have hammered out 'favourable' deals with oil-producing nations do not want to rock the energy boat they have just managed to board, resulting in a world in which international relations are mainly a race to ensure continuing prosperity, not the building of a more sustainable international community.

Source: Shell Energy Scenarios to 2050[89]

Box 4: The Blueprint Scenario

Blueprint describes the dynamics behind new coalitions of interests. These do not necessarily reflect uniform objectives, but build on a combination of supply concerns, environmental interests, and associated entrepreneurial opportunities. It is a world where broader fears about life style and economic prospects forge new alliances that promote action in both developed and developing nations.

This is not driven by global altruism. Initiatives first take root locally as individual cities or regions take the lead. These become progressively linked as national governments are forced to harmonise resulting patchworks of measures and take advantage of the opportunities offered by these emerging political initiatives. Indeed, even the prospect of a patchwork of different policies drives business to lobby for regulatory clarity.

As a result, effective market-driven demand-side efficiency measures emerge more quickly and market-drive CO2 management practices spread. Carbon trading markets become more efficient, and CO2 prices strengthen early. Energy efficiency improvements and the emergence of mass-market electric vehicles are accelerated. The rate of growth of atmospheric CO2 is constrained leading to a more sustainable environmental pathway.

At the political level, there is increased synergy between national policies and those undertaken at the sub-national and international levels... International organisations – concerned with the environment, global economic health and energy – increasingly agree on what works and what does not.

Source: Shell Energy Scenarios to 2050[90]

Near to longer term: energy and climate scenarios

David Holmgren's book *'Future Scenarios: How communities can adapt to peak oil and climate change'*[91] describes a set of scenarios of climate futures inspired by the philosophy of Permaculture, itself developed by Holmgren and his colleague Bill Mollison. The scenarios are developed with a ten to thirty year time horizon in mind, but the sheer scale of the changes that they envisage make them equally relevant for the longer term.

Holmgren argues that mainstream approaches to 'sustainability' have little relevance to his scenarios because they tend to assume continuity in many of the structures that underpin current social and economic systems. This can be seen, for example, in a passage in the report of the World Commission on Environment and Development which asserts that *"technology and social organization can be both managed and improved to make way for a new era of economic growth."*[92]

Holmgren's central argument is that it is large-scale energy and environment factors which shape history more than ideology or the actions of individuals. The 250-year span of the industrial age was been built on the foundations of large-scale development of and access to fossil fuels.[93] Malthusian scarcity was only prevented during the industrial revolution, Holmgren argues, as a result of economic expansion into the land bank represented by the New World; an expansion that is no longer possible in that way[94] given the scarcity, in the twenty-first century, of undeveloped land banks (save perhaps for those, like the Arctic, that may open up as a result of climate change).

Holmgren's work[95] outlines four overall *energy* scenarios: 'Techno Explosion', 'Techno Stability' 'Energy Descent' and 'Collapse'. He maintains that current levels of ecological, economic and sociopolitical stress are indirect indicators of a shift to 'Energy Descent' rather than simply a transition from energetic growth to stability. Holmgren predicts that a transition from oil to other sources of energy will take at least two decades. He argues that overall, energy descent paths are likely to play out over a similar time frame to *"the industrial ascent era of 250 years"*: *"historical evidence suggests a descent process that could involve a series of crises that provide stepwise transitions between consolidation and stabilization phases that could be more or less stable for decades before another crisis triggers another fall and then another restabilisation".*[96]

Today, as the availability of fossil fuels nears a series of peaks, it becomes increasingly apparent that energy is a major factor not only of technological innovation, but also social evolution.[97] Food crisis and energy crisis, Holmgren argues, could mean more willingness to consider reductions in consumption within positive public debate – but it is also vital that the necessary debate and public education campaigns are implemented in ways that gives people a sense of investment and involvement. Democracy is key.[98]

Holmgren argues that climate change and oil production decline are the key variables for future energy descent scenarios rather than other external pressures such as water shortage, population change or the likelihood of disease. He considers these the strongest forces shaping human destiny over the twenty-first century. There is little evidence, he argues, that climate mitigation will radically reduce greenhouse gas emissions. Instead, recession is the only proven mechanism for a decrease in emissions and 'may now be the only real hope for maintaining the Earth in a habitable state'.

Two axes - climate change and oil production decline - give rise to four 'energy descent' scenarios over 'the next few decades' (to roughly 2050):

- 'Brown Tech': top-down constriction (slow oil decline, fast climate change)
- 'Green Tech': distributed powerdown (slow oil decline, slow climate change)
- 'Earth Steward': bottom up rebuild (fast oil decline, slow climate change)
- 'Lifeboats': civilization triage (fast oil decline, fast climate change)

There is a close connection in each scenario to the broad idea of democracy.

In both Brown Tech and Green Tech, technological innovations mean that new energy sources are able to replace fossil fuels "*without the stresses that lead to system-wide contraction*".

Brown Tech
The 'Brown-Tech' scenario is one of slow oil decline and rapid climate change. More specifically, "*the production of oil declines after its peak between 2005 and 2010 at about 2 per cent per annum and the subsequent peak and decline of natural gas is also relatively gentle, but the severity of global warming symptoms is at the extreme end of current mainstream scientific predictions*". The scenario is associated with strong aggressive national policies to address energy peak and climate change. The political system, says Holmgren, could be described as 'corporatist or fascist' (in the sense of a merger of State and corporate power). Investment in energy harvesting itself accelerates global warming. Resources are consumed by the cost of defending threatened urban infrastructure from extreme weather events. There are internment camps for migrants and homeless people. Food production is reduced as weather becomes less predictable. Resource nationalism by governments beaks down faith in international markets, and international conflicts reinforce shifts in global power balances and accelerate resource depletion. Demands for biofuels reduces food stocks. Food riots break out and consumer-led economic growth "*falters or is actively shut down by government policies to focus limited resources on food, fuel and climate security*". Desalination and high-energy ways to maintain water supply systems further increase demand for energy. There is a growing sense of divide between 'haves' "*dependent on a job in the system and the relatively loose but perhaps communitarian 'have-nots'.. living from the wastes of the 'system' and the wilds of nature*". Fundamentalist religions and cults play a bigger role. The Brown Tech scenario could, says Holmgren, *"be dominant and even more or less socially stable for many decades until ongoing climatic breakdown and reduced net energy return drive a shift to the lifeboats scenario".*

In an extra gloss on the grim future of Brown Tech, Richard Heinberg in his book *Peak Everything* argues that *'the return of slavery is a frighteningly real possibility'*,[99] since life without abundant energy implies more labour. Unlike Homgren, however, Heinberg does not admit of the possibility that any new tool or energy source could emerge to mitigate population growth, habitat destruction, and the undermining of climatic stability and natural resource depletion.

Green Tech

Holmgren's 'Green Tech', in contrast, is the more benign technology-rich scenario. Here, high commodity prices allow poorer economies to escape their debt cycle. Womens' empowerment lowers the birth rate. There is a gradual reduction in the power of countries to project their power globally, and so greater national security results. Renewable energy sources grows rapidly, and benign climate conditions allow a resurgence of rural and regional economies. Prices for all natural commodities are sustained and grow. Organic and ecological management becomes the norm – though there is an accelerating conflict between biofuels and food. There is a contraction in large sections of the economy but rapid grown in other sectors. IT generates gains in energy and resource management. Governments are able to lead restructuring to more compact cities and towns with increasing public transportation infrastructure. Profits from farming go into local energy systems that generate more employment and other positive benefits.

Together, these and other changes result in reduced greenhouse gas emissions which keep climate impacts to a minimum. But there is a warning note here, as Holmgren confidently suggests that a "*new sustainability elite then considers further changes to consolidate the positive achievements in the face of ongoing net energy decline*". The "*worst excesses of consumer capitalism are controlled by restriction and reform of advertising and other dysfunctional forces"*.

From this scenario evolution towards Earth Steward appears a natural response to the further decline of nonrenewable sources of energy.

Earth Steward

The 'Earth Steward' scenario depicts a situation in which oil and gas production declines rapidly. Severe economic depression results, preventing the development of more expensive energy sources that characterize the brown and green-tech scenarios. Communications networks break down; electricity grids become non-functional. Climate change slows as a result. Changes in the food supply system mean that large-scale farms are abandoned. There are food and energy riots. The power of governments is reduced as the tax base declines. People migrate to smaller towns and villages, and homeless ex-urbanites form a new underclass. Organic and small farmers thrive, and an explosion of home businesses begins to build a diversified economy, providing a tax base for 'some form of effective new government'. Intriguingly, the scenario includes a suggestion that 'new bioregional governments' may emerge. A process of ruralisation of suburban landscape to provide food gets under way.

This is a survivalist scenario. Holmgren suggests that "*Around the larger cities… most of these new developments are in gated communities.. with trade outside the community being more difficult or dangerous. Outside the gated communities salvage, fuel harvesting and animal husbandry are the main economic activities, with trade controlled by gangs and local warlords*". A cultural and spiritual revolution begins as people "*begin to experience the gift of resurgent community and the simple abundance of nature to provide for basic needs*". People accept that each generation will have to face the challenges of further ongoing simplification and localization of society. There is a resurgence in leadership by women and as the material domain contracts the spiritual grows. New growth emerges from biological and community foundations.

Lifeboat

The Lifeboat scenario emerges in the face of rapid energy decline rates and severe climate change symptoms. Most forms of economic and social organization progressively collapse. Local wars accelerate that collapse, but failure of national power systems prevents global warfare. The global population halves in a few decades through famine and disease. New forms of oasis agriculture evolve as traditional agriculture is rendered almost impossible by chaotic seasons. *"Warrior and gang cults provide meaning"*.. and new religions and even languages attempt to make sense of people's lives. Abandoned urban areas become quarries for salvaging materials. In climatically favourable regions, communities pursue the task of saving and condensing knowledge and cultural values. Beyond meeting basic needs, remaining social capacity is focused on conserving technology and culture that could be useful to a future society. In contrast to a collapse long-term scenario, however, the retention of cultural knowledge of the past coupled with a moderately habitable environment "*allow new civilizations to emerge that build on at least some of the knowledge and lessons from ours*". *If* knowledge of ecological processes and their creative manipulation with minimal resources are retained, global human population might be sustained at 'perhaps half, rather than one-tenth, of current levels".

Implications for Democracy

Each of David Holmgren's four scenarios carries significant implications for democracy and political process; from the nationalist, even 'fascist' structure of Brown Tech, the democracy of the Green Tech scenario, to the feudal systems and patriarchal authority of the lifeboats scenario. In the Earth Steward scenario, participatory democracy may emerge alongside new bioregional government.

The overall link between climate change, peak oil and political process is clearly established, however appealing Holmgren's scenarios themselves might or might not be.

Richard Heinberg's blueprint for resilience in his book *Peak Everything* also clearly recognizes the risk of collapse of established political structures. He even notes that *"if we want peace, democracy, and human rights, we must work to create the ecological condition essential for these things to exist: i.e. a stable human population at or less than the environment's long-term carrying capacity*".[100] But whilst he argues that a much-needed process of education must be grounded in democracy,[101] Heinberg, in common with Holmgren, does not explicitly advocate investment in *democratic* resilience. Instead, he calls for an investment of time in personal and community preparedness: learn practical skills, he counsels; prepare for de-industrialization of agriculture, and preserve 'whatever is sane, beautiful and intelligent'. At the same time, he recognizes that a return to small communities and to extensive farming could provide a springboard for 'the rebirth of democracy' in the United States, with re-ruralisation fostering an environment in which people are better able to influence policy in their communities and even the fulfillment of Thomas Jefferson's vision of an agrarian democracy.[102]

The reality of exhaustible natural resources and population growth give rise to a central question; the 'only real question' according to Heinberg: *"whether societies will contract and simplify intelligently or in an uncontrolled, chaotic fashion."*[103]

Near, medium and long-term scenarios for climate change and governance systems

A rare assessment of possible futures arising out of the direct relationship between governance (or democracy) and climate change is offered by US academic Edward Weber. His 2008 paper in the journal *Political Science* is the only attempt we have found to develop scenarios specifically for the relationship between climate change and governance systems.[104]

Weber develops four hypothetical scenarios based on the two axes severity of climate change effects (catastrophic, and major or minor – without specifying the nature of the effects), and speed of change (fast or slow). The two 'minor' scenarios (fast climate change with minor severity of impacts, and slow climate change with minor severity of effects) are not analysed, on the basis that without at least major or catastrophic change, the problems of climate change are not big or important enough to warrant a governance response.

Assuming then that climate change *actually* has catastrophic or major effects, the features of the four scenarios, as set out in Weber's article, are set out in *Table 3* below

Table 3: The interaction of climate change and governance responses

	Fast Climate Change (i.e. over the next 5 to 20 years)	*Slow Climate Change (i.e. over the next 80 to 100 years)*
Catastrophic effects	**Authoritative Coercive governance responses** - Globally centralized planning and action - Command and control with heavy, frequent coercion and heavy restrictions on individual and local autonomy - authoritarian philosopher kings (highly educated elites) in charge, along with physical scientists and technocrats	**Constrained Environmental Democracy governance responses** - Globally centralized *coordination* - Increased central national control - Slow change makes possible education and creation of new sustainability ethic - Coercion and restrictions on individual and local autonomy only if problem worsens - Privileged role to philosopher kings, physical scientists and technocrats - long time horizon and societal resilience goal means authoritative leadership spread across groups and areas of expertise
Major effects	**Liberal Democracy** - Global role more limited, focuses on coordination and information - National role diminishes; develops broad framework and criteria for success - Regions/communities make more choices - Larger role for market incentives/mechanisms for adjusting and pricing risks - Involves broader cross-section of elites and experts	**Deliberative and Dispersed Democracy** -Global and national roles as cheerleaders and facilitators - Regions, communities, and individuals granted greater freedom of choice - shared national/local governance authority is key - larger role for market incentives/mechanisms for adjusting and pricing risks - Heavy focus on education, resilience, and creation of new sustainability ethic - Collaborative capacity builders in high demand

Source: Edward Weber, Facing and Managing Climate Change: Assumptions, Science and Governance Responses, 2008

The assumed scenarios are necessarily thumbnail sketches. For example, the nature of possible 'catastrophic' or 'major' assumed effects is not spelled out in any detail in the scenarios (though some examples are considered in the latter half of the paper). That is a significant rider, for the effects could themselves incorporate a variety of social and economic impacts with a significant effect on the feasibility of different governance responses – particularly if climate effects gave rise to the prospect of significant social unrest or collapse in the rule of law.

It is entirely feasible that precautionary governance action could generate impacts for governance responses *irrespective* of the environmental effects of climate change. For example, if fast climate

change with severe effects is credibly and authoritatively *predicted*, and those predictions generate public backing for meaningful action, climate change may tip political systems in a variety of directions based on precautionary action. Arguably, such a shift might be taken in and of itself to be a 'major' effect of climate change. The implications of the precautionary approach as a guide to governance responses, in other words, are not fully factored in.

The four assumed scenarios do not spell out the nature of public support for the possible governance responses in any detail. Weber does make the suggestion that under the 'authoritarian coercive' response current systems of democratic governance are likely to be overwhelmed, and that in the 'constrained environmental democracy', "*democratic governance possibilities reappear*". In the 'liberal democracy scenario' of fast change and major effects, Weber suggests that *"highly educated elites and technical experts are still important… but given the non-catastrophic nature of climate change, they will tend to be subjected to the preferences of citizens as expressed through elected representatives".* [105] But even an authoritarian and coercive governance response could be associated with a transition process that carried the support of an alarmed *demos* – as happened, arguably, in the wake of the 9/11 attacks on the World Trade Centre in relation to certain civil liberties in the United States. Conceivably, a transition into and out of authoritarian governance modes might occur through the exercise of democracy.

One might also take issue with the normative imputations within the scenarios that governance responses will be rational, for example in the suggestion that "*if climate change is perceived as slow and catastrophic, logic dictates that the locus of governance authority requires a significant centralized component"*[106] and justifies globally centralized coordination.

Equally, in the 'constrained environmental democracy' scenario, the extent to which the potential for catastrophic effects in the long-term drives governance responses will depend in part on the appetite of elected representatives and citizens to adopt the associated (long) time horizons in their decisions, and the availability of economic resources to sustain the generation of expert evidence over time.

Other nuances that emerge from the 'futures' literature (considered later in this report) might include a collapse of central governance for reasons unconnected or only indirectly connected to climate change (catastrophic economic meltdown, for example), forcing decentralized authoritarian responses. Alternatively, national governments might choose to pursue policies of aggressive decentralization for reasons unconnected to climate change, leaving the possibilities for effective implementation of highly centralized authoritarian governance limited. Some environmental politics literature points to a combination of radically decentralized decision-making and stronger global governance as an optimal pathway to sustainable development. This latter pathway might just conceivably emerge out of a change in national government in a country that had just undergone a major process of decentralization at a time of rapidly unfolding climate impacts. Equally, in countries with only weak governance capacity, the impact of rapid climate change and catastrophic impacts coupled with a disintegrating global economy could potentially lead to collapse in national governments and possibly redrawing of territorial boundaries within short timeframes.

By superimposing some of the wider 'futures' literature on the future of democracy onto the 'slow' scenarios (where the effects of climate change emerge over an 80-100 year time horizon) one might conclude that the nature and practice of democracy would in any event have been so utterly transformed as to place the 'deliberative and dispersed democracy' and 'constrained environmental democracy' scenarios under significant strain.

Weber reviews the four assumed climate scenarios against the findings of the IPCC's Fourth Assessment Report (which we consider further in Paper Four) and associated debate – specifically claims in relation to sea level rise; extreme weather events; rising sea levels; climate change and human health; and the prospects of a slow-down or complete shut-down in the Gulf Stream.

Based on an analysis of selected elements of the IPCC's report and the comments of some of its critics, Professor Weber concludes that there is not anything close to a scientific consensus on either the speed of climate change or the ultimate severity of its impacts. Governance scenarios grouped at the extremes of the spectrum (catastrophic, rapid climate change, and catastrophic, slow climate change) are less likely to offer effective responses to the challenges of climate change, Weber suggests, unless scientific understanding changes dramatically. Our assessment, in Paper Four, of the IPCC's 2007 Fourth Assessment Report and key scientific papers since its publication would tend to suggest, on the contrary, that not only are some climate impacts credibly likely to be worse than envisaged in the fourth assessment report, but that the prospect of climate change processes reaching a number of tipping points at which processes of change could accelerate and impacts worsen dramatically is more real than previously considered. Scenarios for the future of democracy in the face of climate change, and policy-makers, need to have the worst case in view.

Futures for sustainable development governance

To date, there have been only limited efforts to reflect on the long-term future of sustainable development governance. Here, it is important to distinguish between 'government' and 'governance'. 'Governance', in the words of the World Commission on Global Governance, is: "*the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest*".[107]

'Governance', then, is different to 'government'; for 'government' is just one of the actors engaged in the process of governance.[108] Literature on sustainable development governance is relevant to many of the tensions between democracy and sustainable development, but it does not tend to focus on 'democracy' *per se* as a political system. That focus is typically left to political scientists.

For example, whilst there has been very significant emphasis on inclusion and participation in discussions of environmental governance,[109] only very recently have discussions in developed and developing countries adopted a similar language of democracy and decentralisation. Debates have evolved quite differently in developed and developing countries – in ways that could have significant implications for democracy in newly resource-squeezed countries for the future. A distinct culture of self-help has emerged in developing countries which is connected to the frequent "*near absence of an effective state apparatus at a local scale*".[110]

Whilst we all live in 'developing countries' one way or another, some nations that currently consider themselves 'developed' or 'high income' may soon find that they have much more to learn from the practices of participation in those that are 'middle or low income'.

As to the future of sustainable development governance; diagnosis of current problems is common, but here - as in the sustainable development literature more widely - there is little by way of long-term prescription or scenarios. One recent book, Neil Adger and Andrew Jordan's *Governing Sustainability*, has more futures orientation than much literature, but much of it is based on an

assessment of lessons learned from past efforts. Even so, a number of the volume's insights offer pointers to pathways that could help to achieve a range of possible desirable future states in the relationship between democracy and climate change. We focus on those insights and their implications for the future of democracy in the face of climate change in the remainder of this section.

Albert Weale's essay on *Governance, government and the pursuit of sustainability*[111] explores a number of propositions that emerge from the work of political scientists on environmental protection. The first is that 'governance matters, but so does government'. States, after all, have the monopoly on the legitimate use of taxation. They negotiate and accede to international agreements. Sometimes, the "*unique and distinctive authority of the state is a vital condition in the achievement of environmental protection*". The second is that "*representation, not participation, is the key issue in policy making*". Here, Weale points out that notwithstanding disillusionment with conventional forms of public consultation, "*the proportion of the population that is, or could be, feasibly involved even on major issues is vanishingly small.*" Consultation cannot and should not be treated as a mode of general participation.

The practice of consulting with interested groups raises important questions about representation. There is no process at the EU level, for example, that empowers environmental groups to speak 'on behalf of' wider society. And one striking problem is "*the contrast between the public salience of environmental protection in general terms... and the technical nature of much detailed policy making..*" It is difficult to convey politically competing views about environmental protection through the competing mechanisms of party competition, Weale continues, in part because "*all parties tend to adopt the rhetoric of being in favour of environmental protection*".

The third proposition is that "*path-dependence matters, but is not an absolute barrier to policy transfer and innovation"*. Historical traditions and incentives can lose their grip, and some approaches and technologies (environmental impact assessment for example) spread.

The fourth proposition is that "*there is more to be said for institutional concentration than many analysts have said"'*. Weale argues for concentration of environmental functions within a single ministry, though he recognises that concentration may weaken attention to environmental issues at times in the policy cycle when there is little public pressure.

In contrast to Weale's third proposition, Matthew Paterson takes the capitalist character of the world as a given, since he "*cannot foresee the collapse of capitalism within the time-frames necessary to deal with challenges such as climate change"*. Happily then, he optimistically argues that neoliberalism is starting to produce a growth regime "*which can both sustain growth and achieve a reduction in the throughputs of non-renewable resources and pollution*".[112]

Andy Dobson points to the importance of changing *behaviour* not attitudes, and to the potential value of enlisting citizenship for the policy toolbox. He argues that fiscal incentives (such as road pricing levies on plastic bags) can actually 'crowd out' good behaviour. Not only do changes in behaviour last only for so long as the incentives or disincentives are in place, but they make it less likely that people will 'do the right thing' because it *is* the right thing if there is no financial incentive in place: and "*once crowded out, the intrinsic motivation is not guaranteed to return when the monetary incentive is removed*".[113] One normative conclusion is that it is important for governments to focus on nurturing 'environmental citizenship'. The environmental citizen's behaviour, explains Dobson, "*is informed by a systemic understanding of the problems that lead to the perpetration of injustice in the form of the occupancy of unjust amounts of ecological space.*"[114]

Jill Jäger argues that the practices surrounding the acquisition and deployment of knowledge need to be directly addressed by sustainable development governance. She calls for a new social contract on the practice and focus of science; closing the gap between what people think they want to know and what science delivers. Sustainability science calls for the science and technology community to pay more attention to the goal of sustainable development; building knowledge on the fundamental nature of interactions between nature and society.[115]

Andy Stirling considers the relationship between precaution, participation and sustainable development,[116] noting that the relevance of participation and precaution arises especially when there is ambiguity about the meaning of sustainability. And whilst the idea of precaution is rarely linked to participation (since participatory engagement is often treated as 'the right thing to do') precaution essentially broadens out inputs beyond the scope typical of conventional regulatory risk assessment to include citizen participation.

For our purposes, Stirling's contribution is important not only in pointing to the complexity of theorising 'public participation in decision-making in the face of uncertainty', but also in highlighting the significance of alternative entry points beyond 'democracy', for valuing participation. He notes that participation can be addressed in three different ways: a process-based view "*under which there are many possible normative understandings of good process, without reference to outcomes"*; a 'normative democratic perspective' under which participatory engagement is simply 'the right thing to do' – as an end in itself; and a substantive perspective which focuses on the outcomes of participation not just the process.

Importantly for building an understanding of the respective roles of 'expertise' and 'public participation' in climate-related decision-making and problematising their possible evolution, Stirling notes that instrumental pressures for justification of either scientific appraisal or participation may sometimes close down decision-making, for example in relation to the value of closure around consensus: "*A distinction between opening up an closing down in social appraisal thus pervades narrow science-based analysis, broad-based precautionary appraisal and inclusive participatory engagement alike.*" [117]

Simon Dietz and Eric Neumayer look at how economics can inform governance for sustainable development.[118] Their chapter is particularly useful in highlighting some of the detailed consequences of 'strong' and 'weak' versions of sustainable development for participatory decision-making and 'democracy for climate adaptation and resilience'. They draw a distinction between *environmental* economics – which by and large transfers neoclassical economic axioms to environmental problems by attaching prices to environmental problems – and *ecological* economics – which is based on a precautionary approach to the idea of substituting natural capital for other forms of capital.

The risk is that the narrow view which environmental economics has of ethics and equity struggles with intergenerational equity. Environmental economics, Dietz and Neumayer point out, is also difficult to reconcile with *"a procedural approach to sustainability in which the primary objective is equitable participation in the decision-making process"*; and with the threat of large-scale discontinuous and irreversible losses of natural capital. In relation to 'democracy and climate change', these are significant drawbacks.

One immediate possibility for the future is the development of explicit linkages between the valuation and decision-making processes of environmental and ecological economics on the one hand and institutional innovations in governance for future generations on the other (discussed in the final Part of this paper).

Dietz and Neumayer contrast the substantive outcomes of the environmental economics processes used in the Copenhagen Consensus[119] and the Stern Review on the Economics of Climate Change[120] respectively. The former ranked policy problems and associated remedies for a list of seventeen environmental and development problems. Those associated with three climate change problems were ranked lowest in the exercise. The methodology was based on monetisation of the net benefits of each proposal in a process in which an initial challenge paper was commissioned, then reviewed by two further economists, and finally a ranking arrived at by a panel of eminent economists.

In contrast, the Stern Review[121] took a broader methodological approach and arrived at the conclusion that greenhouse gas emission reductions should be a global policy priority. One important distinction between the two concerned the 'discount rate' applied when considering the costs and benefits of greenhouse gas emission reduction. One methodological approach is to use a discount rate set by market interest rates. Nick Stern, and William Cline, (who prepared a 'challenge paper' for the Copenhagen Consensus process with which the eventual Consensus disagreed), applied a lower discount rate (1.5 and 2% respectively) in the interests of intergenerational fairness.

Dietz and Neumayer note that "*[b]ecause sustainability has become a political concept – used by many organisations as a legitimating tool for essentially business-as-usual policy – as much as a rigorous scientific one, the consistent theoretical basis on which environmental and resource economics depends can only be considered a strength if the set of assumptions that underpin it hold true. But this is a very big 'if'"*.[122] They conclude that boundaries need to be set and 'more pluralistic' forms of economics encouraged. The need for democratisation of both environmental and ecological economics in the interests of long-termism, fairness, and intergenerational equity more specifically, is another possible conclusion.

Further shortcomings of standard economics are highlighted by John O'Neill in his chapter on *Sustainability, Welfare and Value over Time*.[123] O'Neill argues that the use of the notion of 'substitutability' in standard economics exaggerates the degree to which different goods can be substituted for one another, and can miss the way in which different goods matter to wellbeing. The idea of substitutability (key to the distinction between 'hard' and 'soft' definitions of sustainability) is often determined by whether one thing is substitutable for another in terms of its performance, or technically.

In welfare analysis within neoclassical economics, in contrast, substitutability is determined by whether "*the end that it achieves is as good for a person's wellbeing as the end that would have been achieved by the other good"*. O'Neill concludes that "*The failure of the metaphor of natural capital to capture the significance of the temporal and historical dimensions of environmental values is symptomatic of a failure to capture the different dimensions of the relations of humans to their environments*". He ends with a quote from Tim O'Riordan, that valuation needs to be understood as an 'educational, revelatory and democratising process'.

When economic reasoning is underpinned by worldviews or assumptions that not only have such significant implications for sustainable development challenges, but also give rise to such diverse outcomes, 'democratisation' of the process by ensuring more accessible public discussion for those who want to engage seems an imperative. And that is before even beginning to consider the implications of conventional economic analysis and reasoning for decision-making in the economic policy realm; for example in relation to infrastructure or extractive industry projects; over investments that have profound impacts for natural resource use and the maintenance of natural capital. Whether democracy itself will evolve to deliver the underpinning for effective citizen engagement in economic analysis and for future generations to play a more significant role in its overall boundaries is an important question; particularly as decisions are increasingly reached in climate-constrained circumstances.

For all that the distinct entry points in *Governing Sustainability* are compelling and offer important insights into the problems of equipping democratic policy processes to deliver sustainable development, they do not add up to a comprehensive baseline for a desired future approach to sustainable development governance. Rather, the contributions themselves reflect the different, sometimes competing, entry points for assessing 'problems' and 'prescriptions' in sustainable development more widely.

In a concluding chapter,[124] Professor Tim O'Riordan offers some predictions for the future. First, he asserts that it is the next decade (this in 2008) that will determine how well we are able to adjust to huge transformations that lie ahead, and *"the rest of this century will be the testing ground"*. Because he is not convinced that we can do this, Professor O'Riordan points, unsurprisingly, to a mixture of "*crises, violence, terrorism, local conflict and huge injustice. But we will also witness heroes, local survival and adjustment, innovation and heartening acts of charity and humanity"*. Wellbeing and posterity, he suggests, will become guiding lights of new economic and social analysis.

Change is imperative, for "*unless we somehow manage to establish new creative institutional arrangements, fully integrating the public, private and civil sectors, along with new forms of regulation and assessment, participation and scenario-building, I cannot see even the most imaginative of contemporary governance meeting the challenge of sustainability*".[125] All forms of government and governance, he concludes, will have to develop new formulations to deliver sustainability.

For the future, Professor O'Riordan sees "*much more focus on subnational activity, possibly a new form of cooperative federalism ..*"[126] In part this is grounded in the sobering conclusion that there is no realistic scope for a sustainability enlightenment of the kinds that transformed science, technology, the arts and political institutions in the eighteenth century. And it is not clear whether shifts towards forms of consumption driven by ethical considerations will lead to reduced consumption, or simply make increasing levels of consumption 'more sustainable'.

Professor O'Riordan's research agenda for the future includes a number of elements that could serve to build a democracy fit for sustainable development. He suggests, for example, that *"civic virtue has, in part, to be learnt"*, and therefore to establish and monitor schools as test-beds for ecological citizenship. New forms of federalism deserve special analysis, he says. And whereas localism "*may well become the vogue for governance for sustainability in the decades to come"*, and yet "*we still have no idea how networks of sustainable experimentation can play out locally yet not be thwarted by a failure at higher levels of government to deliver the appropriate conditions for sustainable development to flourish"*.[127] Sustainability culture needs to occur primarily at the local level, fitting in with more multi-levelled patterns of governance, else it will remain elusive. Somehow, he says, "*we need to examine forms of governance that are respected by, and which encourage, virtue in civic outlooks and behaviour. Yet the paradox is that real virtue may be anarchic. It may lie in the hearts, minds and spirits of citizens, beyond government and maybe even governance* ".[128]

Professor O'Riordan concludes, in a sentiment very directly relevant to our present endeavour, that *"[i]n all positive tipping points, there also has to be positive experimentation in new forms of governance, new patterns of participation and new ways of learning about wellbeing and virtue."* [129]

This expression of a direct link between positive futures and processes of transformative change is a fitting point at which to leave our review of sustainable development and its possible futures and turn to the future of democracy.

Part II: Democracy

Prospects for the spread of democracy

Whatever form it takes, the democracy of our successors will not and cannot be the democracy of our predecessors, says Robert Dahl.[130] That much is a given. There are good reasons both for optimism and pessimism about the future prospects for the spread of democracy.

Democracy today is the 'indisputable best political regime' in part, suggests Fabienne Goux-Baudiment, because it has come to be closely linked to the idea of human progress, and in part because of the fear of totalitarianism.[131]

Wendell Bell for one is optimistic about the overall trend towards the spread of democracy. He suggests that three principles might help guide us to a democratic global future: the principle of inclusion (including to bring a sense of ourselves as members of the whole human race into our personal identities); the principle of scepticism – particularly about our own views; and the principle of social control on a global level.[132]

Bell points to four long-term trends which militate towards a further spread of democracy and inclusiveness:[133] the territorial jurisdiction of democratic governments has vastly increased in size; national democratic governments vastly increased the scope of their activities; democracy has become the prevailing form of legitimate government, and there has been an expansion in who is eligible to participate fully in the political process. Bell suggests that these trends are likely to continue, for not only is the path towards harmonious global society and moral community well marked; the path that humans ought *not* to take is also well marked.

Frances Fukuyama also proposes that the inherent desire of people to participate in decisions about how they are governed makes democracy intrinsically appealing. And yet there are other ways in which to meet any human need for recognition. Religion or national identity might play that role, for example.[134] And after the horrors of the Second World War and the rise of Nazism it is hard to argue that democracy inevitably leads to respect for human rights, save by adopting a wider definition of democracy than those that are common.

The current external contextual pressures on democracy are in some respects no different from those in the wider social, economic, physical, cultural and technological environment. Those that are identified in a Council of Europe Green paper on the Future of Democracy in Europe,[135] for example, are globalisation, the processes of European integration, intercultural migration, demographic trends (which, in the particular case of Europe mean a rapidly ageing population), economic performance, technological changes, state capacity, 'individuation', 'mediatisation', and security. Others are identified in the publications of the Finnish Parliamentary Committee of the Future, considered further later in this Part. To this extent, at least, there are broad similarities between literature on 'the future of democracy' and 'the future of sustainable development'; albeit with significant differences in the emphasis given to stocks (and declines in stocks) of natural capital as between the two sets of literature.

Mika Mannermaa[136] expresses the fear of many when he says that *"it cannot be taken for granted that the global victory parade of democracy will proceed over the next hundred years".* Taking even a relatively short-term view, we have already seen how the process of democratisation around the world may currently be decelerating, to the extent that recent indicators from the various 'democracy' rankings are anything to go by (see further Paper Two). If scientific evidence or

observed experience of climate change impacts were to worsen or deepen, there is also a real prospect that climate change itself could exert a drag effect on further democratisation, with 'less democratised' countries failing to see the benefits of further democratisation in the face of an urgent need to take possibly highly unpopular mitigation action.[137]

Paula Tiihonen reviews a range of preconditions for democracy and democratisation to conclude that the demand for rapid democratisation is unreasonable.[138] When hunger persists, democracy makes hardly any progress for decades, she says. The ability to read and write is a precondition for democracy which she considers will create problems for democracy even in Brazil, where one in four cannot read or write. She cites with approval research which indicates that building democracy has to begin from below, grounded in citizens' rights which are not present in many settings; she says that democracy does not work in artificially created states (such as those of the Balkans) and she asserts that there is no model for building a democracy in an Islamic culture.

Tiihonen's gloomy picture seems unnecessarily pessimistic in many respects – at the very least because the pessimism stems from a highly demanding view of 'democracy'. To give just one example, India became a democracy (though perhaps not in the sense that Tiihonen would understand it) without achieving one hundred percent literacy among her inhabitants.

A 2004 Green Paper commissioned by the Council of Europe on '*The Future of Democracy in Europe*'[139] points out that *"Many (if not most) of the major historical advances in democratic institutions and practices came in conjunction with international warfare, national revolution and civil war"*.[140] Whether climate change will eventually provide sufficient impetus for 'advances' on a similar scale must remain an open question. For the time being its only major competitor is the model offered by China; a fact which is both a recipe for some of the current citizen apathy within democracies and a warning that democracies, particularly in a West waning in economic importance, must prepare to justify themselves to citizens looking enviously to the continued rise in economic and political power of China.

The future of monitory democracy

John Keane's work *The Life and Death of Democracy*, highlighted in *Paper Two*, puts forward the idea that we find ourselves today in an era of 'monitory democracy', whose founding principle is "*the continuous public chastening of those who exercise power*".[141] The very idea of monitory democracy in itself throws up significant challenges for the future. For Mannermaa, *"[a] major challenge for democracy will be to define again and again what the ground rules are that govern monitoring, knowing and not forgetting"*.[142]

Keane's magisterial survey offers up a deep challenge to any idea that Huntington's 'third wave' of democratisation might continue indefinitely into the future (see further pages 21-23 of Paper Two[143]). Keane's book begins to draw to a close – some 700 pages in - with a series of 'memories from the future'. This is a section of Keane's work which is at times diffuse, almost dream-like. Nonetheless, and despite a significant deficiency in its lack of reference to natural resource, demographic or climate change challenges, it offers valuable insights for our own project.

In the penultimate chapter of his major work, Keane speaks through a muse, looking back from roughly the year 2059 or 2060, to examine the sources of the "stresses and strains and pinches and pains" felt by all democracies at that time. This is more an account of the present from a vantage point in the future than a set of 'scenarios for the future', since we are left in the dark about what kind of a world the muse inhabits. But the device offers links between present and future.

Keane's muse argues that the stresses and strains are traceable to 'problems not easily solved by monitory democracy'. She highlights the following.

- *"People's deep misgivings about politicians, parties and parliaments"*, which sees people still engaged, but not via party politics. A decline in the ratio of political party members to the electorate as a whole was associated with citizens concluding that party membership was 'no longer meaningful'[144]; and politicians and parties trying to exercise a 'stranglehold over the process of representation of a growing variety of social and political interests'.[145]

- A growth of 'communicative abundance' in which politics operated entirely within media frameworks so that 'representative government was upstaged'. Journalists and the media presented themselves as 'representatives' of everything[146] and the celebrities of civil society could upstage political representatives. In response, politicians themselves sought to copy their opponents, concentrating on packaging not substance. An era of 'phrase struggle' had begun.

- A growth in 'überdemocracy'; a response of politicians and parties to citizen-led demands to reform electoral systems to give citizens expanded power as voters. The 'pathological' inclination of some governing parties to turn to top-down party politics in response, amounted to a remoulding of monitory democracy into 'fake forms of democracy'. The tactics of this überdemocracy included bringing business into politics; applying pressure to extra-parliamentary points of opposition, particularly those such as NGOs, universities and think-tanks, that worked to monitor power;[147] and belittling democracy so as to make the word mean simply periodic elections. Überdemocracy, then, would feed on people's deep misgivings about politicians, parties and parliaments.

- The 'cross-border squeeze on democratic institutions', with a trend towards what Keane describes as 'joined-up government'; in which government institutions from local courts to national parliaments, and regional and global bodies, all found themselves *"increasingly caught up in thickening, fast-evolving webs of links, both bilateral and multilateral"*. This 'joined-up government' might alternatively be understood, through a different lens, as the impact of globalisation (in its widest sense) upon monitory democracy.[148] In effect, *"the decisions of every government, no matter how large or small, were potentially or actually unrestricted in scope or effect. Governments were no longer islands."* And yet, the growth of cross-border institutions did not point to 'world government'. The effect was that the world polity of the early twenty-first century destabilised governments, with a polity which *"suffered the symptoms of what physicists called entropy, the condition of confusion, inertness and self-degradation that results from formlessness".*[149] Monitory democracy was weakened by 'lack of global driving seats and steering mechanisms', (let alone democratic ones). The result was that *"the whole world felt ever less democratic, as if it was in the grip of buccaneering forces that cared nothing for democratic checks and balances".*[150]

- The flames of 'Old European nationalism' continued to flicker around the world; fuelled by the power of the idea that the task of building a nation should have priority over democracy. Violent conflict continued in armed states, spurred on by nationalism.

- A 'new triangle of violence' threatened monitory democracy further, bounded by apocalyptic terrorism, 'uncivil war' and proliferation of new weapons systems with far greater killing power 'far greater than that of all democracies combined'.[151] The 'first few decades of the new millennium' would see the 'collapse of the distinction between war and peace'.[152] Democracies tarred with the brush of war, or those who had gone to war in the name of democracy, could not make the old argument that democracies were 'essentially'

peaceful. And increasingly, democracies found it hard to win asymmetric conflicts against *"tightly disciplined, decentralised Hizbollah-style armies enjoying strong local support"*.[153]

Democracies came to be forced periodically to learn to live with losing wars and Keane's muse wondered "*how many people around the world would reject the American talk of democracy as a mask for violent power manoeuvres that had little or nothing to do with democracy, and much or everything to do with the perceived material interests of the dominant power"*.[154] Related to this, as Nicholas Boyle points out, "*you cannot claim to be a self-determining people if America is the sleeping voter in any ballot you may hold on your collective future, and if the outcome is always subject to an American veto"*.[155]The risk was that advocates of democracy in countries such as Syria might come to be equated with supporters of America, and therefore potentially as 'traitors'.[156] And as Tiihonen points out, defending and exporting democracy can undermine the foundations of democracy at home for those nations that are exporters.[157]

Keane's muse notes the significant risk that hypocrisy could permanently damage '*or even destroy outright, democracy at home and abroad in an orgy of hubris*'.[158] And "*[h]ypocrisy... was the soil in which antipathy towards democracy always took root*".[159]

- Fatalism further weakened monitory democracy. Fatalists were either of the variety that simply believed that the rich and powerful ruled the world and nothing could be done about it, or of a second variety that simply didn't think about democracy: what will be, will be. Either variety of fatalism was corrosive of democracy, for each implied that nothing could be changed.

Keane's approach indicates, almost incidentally, that a 50-year time horizon would not be enough for us to begin to see significant changes in the locked-in dynamics of contemporary democracy – whether monitory or otherwise. But he points to some of the steps that could, potentially, head off the threats to monitory democracy and defeat fatalism. For, in the words of an OECD Observer article, "*even "good" democracies can go bad if worrying aspects are not identified and tackled in time".*[160]

In another paper, Paula Tiihonen argues that democracy is like institutional gardening – with even one hundred years a short time.[161] If that were the case, we might expect that we will have to adapt to climate change and mitigate its effects with only the tools that are at our disposal today.

A partial counterweight is helpfully provided by Park Harmsen and Seo who note that in the space of a mere half-century, Korea has been transformed from an agricultural society to an industrial society, and most recently to an information society.[162] If all that is possible in just fifty years, alongside a shift from disciplined societies and limited freedom of a more diversified and democratic environment, it is hard to imagine that democracy itself could not undergo radical shifts over a similar timeframe; particularly a timeframe during which changes (such as some of those associated with climate change) take place in ways that result in enormous pressures on democracy to adapt or fail.

Keane's prescriptions might appear insufficient in the face of the major ailments nagging at monitory democracy; and yet his ingredients are as good as any that exist. First, his muse suggests that *"honest public recognition of the dysfunctions of monitory democracy [was] badly needed"*,[163] and argues that "*the efforts of citizens, think-tanks, universities, policy units, whistleblowers, parliaments, parties, courageous political leaders – were required"*.[164] Political parties would have to work much harder for the support of voters, whether rebuilding party membership levels was a priority or not. Putting in place 'more genuinely universal rules of political citizenship' was also a vital priority – for

example by lowering the voting age and improving the fairness of elections to ensure greater equality among votes and voters. Everywhere, "*the point should have been to reward small 'd' democrats of all parties and persuasions, and to punish those who deliberately attempted to manipulate the levers and buttons of party machines and electoral systems for personal or group advantage*".[165] There needed to be efforts to increase *"the density of bodies and networks skilled at keeping power on its toes"*.

Among the possibilities included granting powers for representative bodies at sub-national levels to issue 'yellow card' warning notices so as to create best practice. There was a need to protect and finance the growth of independent and multi-voiced publics within civil society, so that the loudest voices did not drown out others. There was a need for improved citizen representation within the operations of government. Local government and town halls needed to feel and work much more like 'open public spaces'. A variety of other innovations could also strengthen 'watchdog and guide dog' institutions – including participatory budgeting, media integrity commissions, better public service multi-media, and technology public assessment bodies.

Keane's look at the future links 'domestic democracy' and the 'democracy' of international institutions. At global and international level, his muse argues, changes to the voting rules of governing bodies could allow powerful countries and civil society representatives to have more of a say to help counter malaise in monitory democracy; even through an elected global parliament of citizens' representatives.[166] And new governing institutions, she reflects from the future, were required to deal with the perilous triangle of violence.

As the world's dominant power, Keane's muse sees the democratisation of America's power as vitally important for the future of monitory democracy; "*[b]ut the whole matter of whether the United States could be persuaded to restrain its power in order to wield it more effectively.. so that it could be a catalyst of a more dynamic, publicly accountable, egalitarian and effective set of global governing institutions, this matter was among the great, if highly dangerous, political questions of our time*".[167]

The muse ends her reverie, not with the US, but with China. A bipolar world centred on Beijing and Washington, she argues, "*would now co-determine the fate of democracy itself"*.[168] She points to a 2005 Chinese State White Paper which speaks of a socialist political democracy which had enabled the Chinese people *"to become masters of their own country and society..."* within a Chinese democracy *"guaranteed by the people's democratic dictatorship"*; a *"people's democracy under the leadership of the Communist Party of China"*. And yet, the much-quoted goal of a Harmonious Society adopted by Chinese authorities[169] also meant standing against monitory democracy *"whenever it stood in the way of Chinese indifference to 'good governance.'"*[170] For the Chinese model was to insist that growth would solve most problems.

With China the world's fastest-growing economy, and the material benefits available to the citizens of democracies currently under threat from recession, austerity and financial crisis, there is real potential that the Chinese model of 'people's democratic dictatorship' could come to be seen as increasingly attractive; not only in its association with economic growth and hence the material wealth whose accumulation faltered in the world's richest countries with the financial crisis of 2008; but also through the potential power of the idea of a 'people's dictatorship' equipped to tackle the ills of the twenty-first century.

The significance of China – and India – for the future of democracy is highlighted in the Finnish Parliamentary Committee for the Future's, *Democracy and Futures*, where Takuya Murata suggests that it is India and China, not Western democracies, that are most likely to influence the future shape of democracy (or political systems) in the developing world; for the solutions that these

nations adopt are potentially more applicable to developing countries referred to as 'emerging democracies'.[171] Not only that, but if economic growth were to stall for long in the West, many more eyes may begin to ask whether political systems outside the West might not be better suited to the satisfaction of material needs.

Democracy and futurology

In this section, we review a modest body of work in which futurologists have addressed the future of democracy.

Anticipatory democracy

One of the dilemmas at the heart of the relationship between democracy and climate change is this: how to foster systems of democracy that are more future-oriented? It is a dilemma that has received a certain amount of institutional attention, too, with the establishment, for example, of Finland's Parliamentary Committee for the Future, or the UK government's Foresight programme (considered further in Part V).

It is hardly surprising that futurologists have views on how to factor the future into democracy. Alvin Toffler's popular 1970 book *Future Shock* is among the earliest and at the same time most directly relevant pieces of writing in this area within the past fifty years.

Toffler sees an imperative for change in the way in which humans *arrive* at social goals, for "*..accelerating change has made obsolete the methods by which we arrive at social goals*".[172] His response is a revolutionary new approach to goal-setting; an approach which Toffler dubs 'anticipatory democracy'; a mechanism for the "*subjection of the process of evolution itself to conscious human guidance*"; a process for 'combining citizen participation with future consciousness'.[173] In a later paper, Clem Bezold argues that anticipatory democracy is both a collection of trends – as exemplified, for example, by the development of futures commissions[174] – and an aspiration in itself. The aspiration is one that is particularly well-suited to tackling some of the challenges of climate change: "*genuine, enlightened participation with foresight"*.[175]

Among Toffler's (partially overlapping) suggestions for managing 'future shock' – the disease of change - is the creation of a 'future-responsive' mass movement: *"We must create a 'Council of the Future' in every school and community: teams of men and women devoted to probing the future in the interests of the present"*. He calls for the Councils to be democratic, to include both specialists and students: "*Young people must help lead, if not, in fact, initiate, these councils so that 'assumed futures' can be formulated and debated by those who will presumably invent and inhabit the future"*.[176] This 'Council of the Future movement', he suggests, could help to transform education, with the creation of future-oriented, future-shaping task forces in education revolutionising the revolution of the young.

Toffler calls for a 'continuing plebiscite on the future',[177] implemented in part via a series of 'social future assemblies' of social units deliberating with the support of technical staff; a massive, global, exercise in 'anticipatory democracy'. Grass roots organisms for expressing the will of large numbers of hitherto unconsulted people could become the town halls of the future. Clever use of gaming techniques and role-play could help to elicit 'futural' goals. Cut off from the future, Toffler argues, the ordinary man becomes a political eunuch.[178]

A number of recommendations in Finnish futurologist Mika Mannermaa's book *Democracy in the Turmoil of the Future*,[179] which we consider in some detail later in this Part, are also designed to bring long-term thinking into democratic processes. Among a suite of reforms, he proposes futures

studios both at local level and virtually. These are linked, at least conceptually, to a proposal for an annual open futures forum, set up as an open system so that citizens can bring issues to its attention.[180] More directly on the interests of future generations, Mannermaa proposes Future Generations Representation; a body specialised in "*assessing the consequences of current societal and economic action for future generations and in representing their interests"*.[181]

Democracy and futures

In 2006, the Finnish Parliamentary Committee for the Future published the edited collection *Democracy and Futures*, a wide-ranging review of a range of possible democracy futures and their associated drivers and practices.[182]

Like Toffler before them, a number of the authors are concerned to identify the practices of information age, rather than industrial age, democracy. Many point to drivers of change, or threats, to the future of democracy, that offer insights for an investigation into the future of democracy in the face of climate change. For example, Goux-Baudiment highlights two current forces of change: the traditional world built on what she identifies as nineteenth and twentieth century values: accumulation of wealth, 'wild' consumption; lack of distance in relation to events. And second, the 'next world', looking for meaning not wealth, "*sustainable consumption, global concern for human development... a critical mind and world public opinion"*.[183]

Glenn sees global threats to the future of democracy in organized crime, information warfare, environmental and economic migration, and in the potential for a single individual to wreak massive destruction.[184] In a separate publication, Yale University's Wendell Bell lists six threats which many would identify as weaknesses in current systems of democracy or in the current ability of democracy to satisfy wider human goals, rather than 'threats' to democracy: gross and unjust inequalities, both within and between countries, and widespread poverty; the intrusion of economic power into the political process; failure of civic society; the revolt of extremist non-state religious groups; 'the rise of the new American empire'; the rise of majoritarianism and 'direct democracy' (so as to threaten minorities and individual rights) instead of forms of representative democracy that allow for the deliberation of informed leaders; and increasing complexity in public policy.[185]

Hamm assesses pathways for the future evolution of democracy in the context of globalisation, highlighting the concepts of 'localization, self-organization and saving natural resources'.[186] Mettler stresses that the rapid pace of contemporary societal change makes it difficult to envision the future of democracy,[187] and Canadian Ruben Nelson concludes that democracies will find it difficult to adapt to the challenges that the twenty-first century will bring.[188]

The essays in the collection partially confirm trends that are evident in other writings on the future of democracy. For example, Cinquegrani's offers the insight that whereas parliamentary democracies are currently founded in the interaction of people, elections, parliament and government; the paradigms of next-generational forms of democracy are participation, best resources allocation, future thinking, and establishing a system to evaluate alternatives.[189]

Challenges to the centrality of the nation state as an organising unit for representative democracy are a recurring theme. For example, Goux-Baudiment highlights two strong trends: the empowerment of individuals, and the weakening of the nation state as the best representative of a democratic regime. [190]

Tiihonen notes that the modern democratic political system is 'ideally' a nation state – *"inhabited by a people who share a fairly uniform set of values, profess the Christian faith and strive for economic growth"*.[191] Hamm agrees that *"the social model for which the concept of democracy has been worked out is the nation state"*.[192] Inayatullah considers the significance of local leaders in possible

futures for the emergence of strengthened forms of global democracy. He notes wisely that "*local leaders... would not be excited about a prospect of losing power to larger systems and institutions, especially as their funding and legitimacy comes from patronage to local clans and villages"*.[193] Among the possible roles and choices facing local leaders are to become guardians of the future to help citizens create desired futures; to focus simply on very local concerns; or to radicalise 'the other' - the source of tension.

Parts of the analysis in this edited collection speak directly to the particular challenges that climate change will present for democracy. Cinquegrani, for example, notes that "*the current forms of western democracy do not preserve the needs of future generations and this implies that we are running away from the model of development we would like to follow.*"[194] And Jerome Glenn identifies environmental migration as one of five threats to democracy, warning that "*since another 2.6 billion people are expected by 2050, it is difficult to see... how mass migration due to environmental factors will be avoided*", and that "*environmental migrations of people from damaged areas to more environmentally stable areas... are likely to lead to a variety of conflicts and calls for less democratic means to keep order*".[195]

Democracy in the turmoil of the future

A second major publication of the Finnish Parliamentary Committee for the Future, Mika Mannermaa's *Democracy in the Turmoil of the Future*[196] considers futures for democracy up to 2017, ending with thoughts on the future of democracy as far as 2057 and 2117.

Mannermaa's starting point for understanding democracy is broader than our definitional focus on democracy as a political system. He adopts Jim Dator's definition that "*democracy is a form of governance which provides every person who is affected by the actions of an independent entity with the possibility to influence those actions constantly and with equal opportunities*." [197]

The publication is notably more visionary than many analyses, and extends further into the future. Many of the possibilities are familiar territory, including those arising out of reflection on consequences of globalisation for the role of the nation state and the potential for increased momentum in ongoing debate on democratic world governance. Like writers in *Governing Sustainability*,[198] Mannermaa also suggests that, to 2017 at least, "*the local will gain power alongside the supranational and the global – one can talk about the development of glocalisation"*.[199] The trend towards more sophisticated forms of expertise will continue, too, underscoring the challenge of developing democratic methods that can combine democratic expertise and the 'value expertise' of the people. The governance of climate change and the analysis in Paper One also tend to reinforce and exemplify these suggestions.

A futures-oriented democracy focus brings a fresh perspective to other issues that are also important focuses of concern from a sustainable development perspective. For example, Mannermaa points out that demographic change in Europe means an ageing population in which the 'baby boom' generation will associate democracy with *being represented*, whereas younger generations may focus more on other means of exercising influence. In an echo of the concern of environmental democracy to find ways of bringing future generations into contemporary decision-making, he suggests that "*one fundamental issue concerns whether or not democracy in the future will be able to promote multiculturalism in the generational sense*".[200] With increase in life expectancy for people in some parts of the world, many people's experience of the chain of generations will stretch further – both into the past and into the future.

In another insight with sustainable development resonance, Mannermaa addresses the global phenomenon of urbanisation. In his Finnish context, he asks whether the trend towards

concentration might mean that municipal administration too might in future be organised into larger units. The question is equally relevant more widely.

Mannermaa notes that the last significant political movement of the western industrial age to have crystallised in a political party is the greens. But he sees this political movement as associated with an agrarian-industrial era that we are already moving away from. His intriguing prediction is that at some stage the political delay between issues and political parties will end.

In light of the extensive literature on the tension between liberal democracy, economic liberalism and sustainable development, one of the most thought-provoking parts of Mannermaa's paper is its consideration of the potential for new ideologies to emerge in the future. He suggests a wide range of possibilities including a shift from linear to systems thinking, rights of intelligent robots, transhumanism (under which all technological means of improving a person are acceptable), and 'designer human' ideologies.[201] But Mannermaa concludes simply that "*these issues are likely to be full of surprises in the future"*. Placing some of these options against possible climate change futures could help to give more precision to the value of some of this long list of options. More directly, Mannermaa notes that *"it would seem that humanity's ideological deficit at the beginning of the 21st century is in a frightening way associated with phenomena that are harbingers of cultural destruction"*[202] – phenomena grounded in environmental destruction and the unsustainable use of natural resources.

In a parallel with literature which points to the significance of the 'cultural' dimension of sustainable development, Mannermaa looks at the cultural dimension of future change. His focus is the link between cultural transformation and democracy, however, rather than the cultural transformations necessary to deliver sustainable development. Mannermaa argues simply that whilst conflict and tension are naturally possible, there are also opportunities for learning to create a peaceful multicultural world.

In common with a 2004 Council of Europe Green Paper on the Future of Democracy in Europe, Mannermaa highlights the relationship between representative and direct democracy as a focal issue. He suggests that the exercise of influence through the instruments of direct democracy will increase. And Mannermaa notes the societal trend away from a society of majorities to a society of minorities, warning that this will have implications for the idea of majority decision-making.

Much earlier, in his 1970 book *Future Shock*[203]*,* Alvin Toffler had argued that in a 'de-massified' society it is increasingly difficult to mobilize a majority. Instead, minority groups swirl and form transient and novel patterns that seldom coalesce into a 51 percent majority. A culture of 'minoritisation' could give rise to increased reliance on citizens' referendums and 'semi-direct' democracy, or selection of representatives via lot to strengthen minority representation and weaken the grip of special interest groups on parliamentary processes. Equally, the idea of 'representation' is transformed in an increasingly diverse (or minoritised) society in which it is hard to see who 'representatives' really represent.

Toffler also makes the rise of 'minorities' a theme in the final chapter of his 1980 classic *The Third Wave*, on 'Twenty-First Century Democracy'.[204] Like other futurologists with an interest in democracy, Toffler points to the increasing importance of minorities, and, with greater human interdependence, their increasingly significant power to disrupt. Isolate these minorities and the result is likely to be instability. In substance, Toffler points out that to assume control over accelerating change requires feedback; and that it is essential to control that feedback. The challenge is to democratize the ways in which social goals are arrived at.

In *Democracy and Futures,* Murata[205] points to another dimension of minoritisation where, ironically, China may offer insights for the future shape of democracy. In a nation such as China, where organising is based not on 'representation' but on particular policy areas, modes of self-organisation may be much more effective than in a system where the emphasis is on placing and keeping representatives in power. Certainly, suggests Murata, there is strong popular will for participation, and that may provide a basis for future experiments in reform.

For Toffler, minoritisation could also create an imperative to 'empower minorities to regulate more of their own affairs';[206] a suggestion that is not entirely dissimilar in effect to UK Prime Minister Cameron's 2010 call for a 'Big Society' grounded in a process of localisation.[207] Toffler recognises the risk – that political decentralisation is no guarantee of democracy. But decentralisation of information flows demands it: quite simply, it is hopeless for central government to try to handle the information requirements of effective governance in an information society of minorities. As the decision load of the social system expands, so too must democratic participation be broadened. And at the same time, what Toffler calls 'more imaginative solutions' at the transnational level are much-needed, so that decisions can be placed, and made, 'where they belong'.

Toffler makes an important additional point on the decline of majority rule: as democracy raises living standards, the 'truly poor', as he puts it, no longer have numbers on their side. They have become a minority in many countries. And so majority rule may no longer be a humanizing force.[208] The challenge is to design political institutions able to manage diversity.

Information and communication technology in voting is already a topical issue, and there are few surprises in the suggestion that *virtual democracy* will begin to develop in a process presaged by online and mobile phone voting. But virtual democracy has far wider implications. In virtual space, not only are there no geographical boundaries, but the concept of time is different too, Mannermaa says.

Mannermaa's paper reviews some of the most significant 'change phenomena in societal development'. His review of the processes of 'multi-speed globalisation' is thorough, but familiar territory for mainstream sustainable development thinking, concluding as it does with the insight that "*a requirement of ecologically sustainable development is that.. there can be no societies in the long term other than those that are in tune with ecologically sustainable development"*. However, he simply raises without responding to the question of 'how to solve global environmental issues' and achieve sustainable development for all.[209]

Mannermaa draws a picture of successive waves of societal development, including a shift from an agrarian era of 6-7000 years, to an industrial era spanning some 250 years up to the beginning of the twenty-first century, and then over the first fifty years of this century rapid overlapping shifts into information society lasting some 20 years, shifting into what he calls a 'biosociety' driven by a further wave of technology; a society that will "*have at its disposal constantly developing new technologies that will enable the treatment of organic nature"*, facilitating transformation of biological life. In turn, biosociety shifts into a 'fusion society', in which machines contain living components and living creatures contain mechanical implants.

Much of this change is implicitly predicated on access to sufficient natural resources and adequate energy to underpin the shifts. Mannermaa links representative democracy to the industrial phases of development: its decision-making is hierarchical, with representative decision-making bodies keeping the machinery running by taking majority decisions. His latent hypothesis is that the decision-making of each wave of development mirrors the core characteristics of that era of development. Hence the democracy models of the information age are likely to be based in networks rather than hierarchies and flexible and rapid change rather than rigidity and slowness.[210]

Mannermaa's description of the information society amplifies John Keane's monitory democracy. He describes what he calls the 'ubiquitous network society' in which wireless data transfer and networking are possible for anyone, at any time, anywhere and by any means. This 'U-society' is founded in 'gentle monitoring' (the traceability of mobile phones; the effective eradication of drunk driving when drunks will not be able to start their cars); in knowing (as a result of data in circulation), and in 'not forgetting' (because the data can be accessed at any time). Clearly, the extent of the availability of the benefits of the U-society to citizens are one key societal issue; not only in terms of equality of opportunity and access but also privacy and data protection. The information society will mean that an individual's relationship with time and place will change, representing a significant cultural change; one with implications for sustainable development that Mannermaa does not explore but which we might conclude are potentially significant as awareness of the relationship between human activity and its impacts on natural resources change.

A further dimension of the information society is its association with 'an ever more complex society of risk'. Crashes and computer viruses, power cuts and terrorism all have the potential to disable the information society with dramatic consequences – though some risks (such as that of the Y2K bug) will almost certainly be overstated.

In a sentiment that environmental futurologists would find wide of the mark, Mannermaa suggests that there are no signs of this trend towards an ever more complex society of risk drawing to a halt, let alone of any move towards a simpler and more manageable world. The problem, he says, drawing on the work of Finnish eco-philosopher Pentti Linkola, is that the attractiveness of such a society is 'close to zero' in most people's minds.

In contrast, Richard Heinberg argues that *"a reversion to the normal pattern of human existence, based on village life, extended families, and local production for local consumption – especially if it were augmented by a few of the frills of the late industrial period, such as global communications – could provide future generations with the kind of existence that many modern urbanites dream of wistfully"*.[211]

Mannermaa's principal timeframe is the next 15 to 20 years from 2007. First, he describes a series of '*what if*' scenarios directly based on Shell's global scenarios for the period to 2025 (highlighted later in this paper).[212] These are constructed against the variables of the groups of agents influencing societal development: civil society, state, and market. The relative influence of the different actors are combined according to a 'two win, one loses' principle (e.g. 'civil society and the market gain in strength and the state loses'). The resulting scenarios are thought-provoking, but they do not in and of themselves speak directly to future forms and practices of democracy.

Mannermaa then switches to a different approach, simply setting out without further explanation (a failing with weakens their value quite considerably) three scenarios *"which have emerged as this report has been written".*[213]

In his 'Alpha' scenario: '*the advance of a civilised and open global democracy*', [214] Mannermaa starts from the key assumption that *"the trend towards rapid technological and economic development as well as pressing threats to the environment will urge and also force societal players to promote global democracy with determination, and far more so than they were doing around the turn of the millennium"*. This, then, is a scenario for a future (one might call it a 'business as usual' future at the level of aspiration) in which *"the general aim is to create economic growth, but to do so in such a way that it happens within the framework of the basic conditions for ecologically sustainable development and a democratically agreed set of rules"*. Already, in 2019, Mannermaa sees the first significant global referendum to set the course of the global resource economy, and he argues that

just 30 to 50 years from now, "*there will already be strong democratic world government"*. Virtual governance at all levels will replace traditional governance.

In his 'Beta' scenario, '*market liberalism will succeed globally*',[215] market liberalist thinking will gain momentum around the world, with a major focus on the individual and competition rather than on community. The influence of democratic decision-making and governance will decline. A great deal of inequality is in evidence. Mannermaa makes no mention of the natural environment in this über-business-as-usual scenario in which the main rules governing economy and society are set not by democratic institutions and processes but by virtual tribes of company directors.

In a 'Gamma' scenario: *'culture-religious blocks with their models of democracy'*,[216] Mannermaa describes the world splitting into 'culturally different blocks developing at different speeds', with patterns of regional protectionism emerging. In this scenario, the understanding of the need for democracy and its interpretations will be different in different blocks. Within Europe, the scenario is associated with a lively debate about European values. Asia becomes more powerful; Muslim cultures become intensely introverted, and African cultures "*will be allowed to develop their own economic and societal model in peace"*.[217] Mannermaa makes no mention in this scenario of the impact of external drivers of change such as population growth (save that he notes that half of the global population will live in Asia 'in the future'), resource scarcity, or climate change: this is a scenario based on the defining characteristics of cultural difference giving rise to different blocks.

Mannermaa draws to a close with a brief look at the future beyond his immediate time horizon; offering a diverse set of 21 'futures theses' for democracy after "*2017-2057... 2107*". Those that appear most relevant to our enquiry into the future of democracy in the face of climate change are highlighted below, without further evaluation.

- Other models will challenge democracy, the maintenance of which constantly *"requires citizens and societal players who are bold enough to defend the ideals of democracy even when it does not appear to be politically correct to do so in a given climate"*.

- After 2017 the pressure to establish a global democracy will further increase, but Mannermaa simply concludes that *"from the perspective of humanity and the globe, it would be worrying if we had to wait a hundred years for a functioning global democracy to emerge"*.[218] Later he argues that new information and communications technologies will have a significant, if not critical, role in the reinforcement of global democracy, and he ends his futures theses with the suggestion that "*in the scenario of civilised and peaceful development, global democracy will be as natural in 2107 as .. political decision-making in the Finnish parliament is today"*.[219] At the same time, the state level is just one of a number of arenas in which democratic societal influence is exerted, though *"it is set to maintain its special position for a long time to come"*.

- Alternatives to global democracy or regional blocs (a possibility which Mannermaa also considers) are either worse or 'downright disasters'. At the same time, Mannermaa notes that the idea of a wholly decentralised and perhaps traditional rural community is an unlikely model for the future, but "*could actually materialise in the aftermath of a disaster*".[220]

- Only beyond 2017 will leaders of society be forced to face up to global and local environmental problems. Here, Mannermaa points to the environmental challenges that do not figure in his shorter-term scenarios: climate change; destruction of the Amazon, water, waste mountains and extinction of animal species. But there is little that cannot be seen already in Mannermaa's assertion that *"many people will lose faith in the ability of*

democracies to deal with these issues crucial to the fate of humanity, and different direct action movements, even militant ones, may receive broadening support". On energy security, Mannermaa says simply that *"oil reserves will be running out"*.

- The move towards minorities is *"set to gain momentum"* after 2017, and it will be necessary to *"devise models for a democracy of minorities"*. In the long term *"society is actually plural"*; a system based on trust and deploying "systems intelligence".

- The model of exercising democracy by voting at elections on a given day in a predefined physical space will vanish 'soon after 2017', and new technology will support implementation of models of 'continuous voting'. Intriguingly for consideration of the long-term from a futures perspective, there is no mention of whether the practice of democracy will reflect a greater long-termism stemming from some of the practical and immediate reforms that Mannermaa suggests (such as futures debates at a variety of levels).

  On the contrary, Mannermaa sees potential for a new understanding of time and place to apply, with people taking on board the expectation that "*things have to happen immediately*". The virtualisation of democracy and governance will continue to advance beyond 2017, and over time a "*wholly virtual democracy may increasingly sideline traditional geographic arenas of activity'. Expert systems capable of fluent communication will mean that 'political players will no longer be able to make illogical decisions by accident*".[221] And political parties will gradually wither and die as people form different kinds of ideological and interest group. Toffler suggests, in *The Third Wave*, that one response may be to invent temporary, modular parties that can serve changing configurations of minorities.

Mannermaa's paper is ultimately stronger in its evaluation of contextual trends and driving forces than its 'futures theses' for the long-term. Even so, there are ideas here that find resonance in the broader sustainable development literature to varying degrees. What is different is the significance attached to environmental and natural resource challenges in Mannermaa's 'futures theses'. The significance of the natural resource challenges identified in some, is not reflexively considered in others that are implicitly predicated on the survival of the idea of 'society' and 'law' in some form that we might find at least not wholly unfamiliar. Mutual exclusivity is buried deep within many of the theses.

One challenge moving into Paper Five, which will begin to set out scenarios for the future of democracy in the face of climate change, will be to consider the extent to which certain climate scenarios might wholly remove the possibility that some of Mannermaa's theses could be realised.

Green Paper on the future of democracy in Europe

An important European contribution to the scant literature on the future of democracy is a 2004 Green Paper Commissioned by the Secretary General of the Council of Europe and prepared for the Council of Europe by a group of elected representatives and academics from ten Council of Europe countries.[222]

The Green Paper analyses a range of contextual changes and the challenges and opportunities that these pose for European democracy; sets out how processes and actors are being affected by these external challenges, as well as internal trends within the democracy itself; and concludes with a set of potential and desirable reforms that would "*improve the quality of democratic institutions in Europe".*

The Green Paper does not provide a consistent or time-bound analysis of what *could* emerge for the future. There is no time-scale attached to the assessment of challenges for 'the future', and it is far from a 'scenarios' or even a 'futures' paper; but its investigation of key historic trends and assessment of their potential future significance are nonetheless significant.

The Green Paper's focus is on political democracy, which it defines as "*a regime or system of governance in which rulers are held accountable for their actions in the public realm by citizens acting indirectly through the competition and cooperation of their representatives.*"[223] That definition, in turn, provides a basis for analysis according to three processes and/or actors: citizenship, representation, and decision making.

In the first place, at the level of citizenship, the Green Paper points to widespread generalised political discontent, manifested (in part) in low levels of decreasing turnout in parliamentary elections since 1980. Much of this resonates with the story told by John Keane's muse. The Green Paper points to the particular relevance of education, changing values, economic shifts and political context as determinants of discontent. And in a statement that may prove of particular relevance given the growing significance of China on the global stage, the authors argue that "*the legitimacy of a political system depends on the existence of an alternative and competitive polity or utopia, and the struggle over different forms of governmental and societal organisation has disappeared since 1989"*.[224] This makes democracies both more vulnerable (to generalised discontent) and stronger. If this holds true for Europe, it cannot, however, be said necessarily to hold true globally.

The Green Paper offers a reminder that in practice politicians are more eager to take account of the expectations of people who vote rather than those who choose not to vote. If voting abstention increases, the authors suggest that declining electoral participation may introduce or strengthen a class bias in public policy; a bias that may be particularly salient to consideration of environmental justice.

The Green Paper points to the potential significance of 'denizens' to the future of democracy. The authors review levels of migration into Europe, and note the significant number of European residents who have the status of resident non-citizens, without full rights of political participation. That 'denizenship', the paper suggests, has become a stable feature across Council of Europe democracies, leading to reconsideration of who has the right to participate in politics, and how, given that political rights are a prerogative of citizens only. Nonetheless, 'denizens' may still have opportunities for indirect influence in decision-making - for example through trade unions. This is particularly relevant to the relationship between democracy and climate change to the extent that severe climate change may itself have significant impacts on migration. Furthermore, it is notable that web-based political participation does not generally limit participation according to people's status as 'citizens' or their formal political enfranchisement.

As to representation, the Green Paper considers the role of political parties, particularly as intermediaries between citizens and public authorities. Here, the paper highlights the decline in party membership but, like Keane, notes that this need not be a sign of declining political participation in general. The Green Paper argues that there is a move in political parties away from civil society and closer to the state.

Development of European political parties could potentially offer a response, the Green Paper suggests, to the declining autonomy of the national state as well as the decline in political party membership at national level at the same time as strengthening the idea of a European *demos*.

The Paper addresses the evolution of civil society under the heading 'representation', arguing that, though it may produce 'goods' and 'bads', civil society contributes both to *"the persistence of and the quality of democracy"*. Civil society is defined as:

> *"a set or system of **self-organised intermediary groups** that: (1) are relatively **independent** of both public authorities and private units of production and reproduction, that is of firms and families; (2) are capable of deliberating about and taking collective actions in defence or promotion of their interests or passions, (3) but **do not seek to replace either state agents or private (re)producers** or to accept responsibility for governing the polity as a whole; (4) but do, however, **agree to act within pre-established rules of a "civil", meaning mutually respectful and public, nature"*** (emphasis added).[225]

The status of civil society association at any given point in time is itself closely connected to shifts in social structure, the paper reminds us, and consequently its forms of association change over time. One shift of particular relevance in the European context, for example, is the decline in membership of trade unions and a decrease in their number. But this is not reflected in any tendency towards a decrease in the *total* numbers of associations.

Trends in association then; in the subject matter and membership of civil society groups and in the tactics that they deploy; are potentially partially significant factors in the state and future of democracy.

The Green Paper also devotes considerable attention to the role of what it describes as 'guardian institutions' in decision-making – that is, institutions made up of experts. Over the past 20 to 30 years, the paper argues, the scope of democratic decision making has been eroded both as a result of 'guardian institutions' addressing problems by relying on specialised knowledge and expertise rather than citizen engagement or political representation, and through public policy making through agreements with stakeholder-based (rather than citizen-based) governance networks. The latter itself is a manifestation of the increasing 'porosity' between public and private spheres. And whilst decision-making 'increasingly requires specialised knowledge and expertise' (a current circumstance that cannot safely be projected into the future, given the potential for extreme natural resource challenges to trigger social collapse) one consequence is that chains of delegation become longer and longer and the voice of citizens feebler. The practical need to avoid loading political systems with burgeoning legislative and regulatory tasks is a further driver for the creation of so-called 'guardian institutions'.

The future of democracy, argues the paper, will depend on responses to two questions:

> *"Can the apparent loss of democratic legitimacy be compensated by other forms of legitimacy underlying "guardian" and "governance" institutions?*
>
> *Can non-majoritarian institutions of guardianship/governance be reconciled with and justified by reforms in democratic practices?"*

A further decision-making challenge that is particularly visible in the case of the European Union concerns that of 'inter-level' accountability; in other words, *"how does one settle the issue of which decisions should be taken by which demos, at what geographical level – and who should decide the inevitable conflicts that arise from such a complicated system"*?[226] The challenge is equally familiar from a sustainable development perspective, where there are frequently trade-offs in the levels at which sustainable development is pursued, as between for example the local and the national levels. The European principle of 'subsidiarity' finds partial resonance here, given the predilection of many

sustainable development policy advocates for decentralised approaches to management of natural resources.

Even leaving aside the role of 'guardian' institutions, the quality of democratic decision-making also depends on the range, spread and allocation of mechanisms for direct citizen engagement in the decision-making processes of democratic institutions; in other words, the balance between 'direct' and 'representative' democracy.

The Green Paper notes three particular forms of direct engagement. In the first place, almost every European country and at almost every layer of government, citizens can file petitions to provoke debate and attract the attention of elected representatives. But this is a limited mechanism of direct democracy; for it is entirely in the discretion of those in power to determine their response.

Opportunities for greater impact from direct citizen engagement are offered by two other forms of direct engagement: referenda and what the Green Paper describes as a 'popular initiative': "*[t]he referendum encompasses a process through which proposals by political authorities may be submitted to a popular vote. The popular initiative is a process through which a number of citizens may formulate a proposal and force the political authorities to submit it to a popular vote.*" In turn, the 'recall' is a special form of initiative in which the object is not a specific policy proposal, but rather the tenure in office of a particular elected official or representative.[227]

The Green Paper notes that direct democracy provides one mechanism for tackling the potential incongruence between 'ruler choices and citizen preferences'. But its tools are easily abused if rulers manipulate either the uses or the outcomes of direct democracy tools to legitimate their decisions. In many countries in contrast, the Green Paper notes that governments in office are not at liberty to control the initiation of a referendum.

The Paper concludes with a series of 28 recommended reforms to improve the quality of democracy in Europe and make it more legitimate in the future. These recommendations for how Europe's democracy *ought* to evolve are less directly relevant to our project given its extended time horizon, but they are nonetheless highlighted in the briefest of detail because they provide one set of suggestions for the qualities of a democracy that we might, in the European context at least, wish to find alive and well in the future.

Most urgent among the reforms, the authors suggest, are those that are designed to tackle the major generic problem of declining citizen trust in political institutions and participation in democratic processes. Second most important are those which relate to the increasing number of foreign residents and the political status of denizens. The 28 recommendations are highlighted below.[228]

It is important to note however that the Green Paper is not associated with any set of normative outcomes or instrumental approach other than that indicated by outcomes associated with a normatively 'desirable' set of characteristics for democratic institutions, or the '*sumum bonum'* of political democracy; accountability.

> ***A. Reforms capable of introduction by ordinary legislation; not likely to entail high budgetary costs; should produce immediate (if marginal) improvements in the quality of democracy***
>
> Lotteries for electors: allocation of lottery tickets to voters, with the voter holding the winning number awarded the 'prize' of allocating portions of the public budget to state programmes, non-profit associations and movements in civil society.

Specialised elected councils: governments at various levels should consider holding periodic, specialised elections for membership in councils that provide them with advice on matters affecting such social groups as young people, the elderly, or foreign residents. An especially compelling case can be made for a Council of Denizens.

Democracy kiosks: a system of public kiosks in every urban quarter, town and village to serve as distribution points for official publications, providing free internet access for communication with public agencies and offering face to face advice about laws and regulations.

Education for political participation: educating citizens for actual participation in politics as it currently exists, with emphasis on learning by experience rather than from manuals.

Voting rights for denizens: encouragement for the introduction of voting rights for denizens after a number of years' residence in a country.

Council of denizens: Every political unit in the European Union with more than a pre-designated proportion of its total population consisting of 'denizens' should create a council for their political representation.

Incompatibility of mandates: prohibiting politicians from either simultaneously holding or competing for elected offices at more than one level.

Electronic support for candidates and parliament ('smart voting'): active support from the Council of Europe for electronic support systems to provide new sources of information to improve the quality of participation in elections and thereby support 'smart voting'.

Electronic monitoring and online deliberation systems: establishment of online platforms to monitor and map roll-call votes of all representative bodies.

An agent for the promotion of democracy reform: a proposal that the Council of Europe extend its role into the systematic improvement of the quality of democracy in both actual and prospective member states through the creation of a permanent body (composed of academics and politicians) to monitor and evaluate reforms and where appropriate advocate their extension to other governments or countries. The body could also issue an orange card' to member states in which the quality of democracy had descended below a European minimum.

B. Reforms likely to meet with greater opposition which are more innovative and likely to affect prevailing balances of power

Discretionary voting: reform to permit electors to vote for 'none of the above'

Universal citizenship: granting full rights of membership in the political community from the moment of birth to all persons born within its territory or to all of its citizens living abroad, with the parents of each child empowered to exercise the right to vote until the child reaches the age of maturity.

Shared mandates: so that parties would be required to nominate pairs of candidates for election. The first would receive a full salary and the second (his or her deputy) a half salary.

Citizenship mentors: volunteers who would introduce migrants to the culture of the receiving society, taking on tasks such as assisting migrants to register in the health-care

system and participate in activities of civic associations, as well as explaining the basics of the existing political system.

Participatory budgeting by citizens: reform to allow citizens to determine their preferred distribution of total public expenditures according to level of government (though leaving the precise determination of how funds would be spent to politicians).

Guardians to watch the guardians: establishment of a 'guardian' for each 'guardian institution' (including central banks, regulatory agencies, autonomous boards and managerial public commissions); a person chosen by the most appropriate parliamentary committee to their field. The guardian would be responsible for reporting regularly on the performance of the relevant guardian institution and evaluating its compatibility with democratic principles.

A 'yellow card' provision for legislatures: empowering representative bodies at the municipal, local and regional levels to issue 'yellow cards' as explicit warning notices when they judge that formal rights or informal prerogatives are being infringed by drafts of prospective legislation coming from a higher level body.

Framework legislation: a requirement that 'centralising' legislation respect as much as possible the existing autonomy of lower-level units and leave them to the choice of methods and solutions adapted to their specific circumstances

Variable thresholds for election: introduction of a system whereby elected representatives would have to win a progressively higher proportion of votes in order to stay in office during consecutive elections.

Vouchers for financing political parties: a system of vouchers for the purpose of distributing public funds to parties. Voters in general elections would be able simultaneously to vote on distribution of a fixed sum to the party or parties of their choice (up to 50% of the total public funding for political parties).

Vouchers for funding organisations in civil society: financing associations through compulsory citizen contributions and citizen vouchers that would allow citizens to choose which associations and movements deserve support.

Referendums and initiatives: a recommendation that the Council of Europe draft a code of good practice on referendums and initiatives, and that institutions of direct democracy are added to the set of representative democratic mechanisms at all levels of government.

Postal and electronic voting: that the Council of Europe encourage introduction of remote voting in elections and referendums.

Intra-party democracy: provision that a proportion of the public funds budgeted for supporting political parties be set aside for distribution to those political parties that practice internal democracy, including by holding competitive internal elections for the nomination of candidates.

C. Proposals that are difficult to approve and implement

Civic service: introduction of an alternative to military service that could introduce young people to the value of working in political and community organisations. It could be

compulsory for all citizens and certain denizens between the ages of 17 and 23, lasting for a short period following by the possibility of voluntary extension.

Special guardians for media guardians: guardians appointed for long terms with the approval of a parliamentary supermajority and with powers including the power to revoke broadcasting licenses of egregious violators.

Freedom of information: a guarantee of equal access by all citizens to sources of information needed to form their preferences and make their choices and an obligation on all rulers to disclose the information they have used to make their decisions and that they have gathered on citizens.

A Citizens' Assembly: an assembly formed of a randomly selected sample of both registered and unregistered voters. The assembly would meet once a year for one month to review and vote on one or at most two bills passed by the parliament during the previous year 'for which at least one-third of the deputies in the lower house have explicitly requested a stay of implementation'. The Assembly would deliberate over the bills and vote on them. Only those drafts receiving a simple majority of the votes would be passed.

The coming democracy

In her book *The Coming Democracy*,[229] Ann Florini argues that the principal difference between rosy and gloomy scenarios for the future of the world boils down to one thing: governance. There is a fundamental dilemma here, and it is one exemplified by climate change; for *"most of the problems with which [government leaders] are grappling do not constitute the kind of urgent, dramatic threat that pulls a society together and makes people particularly willing to contribute, through taxes or other means, to the common weal".*[230]

Florini concludes her book with a scenario for how the world might evolve a better system of governance to 2020. Her perspective is fundamentally optimistic; a vision that might be understood as an optimistic 2020 marker for a collection of the 'good practice' thinking and activism on global governance already visible in the early 2000's. Just five years on it already seems rooted in a particular moment in time. There is little, for example, on the significance of China.

Looking forward to 2020 from her 2005 vantage point, Florini argues that a positive scenario for the future of the world must be rooted in a democratic system of governance. Globalisation does not only spread the supply of information; it also spreads demand for transparency. In an increasingly interconnected world, the 'consent' of the governed to being governed must come from an ever wider array of groups. The challenge therefore is to find new mechanisms to allow people who are affected by decisions – wherever those decisions might be taken – to have a voice in them and to hold the decision-makers accountable.

Transparency achieves little in and of itself, however. For whether it is a catalyst for effective action depends in part on whether people see themselves as stakeholders. And here, Florini points out that the idea of identity is in flux – in part as a result of developments in information technology as well as the wider processes of globalisation. In particular, notions of 'group identity' provided by the idea of the nation state are receding (notwithstanding continued nationalist convulsions) and are in any event a relatively recent , twentieth century, invention.[231]

Walter Truett Anderson argues[232] that identity is the key psychological issue in relation to politics and government. Florini implicitly agrees, turning to evolutionary psychology to point out that the

value of group identity is in part linked to the idea of 'kin', and to the insight that people will protect others whom they understand to be their 'kin'. So how, (in the face of climate change, and intergovernmental negotiations framed by a notion of the identity and kinship of the 'nation state' that has outlived its usefulness), can we achieve changes in systems of democracy so that, on the one hand, a broad notion of 'kinship' prevails, and on the other, decision-making processes do not grind to a halt? There is much, says Florini, that evolutionary psychology could teach us.

Importantly, Florini argues that *"[g]roups that can deal successfully with collective action situations have an enormous advantage over groups that fail to do so."*[233] And the emotional proclivity for cooperation, she says, may be just as strong as the propensity to demonize the 'other'.

What kind of group identity will dominate in the future currently remains unclear, for emerging global culture, argues Florini, is now at a crossroads.[234] One major effect of globalisation is to create an ever-broadening set of identities – in Truett Anderson's words *"social saturation furnishes us with a multiplicity of incoherent and unrelated languages of the self"*.[235] But it could also, paradoxically, generate identity-based backlashes. There is an enormous emotional power, for example, in nationalism, which can get nastier in times of stress. But nationalism arises from *"the political manipulations of leaders or would-be leaders, not spontaneously from a deeply rooted sense of common destiny in any particular group"*.[236]

Florini is almost Polyannaish in her positive outlook – for, as she argues, it is easy to imagine how things could get worse, but imagining a better future is the essential first step toward creating one. For the future, Florini simply rests with the somewhat dissatisfying conclusion that no single kind of identity is likely to dominate. Group identities will be a matter for individual choice.

Part III: Faultlines for democracy and climate change

Introduction

Thus far, we have considered the history and prospects for sustainable development and its governance, and a body of futures-oriented analysis that describes possible scenarios for sustainable development and democracy. Place these bodies of work alongside our overall assessment, in Paper One, of what and why matters for democracy and climate change, and there are some striking overlaps.

In this section, therefore, we move sideways to consider some of the distinct bodies of work – some futures-oriented, some not – that speak to some of these key areas of overlap. Each of the subsections that follow brings additional analysis, from a variety of disciplines and perspectives, to inform our understanding of the wider '*faultlines*' in the relationship between democracy and climate change. These are not '*driving forces of change*' as such (as population growth or technological development might be, for example), but rather underlying faultlines in the evolving relationship between democracy and sustainable development generally, and democracy and climate change more specifically.

We consider briefly in turn:

- **Transparency, access to information and accountability;** core themes and definitional elements both of democracy and sustainable development

- The **role of expertise in political processes – and a related idea, rapidly gathering pace, that '*crowds*' can sometimes be '*wise*'.** The so-called '*climategate*' saga, and ongoing controversy surrounding the reliability of climate science, place the spotlight on the role of scientific expertise at the heart of political process. There is a wider literature on the role of expertise in policy and environmental decision-making, and we aim to bring out the flavour of some of its analysis.

- The possible shape of the **changing relationship between religion and state** in different settings. We consider this a faultline for democracy and climate change because religion, or faith, is potentially a significant source of non-individualistic values that could potentially counter excessive consumerism and better serve sustainable development. But there is also conventionally a dogma that democracy is essentially secular. If an upsurge in some religious values could help to deliver sustainable development, how can the tensions be squared?

- The state of the relationship between **state, market and civil society,** and the balance between the three, are a defining triad both of democracy, and of its ability to deliver sustainable development – particularly given tensions between liberal economy, liberal democracy and sustainable development which we outlined in Papers One and Two. We therefore highlight in outline some of the considerable body of work on how these relationships might unfold for the future.

- **E-democracy, the internet and the media.** We have already seen that a move from an industrial age to an information age has significant implications for the future of democracy. And social networks and the mainstream media have the potential to transform public

opinion and political engagement on issues related to climate change and sustainable development. We highlight some of the emerging thinking in a concluding section.

Transparency, access to information and accountability

Knowledge and access to information civilise power. They are also key resources for efforts to hold elected representatives and other institutions to account.

We saw in Paper Two how accountability (of public institutions, governments and elected representatives) is an important dimension both of governance and of democracy; and also how the idea of accountability may be associated with narrow definitions of democracy which centre on voting, i.e. the selection of representatives and their subsequent accountability to those who chose them in that once-every-electoral-cycle process. In contrast, in the UK, one NGO, AccountAbility, has formed its strategy around the idea that it is improvements in accountability that will drive innovations in sustainability; even going so far as to argue that accountability should become the *central* goal of development.[238] As to access to information, Ann Florini goes so far as to identify access to information as an integral democratic principle.[239]

Investments in improvements in transparency and accountability have been among the most visible (and fashionable) areas of activity in the international NGO and donor circuit over the past ten years or so. One theory of change, for example, has led to the idea that transparency over public sector revenues from natural resource extraction will provide citizens with the information that they need to escape the '*resource curse*' and thereby enhance the quality of public governance in those countries that are resource rich yet whose people and governance score badly in all mainstream indicators of human development (most notably the UN Development Programme's flagship Human Development Index) and governance.

Yet, as Professor Paul Collier, development economist and architect of the Natural Resource Charter[240] argues, "*above a threshold level of governance there is no resource curse. On the contrary, those resource-exporting countries with good governance grow more rapidly in the long run as well as in the short run. These are the countries which succeed in harnessing resource exports for sustained development, Botswana being an African example*".[241] Encapsulated in the Extractive Industries Transparency Initiative (EITI),[242] this idea has garnered widespread support and some impressive achievements.

Over time, and quite naturally, the EITI's focus on '*revenue transparency*' as its sole agency for change has come under close scrutiny. The extent to which revenue transparency alone is able to deliver the much-needed changes has rightly been questioned. Public participation in budget planning ('*publish what you spend*') has become an increasingly significant counterpart to '*publish what you pay*'.[243] And other issues have entered the frame too; including the idea that there needs also to be transparency in the contracts, leases, or negotiated agreements under which much resource development takes place around the world.

More systematically, Collier explicitly points to the broader challenges of linking democracy to sustainable development outcomes, and sees a role for the EITI. He argues that:

> "*Many of the resource-rich low-income countries are now democracies and so the government cannot defer consumption unless voters are willing to accept it. If citizens do not understand the issues then elections are liable to degenerate into competitive offers of populist strategies of high current spending. This implies that in the resource-rich*

> *democracies there is no alternative to making citizens aware of the ethical issues posed by a failure to invest a reasonable proportion of the resource revenues.*
>
> *It is much easier for local politicians to guide citizens on this issue if there is an international campaign on which they can draw: then their message is less likely to be misconstrued as self-serving or misguided... In effect, the [EITI] agenda could be broadened from countering corruption to countering the neglect of the future*".[245]

David Keane places access to information, transparency, and public monitoring of all sorts of governance and decisions at the heart of his theory of '*monitory democracy*', characterised by *"the way all fields of social and political life come to be scrutinized, not just by the standard machinery of representative democracy but by a whole host of non-party, extra-parliamentary and often unelected bodies operating within, underneath and beyond the boundaries of territorial states"*.[246] From a related perspective, the modern information society brings very specific accountability challenges for democracy, and as Mannermaa suggests, "*a major challenge for democracy will be to define again and again what the ground rules are that govern monitoring, knowing and not forgetting*".[247]

As we saw in Paper Two, innovations in accountability are also at the heart of political scientist David Held's proposals for '*cosmopolitan democracy*'. At the global level, Held argues that restructuring of the territorial boundaries of systems of accountability is one of two distinct requirements of cosmopolitan democracy so that issues which escape the control of the nation state can be brought under better democratic control (the second being that the role (and place) of regional and global '*regulatory and functional agencies*' be rethought so they provide a more '*coherent and effective focal point*' in public affairs).[248]

The emphasis of the UK organisation AccountAbility[249] and many others on accountability within '*multistakeholder partnerships*'[250] or '*global public policy networks*'[251] similarly point to the reality of polycentric twenty-first century global governance. Proposals for world parliaments or for citizens' assemblies operating at international level (considered in Part IV of this paper) serve to temper global governance with a greater degree of accountability to '*citizens of the world*' rather than to territorially defined units of government and their associated demos.

No discussion of transparency or accountability would be complete without a reference to the roles of the media, and the internet respectively, in enabling change, for good or for ill. They are highlighted further in a later section of this Part. And neither appropriately tailored transparency nor accountability alone can provide people with the capacity to scrutinise decisions or to hold decision-makers to account. Knowledge, and sometimes expertise, are also important.

A citizen willingness to engage in the public realm must also, logically, be a key determinant of the success of any transparency or accountability initiative. And it is increasingly a commonplace that civic education must be understood as a critically important key in efforts to unlock a positive relationship between democracy and sustainable development. But civic education that fosters only participation '*on the right issues*' or '*by people with the right views and cultures*' would undermine, not foster, greater democracy.

Notwithstanding the lack of any silver bullet, it seems clear that the evolution of transparency and accountability, and access to transparency and accountability, will likely be among the key determinants of our futures *as* democracies, of our futures *in* democracies, and the future *of* democracy itself. Some theories of change would go so far as to suggest that they offer key axes for the development of resonant scenarios for the future of sustainable development governance.

In *The Coming Democracy* Ann Florini argues that shifts in transparency provide the foundation for a major shift in patterns of governance. That shift has three elements: citizen demands for laws on access to information about governance; international organisations disclosing information that they previously had not disclosed; and new agreements – such as the Aarhus Convention – beginning to entrench emerging transparency norms at global level, with (she writes in 2005) a new 2010 Economic Information Convention. She sees citizen pressure working to enhance corporate standards of behaviour; more transparent and participatory systems of national governance; and shifts in the relationship between governments and the governed "*to permit broad participation while keeping out the lunatic fringe [so that] nongovernmental groups were allowed in unless a supermajority of member states voted to exclude them*.*"*[252]

Florini's call for the development of a transparency-based system of governance recognises that this may still be vulnerable to misinformation and deliberate deception. Without philosopher-kings, she argues, the messy muddle of transnational governance is probably the best that can be done. The keys to optimising the potential for that "*highly democratic, albeit non-electoral and imperfect system of transnational governance"*, for Florini, are information technology and transparency.

If transparency, in terms of freedom of access to government information, is now becoming the norm, as Florini suggests, it is equally clear that '*regulation by revelation'* clearly has its limits too. The many justifications by governments for the proper place of secrecy within democracy in the wake of the Wikileaks controversies of late 2010 demonstrate this.

The drive towards transparency may also be impeded at times by unpredictable external shocks. The launch of a War on Terror in the wake of the World Trade Centre Attacks of 11th September 2001, and the subsequent incursions into individual liberties evidenced by legislative responses such as the US Patriot Act are a reminder that it is always possible for a great deal to change in a very short period of time. Jim Dator argues that "*never before have people given up their vaunted freedoms as quickly and willingly as most Americans did after the events of September 11, 2001*".[253]

Expertise, politics, and the wisdom of crowds

Johannes Lindvall argues that *"[t]he political influence of experts is an important topic ... since the potential contradiction between democracy and technocracy is one of the core problems in democratic theory"*.[254] The contradiction speaks to the unequal distribution of knowledge inherent in the idea of '*expertise*', and to the ideal of equality that is inherent in the idea of liberal democracy.

Our specific concern here is the extent to which the future of democracy and of global governance *should* or *could* rest on expertise, as distinct from representation and/or citizen participation. Mika Mannermaa expresses the essential challenge: *"A major challenge for the future is to develop democratic methods which will allow for the combination of meritocratic expertise and the 'value expertise' of the people, which they express through parties and social movements, and to do so in a way in which societal decisions and actions reflect people's values and the experts stay in their role."*[255]

The question of how the democracies of the future might factor evidence from independent experts and scientists into decision-making is as relevant now as it ever has been. The contentious role of expertise within democracy was demonstrated in the UK, for example, by the dismissal in 2009 of Professor David Nutt, Chairman of the Advisory Council on the Misuse of Drugs, after he challenged the government's policy on criminalisation of certain drugs based on his scientific assessment that alcohol, the use of which was not a criminal offence, was in fact more socially harmful than many of the drugs that were criminalised.[256]

The UK Hansard Society suggests that in the UK context the pendulum may now have swung far towards reliance on stakeholder opinion rather than expert evidence: *"what we are seeing is perhaps an increasing reliance on general stakeholder responses, prioritising opinion over evidence from those with a wide variety of skills and knowledge."*[257]

The Nutt incident also resonates with John Keane's description of the phenomenon of *'überdemocracy'* (a response to monitory democracy's scrutiny of politicians). Keane's '*muse of the future'* looking back from 2050 associates this with the maxim: "*Punish dissent wherever it arises, particularly among scientific and policy experts who call into question the government's integrity"*.[258]

Some literature on the future of democracy takes a far less dim view of the future of expertise. At the other end of the spectrum, Shearman and Wayne Smith predict that democracy as we know it will fail to deliver solutions to the environmental crisis. They argue that elected representatives ought to be replaced by a ruling elite of eco-philosopher kings. Their vision of the future harks back to Plato's; that *"[t]here will be no end to the troubles of states, or of humanity itself, till philosophers become kings in this world"*.[259] Shearman and Wayne Smith's (anti-democratic) suggestion is that "[*g]overnment in the future will be based on… a supreme office of the biosphere*"[260] comprising specially trained eco-philosophers, who will either rule themselves or advise an authoritarian government. They describe these eco-philosophers as *"people of high intellect and moral virtue who are trained in a wide number of disciplines, ecology, the sciences, and philosophy (especially ethics) for the purpose of dealing with the crisis of civilisation"*.[261]

Shearman and Wayne Smith call for the creation of what they call a 'Real University', delivering scientific education which is immune to the influence of feelings, desires, interests, aspirations, values, economic forces and moral considerations. They highlight the Intergovernmental Panel on Climate Change as a potential forerunner.

The notion of value-free scientific endeavour would seem bizarre to those of Stephen Jay Gould's school of thought, who believe that "*[s]cience, since people must do it, is a socially embedded activity"*.[262] And the value of scientific expertise within the realm of politics might be called into question on cognitive grounds. There is a strong basis in psychological studies for the argument that the voting public allow "*bias, prejudice, and emotion to guide their decision[s]"*, rather than objective facts.[263]

Roger Pielke Jr argues that four categories (highlighted in *Box 5* below) express the roles that experts can play in decision-making. A healthy system of decision-making will benefit from the presence of all four kinds of advice. In particular, Pielke argues that when extra-scientific factors play a role in influencing expert advice, they can lead to '*stealth issue advocacy*'; a phenomenon which can undermine the authority and legitimacy of expert advice. *Pure Scientist* and *Science Arbiter* roles therefore make most sense when values are broadly shared and scientific uncertainty is manageable. And when there are value conflicts or science is contested, the *Issue Advocate* and *Honest Broker of Policy Options* roles are more appropriate. Pielke suggests that policy responses to climate change have neglected the complexity of the relationship between experts and decision-makers: "*better decisions will be more likely if we pay attention to the role of expertise in decision making and the different forms that it can take*".[264]

Box 5: Categories of expertise

The Pure Scientist seeks to focus only on facts and has no interaction with the decision maker. The doctor might publish a study that shows that aspirin is an effective medicine to reduce fevers. That study would be available to you in the scientific literature.

The Science Arbiter answers specific factual questions posed by the decision maker. You might ask the doctor what are the benefits and risks associated with ibuprofen versus acetaminophen as treatments for fever in children.

The Issue Advocate seeks to reduce the scope of choice available to the decision maker. The doctor might hand you a packet of a medicine with orders to give it to your child. The doctor could do this for many reasons.

The Honest Broker of Policy Options seeks to expand, or at least clarify, the scope of choice available to the decision maker. In this instance the doctor might explain to you that different actions are available, from wait-and-see to taking different medicines, each with a range of possible consequences.

Source: Roger Pielke Jr, *The Climate Fix*, 2010, Basic Books, London.

Looking beyond the role of expertise in national democracies, former World Bank Vice-President Jean-François Rischard calls for expertise to occupy a prominent position within future global governance. He acknowledges that international governance structures will have to evolve to accommodate those global issues which extend beyond the territorially defined boundaries of states – such as forests which exist in one country, but which generate rainfall in surrounding countries. In his book, *High Noon*,[265] Rischard envisages an important role for experts in a series of twenty *'Global Issues Networks'* (GINs) designed to arrive at normative responses to the central global issues facing humanity. He sees precursors to the GIN approach in initiatives including the World Commission on Dams and the Forestry Alliance.

Rischard proposes that each Global Issues Network would consist of thirty experts; ten from NGOs, business and government respectively. And whilst this idea appears to favour expertise over public representation, Rischard goes on to explain that these expert networks would be invited to "*represent all of us"*. Here is a compromise system based on limited representation via expertise. Critics would argue that we should draw on expertise rather than be driven by it.

In contrast to Shearman and Wayne Smith's or Rischard's visions of an increasingly prominent role for scientific expertise in future democracies, there is also a body of thinking which predicts a (partial, at least) shift away from elitist technocratic science towards post-normal science, as a means of helping politicians and citizens to fully engage with the ideas of climate change and sustainability.

Groups such as the UK think-tank Newton's Apple,[266] or the UK government's Sciencewise Expert Resource Centre[267] recognise the gap in communication and understanding between scientific experts and democratic policy-makers. They work to bridge the gap, recognising that its existence is not only detrimental to both experts and policy-makers, but also to the public's trust in each.

Blowers *et al* also suggest that an effort must be made to engage a wider range of stakeholders and the general public in the process of policy-making, rather than relying on technocratic positivist science as a way of informing policy. More confident relationships between science and society might result.[268] And given the current and future pressures of climate change, where *"the facts are uncertain, values in dispute, stakes high and decisions urgent"*,[269] it is not unreasonable to anticipate that new kinds – breeds – of post-normal science might evolve to cope with this uncertainty.

Blowers *et al* further argue that the post-normal emphasis on the '*extended peer community'*[270] and the *'democratization of science'*[271] make this mode of scientific reasoning a complement to deliberative democracy. As they suggest, deliberative democracy *"must be inclusive and it must*

encourage unconstrained dialogue. Inclusiveness requires that insofar as possible all relevant viewpoints and values should be represented".[272] Deliberation may even have become what Graham Smith dubs *"a new orthodoxy within contemporary democratic theory"*.[273]

Climate change might hasten the spread of deliberative democracy; but it could equally counteract another imperative of climate-related policy: the (often urgent) need for a decision. For deliberation has no point of closure analogous to the vote in representative democracy. The future role of deliberation might therefore come to be seen simply as a means of exposing inherent value conflicts surrounding an issue, before a decision is taken.[274]

Closely linked to Ravetz's *'extended peer community'*[275] is the notion of *'the wisdom of crowds'*.[276] In his book of the same name, James Surowiecki shows that certain kinds of decision involving quantitative rather than qualitative judgements and formed on the basis of aggregated information submitted by collections of individuals are often better that those that could be made by any single individual, however expert.

But members of crowds are all too easily influenced by the opinions of others, particularly the media. And this has significant implications for climate change and for the role of expertise in democratic decision-making on climate change. Media coverage of the *'climategate*' email controversy (as to which see Paper One), for instance, has fuelled climate scepticism, as has the journalistic norm of presenting both sides of a story despite the overriding consensus regarding the severity, and anthropogenic nature, of climate change. Therefore, in the words of journalist and commentator Will Hutton, *"[a]n independent, diverse and inquiring press is also fundamental to collective wisdom"*.[277] For a wide, crowd-based and democratic wisdom to emerge in the future, the media drivers of public opinion and engagement in decision-making would need to evolve too.

A form of crowd-based democracy may already be observed alongside the idea that social networking and electronic participation technologies are revolutionising, and will continue to revolutionise our ability to follow, support and influence political campaigns. Wikipedia, for instance, brings together knowledge via crowd sourcing, and provides a striking example of the way in which the '*Internet Age'* confounds traditional notions about the role of expertise in the formation of public opinion.[278]

At the same time, while Wikipedia is often considered to offer a reliable source of information, it struggles (like democracy itself) to cope with entries in areas of knowledge that are highly politically contentious or that are bounded by scientific uncertainty. This inevitably includes much of the speculative work on climate change; unsurprisingly the neutrality of Wikipedia's '*climategate'* entry (now entitled *'Climate Research Unit email controversy'*) remains disputed.[279]

Exactly how web-based participation will shape the future of democracy, and exactly how the balance of expertise and public participation will play out, remains unclear. Mannermaa wonders whether the blogosphere might be shaping up to become the new '*fifth estate'*.[280]

How far then should the future of democracy and of global governance rest on expertise, as distinct from representation and/or citizen participation? Predictions and endorsements appear mixed. Rischard's GIN model, for instance, seeks representation via expertise, while Surowiecki's '*wisdom of crowds'* approach involves crowds made up of experts and laymen alike. In the words of Will Hutton, "*To be wise… the crowd's judgement has to include everyone's – the expert, the stupid, the allegedly commonsensical, the wild, the analytic, the hunch".*[281] Furthermore, a blend of expertise and citizen participation is embodied in Wikipedia-style engagement, in which experts on a particular subject are free to edit an entry on that subject by someone less knowledgeable.

Whilst there are few predictions on the future relationship between expertise and democracy, it seems likely that this – *"one of the core problems in democratic theory"*[282] – will be one key determinant of the future of democracy in the face of climate change.

Religion and the state

Contemplating the environmental and technological crises facing humankind in the 1970s, the philosopher Martin Heidegger declared that '*only a god can save us.*'[283] And yet, it is commonly supposed – at least in Western democracies – that in a democracy, state and politics must be separate from religion. Machiavelli already at the end of the sixteenth century *"separated political power from theology, he laicised it"* – making possible the construction of the modern state.[284] And one of the founding fathers of the US Constitution, Thomas Jefferson, famously wrote of *"a wall of separation between church and state"* in a letter to the Danbury Baptists in 1802.[285]

It is commonly argued that in a democracy, state and politics must be separate from religion. More than that, it is also sometimes argued that it is not possible for a state to make the transition to democracy if its most important instrument of power, the law, cannot be separated from religion. At the same time, many democracies mix religion and state. The head of state of the United Kingdom, Queen Elizabeth the Second, is also head of the Church of England.[286] Two archbishops and twenty-four diocesan bishops of the Church of England sit in the Upper chamber – the House of Lords.

In the United States, it is to God that the Declaration of Independence referred as the source of rights subsequently protected by the constitution: god-given inalienable rights. A United States (or any other state) conceived of as founded in accordance with the laws of God logically has less obligation to submit to external scrutiny or accountability than a state founded in accordance with the laws of men. Nicholas Boyle argues that "*the event that will decide the character of the twenty-first century will be America's decision, in the face of global crisis, to maintain or abandon its belief in its own divine exceptionality*";[288] an exceptionality that gives rise (paradoxically) to an unwillingness of the people to accept any interference in the exercise of their freedoms by the *state* as an inferior power.

The dogma that state and faith must be separated may also make Western models of democracy less attractive to nations with what Mutala calls "*pious peoples*".[289] Mutala draws a contrast between the *'religiously neutral'* policies of a state such as that of India with *the "irreligious or even anti-religious models of the West"*.[290] And the mixing of cultural associations of state and of religion respectively has also, on occasion, served to sustain democracy. David Keane gives the example of Senegal,[291] where following independence, the attempt to ban opposition parties failed *precisely*, Keane suggests, because of the ways in which faith and democracy had become integrated. More specifically, political leaders and journalists, as well as many citizens, had come to link political parties and elections to the mosque. Parties and their leaders then resembled muezzins calling voters to prayer. This '*supposed chain of resemblances between mosque and democracy*' meant that democracy was a '*whole way of life, a set of beliefs and institutions that bound people together under one God. Demokaraasi knew no distinction between the sacred and the profane'*.[292] The attempt to absorb or ban opposition parties under the post-independence government of Léopold Sédar Songhor failed.

The ideas that only a god (or gods) can save us from environmental meltdown, and that religious practice ought to be kept separate from the functioning of a secular democratic state, beg a question as to how the relationship between religion and the state might unfold in the future.

By the end of the twentieth century, the world's major religions were already taking an active role in local sustainable development governance. For example, the Alliance of Religions and Conservation (ARC) was established in 1995, grounded in a vision of "*people, through their beliefs, treading more gently upon the earth*".[293] A recent example of ARC's community-based environmental governance is the 2009 ARC-UN project *'Faiths' Long Term Commitments for a Living Planet'*, in which thirty-one faiths have drawn up generational plans of environmental action.

Initiatives like ARC allow religious beliefs to feed into national and international environmental *governance*, while remaining separate from state *government*. However, several commentators imagine that religion might also come to play an important role in democratic governments (and governance) of the future. A climate crisis, and the uncertainty that surrounds it, is likely to engender conflicting, rather than common, political ideologies. This in turn could lead governments to appeal to common religion as a means of retaining cohesiveness and authority. Samuel P. Huntington views the matter thus: *"Decreasingly able to mobilize support and form coalitions on the basis of ideology, governments and groups will increasingly attempt to mobilize support by appealing to common religion and civilization identit*y".[294]

At international level, Douglas Johnston argues that religion and spirituality could emerge as prominent factors in international relations, and particularly in conflict resolution.[295] Johnston believes that "individuals *operating on a religious or spiritual basis... are often better equipped to reach people at the level of the individual and the subnational group – where inequities and insecurities are often most keenly felt – than are most political leaders who walk the corridors of power"*.[296]

Given the scope for global environmental crisis to trigger conflict (in the form of resource wars which cross national boundaries, for instance) common apolitical ground might have to be sought. As Johnston puts it, *"[i]f the goal of achieving peace in meaningful terms is to prove any less elusive, different approaches will be required – approaches that key to deep-rooted human relationships rather than to state-centred philosophies"*.[297]

Another argument that sees religion playing a central role in the future of democracy asserts that the failure of consumerism as faith or core cultural value, combined with resource shortages and rising prices, will lead to a search for alternative values culminating in a resurgence of faith. Efforts to address and transform (to the good) the cultural dimension of sustainable development will almost certainly have a strong faith-based dimension. Whether that increases or decreases the likelihood of a clash of civilizations[298] along cultural and religious lines (too often crudely characterised as '*the West versus Islam'*) is necessarily a matter for speculation.

Shearman and Wayne Smith claim that "*in the social chaos of the future, only religion could replace consumerism"*.[299] They go on to suggest that the new social order will need some type of social glue; a role traditionally served by religion before its *de facto* replacement by secular materialism. Shearman and Wayne Smith draw on the work of Lewis Perelman, who argues that by the late twenty-first century, liberal democracy will be replaced by a type of feudalism, with a steady state economy based on land, social stratification by caste or class, and a theocracy. As climate change bites, they predict a shift to authoritarian regimes functioning within theocracies, pointing out that *"religions have survived while the social orders in which they existed have collapsed or changed"*.[300] This idea is reiterated in a *Daedalus* special issue on '*Religion and Politics*', which asks "*whether the remarkable capacity of the world religions to survive in very different social settings, and with quite new dimensions and forms, does not attest to the fact that modernity, while influencing all established institutions, cannot destroy those that continue to respond to man's deepest needs".*[301]

David Holmgren's scenarios for the next ten to thirty years,[302] considered earlier in this paper, are associated with a variety of developments in religious practice. Holmgren's starting point, as we saw earlier, is that climate change and peak oil will lead to a period of energy descent, and that this will have significant implications for the role of religion in society. Under his '*Brown Tech'* scenario (slow energy decline, severe climate change) religion becomes more prevalent in the working and unemployed classes, partly in response to the failure of modern humanism, and '*partly manipulated by the elites to deflect anger and disenchantment*'.[303] Under the '*Green Tech'* scenario (slow energy decline, mild climate change), he imagines a '*transition towards a nonmaterialistic society [which] combines with the maturation of feminism and environmentalism, and a resurgence in indigenous and traditional cultural values. These trends stabilise the accelerating loss of faith in secular humanism*'.[304] Finally, in Holmgren's '*Earth Steward'* scenario (rapid energy decline, mild climate change) "*simplification in the material domain is seen as opportunity for growth in the spiritual domain"*.[305]

Matthew Orr also sees new forms of religion emerging from the wreckage of the world's environmental crisis.[306] He suggests that crises have historically spawned *'revitalization movements'*, which in turn have led to the emergence of many of the world's religions, including Christianity.

Richard Heinberg's narrative letter from the future of 2107 describes human survivors who "*think for themselves more*', adding that "*[p]artly as a result of that, the old religions have largely fallen by the wayside, and folks have rediscovered spirituality in nature and in their local communities"*.[307] Elsewhere, he links religion to the evolution of language, arguing that religion has served as instrument of social and ecological conquest, serving up myths designed to consolidate the power of religious elites.[308]

While much literature on religion and democracy is dominated by visions of increasing religious engagement in the future, arguments for a future decline of religion are associated with analysis on the role of individualism or *'individuation'* in society. In broad terms, the latter term refers to a shift from "*historically generated socio-political categories such as class, race, religion, ideology and nationality to much more fragmented and personalised conceptions of self-interest and collective passions"*.[309]

Ironically given the values with which it is often associated, French philosopher Bernard Stiegler argues that modern consumer behaviour leads to the destruction of individualism.[310] In this light, any future loss of faith in consumerism might lead people to seek new individual values, rather than shared religious beliefs.[311] Mannermaa argues that *"the individual is emerging more clearly as the basic unit of the information society"*,[312] with the person of the future belonging to many *'neo-tribes'* not just to one social class or to the nuclear family unit that was key in the industrial society. In terms of democracy, the process of individualisation could potentially undermine the ability of political elites to pursue overarching 'general' or 'public' interests, or to appeal to a shared religion.[313] Instead, it could provide a powerful incentive for experimentation with more flexible and participatory forms of decision-making, designed to incorporate a multitude of individual values.

The emergence of the information society could also carry wider implications for the role of religion in democracy. James Davison Hunter and James E. Hawdon consider the continuation of recent trends which have seen religious institutions and leaders being '*structurally displaced*' by intellectuals, secular cultural elites and other sources of knowledge: *"where at one time there was little or no serious competition to define the symbols of public culture, there is now an overwhelming competition"*.[314] They argue[315] that although religious elites and they institutions they serve might jostle for reintegration into the centre of public life, and into positions of real authority in the information society, they will be *"structurally hindered from actually pulling it off"* due to their

position on the periphery of the knowledge sector. It is arguable that their influence will become further diluted as new media and sources of information continue to emerge, providing competing definitions of the good life.

State, market and civil society

Introduction

In the words of George Reid in the Carnegie UK Trust's report '*Making Good Society'*, *"[l]iberal democracy is a three-legged stool... One leg is government, providing public capital. Another the market, providing market capital. And the third, civil society, providing social capital".*[316]

Shell's scenarios team dub democracy's three-legged stool the Trilemma Triangle, with the state representing security, the market representing efficiency, and civil society representing social cohesion and justice. In *'The Shell Global Scenarios to 2025'*, the dominance of either state, market or civil society is ruled out, with *'two wins-one loss'* scenarios favoured on grounds that they represent *'the most plausible trade-offs'* between state, market and civil society.[317]

But where are the trade-offs most likely to lie?

How the relationships between state, market and civil society unfold over the coming century could potentially be among the defining characteristics of the quality of democracy, and democracies, around the world.

From a sustainable development perspective, some basic faultlines have remained consistently relevant. The relationship between state and market is pre-eminent among these. That relationship has of course changed over time; with one or the other becoming at times more, at times less, important in the overall governance of human endeavour. From a blurring of boundaries between '*public and private'* and a massive roll-back of state roles with economic globalisation, privatisation, deregulation and self-regulation fostered by a vision dubbed the 'Washington Consensus', to a rise in rhetoric and experimentation with multistakeholder consensus-based governance for social and environmental outcomes, the relationship between state and market seems to unfold along the line of a pendulum.

Just now, in 2010, with many of the world's governments emerging shakily from a global financial crisis, and state take-overs of many privately owned banks that just a year previously would have seemed unthinkable, the role of the state is rhetorically on the rise, even as recession forces austerity budgets alongside severe cut-backs in public spending and services among many of the world's nations.

Changing forms of the state

From a broader perspective, the relationship between state and market has been in flux since the emergence of the modern nation state around a hundred and fifty years ago. At one extreme, US academic Philip Bobbitt argues that the twenty-first century is witnessing a major shift from the old form of constitutional order represented by the nation state to a new form represented by *'the market state'*.[318]

The critical distinction between the nation state and the market state, for Bobbitt, is that *"whereas the nation state based its legitimacy on a promise to better the material well-being of the nation, the market-state promises to maximize the opportunity of [or, in another version, choices available to] each individual citizen".* The market state also tends to '*privatize many state activities and [make] representative government more responsive to the market*'.[319] In this form, many functions of the

state are outsourced, and political institutions are generally less representative, and more responsive (with, for example, *ad hoc* recall votes used to discipline representatives and call them to account).

Bobbitt does not advocate the market state, but argues that it is coming, that it will remain with us for the twenty-first century, and that we should therefore try to understand it. His analysis is not proposed as an ideological framework, but as a matter of historical evolution.

Bobbitt proposes three principal (not mutually inconsistent) forms of the market state:

> *"The first is an entrepreneurial market state. This would reflect a broadly libertarian view. It would tend to keep state intervention to a minimum and confine itself to nurturing tangible and intangible (for example, education) infrastructure. The second is a managerial market state. This would be more sensitive to egalitarianism, and it would attempt through long-range planning to give more weight to the interests of posterity. The third is a mercantile market state. This would be more consensual and more protectionist. It would try to keep control over capital both monetary and human – through immigration controls, for example".*[320]

Bobbitt's second model, the *'managerial market state',* is particularly relevant for our purposes because of the emphasis that it places on, as he puts it, *'the interests of posterity'*. Of the three it is the most closely aligned to sustainable development. If Bobbitt is right, it is to the *'managerial market state'* that we must aspire in the interests of climate action and sustainable development. But it is a vision, in the words of one critic, that is more focused on the idea of a *'social contract'* than on the *'inalienable rights'* associated with the old constitutional order of the nation state.[321]

As Bobbitt's three forms of market state demonstrate, the emergence of the market state need not represent the outright trumping of state by market, but rather the redefinition of the relationship between the two. This point is reiterated in Shell's Global Scenarios to 2025: "*Contrary to predictions by many "business gurus", the state does not wither away. Rather, the gradual transition from the Nation State to a Market State model implies a redefinition of states' fundamental promises, towards maximisation of opportunities for companies, investors, civil society and citizens rather than of the Nation's welfare"*.[322]

The idea of the market state represents not only a renegotiation of the state's role in democracy, but also a renegotiation of civil society's role. Bobbitt argues that *'[t]he market-state will live within three paradoxes: (1) it will require more centralized authority for government but all governments will be weaker; (2) there will be more public participation in government, but it will count for less, and thus the role of the citizen qua citizen will greatly diminish and the role of the citizen as spectator will increase; (3) the welfare state will have greatly retrenched, but infrastructure security, epidemiological surveillance, and environmental protection... will be promoted by the State as never before.'*[323]

If Bobbitt's vision of the emerging market state is right, there is much to worry about from a democracy and climate change perspective. For, as he himself suggests, '*we [will still] need to develop those values and institutions that the market state does not develop: those of collaboration, of decency, of deference, of the protection of cultural communities. These are things that the market state just sweeps aside, and one of the points about drawing attention to the market state is not to become its advocate'.*[324] Bobbitt's talk of '*collaboration*', *'decency'*, *'deference'* and '*the protection of cultural communities'*, highlights not only the shortcomings of market-based governance, but also the benefits that can accrue from a healthy involvement of civil society in democracy.

Philip Blond argues, in a piece written for the think-tank Demos in 2008,[325] that 2009 marks the end of the market state, ushering in, instead, a civic state, which "*aims to blend the benefits of welfare and the market mechanism not by favouring one or the other but by exceeding both'*, privileging *'the associative above the alienated, the responsible over the self-serving and... the communal over the individual"*. A new progressive conservative economics, argues Blond, would pursue three interrelated goals: *"the remoralisation of the market, relocalisation of the economy, and recapitalization of the poor"*. There is much in the model that could readily serve sustainable development.

A different view is taken by Michel Bauwens, whose concept of the Partner State takes as its entry point the failings of a state which intervenes in the economic sphere only when there is market failure. The Partner State, he explains, *"enables and empowers social production"*. It sees itself as "*steering, supporting and enabling local communities and business ecologies and their intersection with global networks of information exchange"*.[326]

Importantly, Bauwens links the value of the Partner State explicitly to natural resource scarcity:

> *"What if the policy makers understood that they could empower and enable the direct social production of value and that such individuals could engage in socially constructive projects, for which they would be recognized, and which may lead to the self-creation of new business niches? In other words, the analogy of the state as parent will have to be transformed to a vision of the Partner State, and public authorities would create the infrastructure necessary for more social innovation to occur. This could not only motivate new layers of people for social collaboration, but would in its wake create an ecology of businesses that can draw on such knowledge commons and open designs. It is my contention that developing countries will make much more relative gains from adopting such practices, than the already privileged western countries.*
>
> *In a world which will soon face a dramatic series of serious ecological crises, with dwindling natural resources, what we can envisage as a new model is the co-existence of global-local open design communities operating through the internet, combined with local production capacities, a 'built-only' capitalism that respects natural limits."*[327]

In another commentary, the Partner State is described as working to achieve "*a socio-economic order able to generate virtuous mechanisms aimed at facilitating the inclusion of all of its members in the social, political, and economic life of the community"*.[328] Here is a vision of the state that, in many circumstances short of social collapse, could readily be adapted to serve the imperative for democratic, environmental and social resilience in the face of climate change.

Civil Society

Despite the widespread use of the term *'civil society'*, there is no consensus on how it should be defined. However, for our purposes it can be broadly understood as the entirety of civic organisations which constitute the basis of a functional society, as distinct from the regulatory state and commercial market.

In his book *Civil Society*, Michael Edwards outlines the three dimensions of civil society as *"a goal to aim for ('good' society), a means to achieve it (associational life) and a framework for engaging with one another about what a 'good' society is and how we get there (the public sphere)"*.[329]

The Carnegie UK Trust elaborates on the range of social groups comprising civil society in the report of its Inquiry into the future of civil society in the UK: *"[c]ivil society activity touches the lives of most*

of us at some time or another, as a provider of services, a means of entertainment and recreation, or as a channel to protest against or influence the decisions of the powerful. It can be seen everywhere and in everything from village halls to places of worship and ranges from campaigns on the street to end poverty or combat climate change to workplace organisation, and from small groups coming together on the web to self-help groups or clubs to promote sports or leisure activities".[330]

Robert Putnam *et al*[331] have argued that civil society is crucial for democracy since it builds social capital, trust and shared values among citizens. When transferred to the political sphere, these qualities help foster social cohesion. In *The Civil Sphere*,[332] Jeffrey Alexander goes further, suggesting that democracy and civil society are inextricably linked. Alexander asserts that civil society and democracy have developed in tandem, with civil society acting to safeguard democracy's most fundamental virtues: equality and solidarity.

In 2011, in the aftermath of financial crisis, it is at least arguable that the world is seeing a shift towards values fostered by civil society. In the UK context, the Carnegie UK Trust's Inquiry highlights the fact that civil society's focus on the value of wellbeing might come to trump the current market-driven obsession with economic growth as the paramount societal goal. To this end, The UK Prime Minister David Cameron stated in 2010: "*[i]t's time we admitted there's more to life than money, and it's time we focused not just on GDP, but on GWB – General Well-Being"*. This finds resonance in the approach already taken by countries such as, most famously, Bhutan, which in 1972 declared its pursuit of Gross National Happiness.

Civil society and market actors can also interact productively, despite their potentially deeply divergent core values. Examples of this interaction include corporate social responsibility, increasing support for employee volunteering, consumer power initiatives such as Fairtrade and Forest Stewardship Council certification, and burgeoning partnerships between businesses and NGOs

Philip Blond describes a potentially fruitful partnership between market and civil society. His conceptualisation of the *'*civic state*'* is based on a *'remoralisation'* of the market so that economic policy is tied to social outcomes: the extension of wealth, assets and the benefits of ecological and social well being to all.[333]

Many future scenarios lose descriptive force in the shape of major natural resource challenges that have, at their extreme, the potential to bring societies to collapse. There is little room, for example, for the market state to maintain a descriptive hold in some of David Holmgren's '*energy descent*' scenarios (discussed earlier). Which vision of the state prevails, and what relationships emerge between state, market and civil society, are not only matters of party politics and global or regional economic health. These are questions of democracy itself.

The emergence of climate change as one of the twenty-first century's key global problems invites a reassessment the existing and future interplay between state, market and civil society. The Carnegie UK Trust's 2010 report *Making Good Society*, argues that the challenge of climate change demands a bigger role for civil society in the future: *"Neither state nor market action will be adequate to meet the scale of the challenges, nor will they ensure that the costs of climate change and resource scarcity are fairly distributed. Civil society has a critical role to play in making sure that the transition to a low carbon economy is effective and fair".*[334] Indeed, the Carnegie UK Trust's '*Local Life*' scenario[335] envisages that *"resource scarcity and energy costs [will] lead to the regeneration of local life"* in 2025. In this scenario neither state nor market has regressed, but rather there is a shift towards decentralised politics, and local economic bases with shorter supply chains.

The argument that civil society is best placed to tackle climate change has arisen, in part, out of the perceived failure of states (at the national and international levels) to deliver an adequate climate strategy. A successor to the Kyoto Protocol, which expires in 2012, is still elusive. In response to international inertia, civil society movements such as the UK's burgeoning Transition Towns movement (as to which, see Paper One) are mobilising to make a small contribution to tackling the problem themselves through local and community-based action.

Stephen Hale (formerly Director of the UK think-tank Green Alliance) also thinks that civil society represents our best hope for dealing with climate change in the future. He argues not that the state has failed us, but rather that the market has. Individual efforts to combat climate change have largely failed, he argues, due to *"deep-rooted constraints on individual behaviour. The critical issue here is the collective nature of behaviour… If we are to change, we will do so together"*.[336] A far more successful approach in the future would be to strengthen civil society in a collective and pluralistic sense: *"people are more likely to change attitudes if they see others around them doing so... We have too often sought to influence individual action without fostering the networks that will enable a collective shift in attitude or action"*.[337]

This transition from individual to collective thinking and action is countered by the possibility that the future could hold an intensification of the phenomenon of '*individuation'* or individualism. On one hand, the Carnegie UK Trust ventures that *"this trend towards individualism may have reached its apogee"*,[338] trumped by the rising well-being movement. On the other, a scenario for 2025 from the same organisation, dubbed *'Athenian Voices (Electronic Age)'*[339], sees future technology and innovation leading to increased atomisation and individualism. Networks might indeed grow stronger, but they could be geographically dispersed or virtual, and they might sustain rather than challenge individualism.

E-democracy, the Internet, and the media

Professor Stephen Coleman of the University of Leeds argues that *"the most important role of the media is to help people to form their expectations about what it means to be a citizen"*.[340]

This fundamental idea was undermined in the twentieth century, when references to the mainstream media by politicians and commentators often took the place of any deeper investigation of public opinion. An OECD report highlights an aspect of the dilemma which is particularly relevant to climate change: "*the public's perception of risks depends on the mass media rather than on expert opinion, and the tendency in these media is shifting away from information and towards entertainment. As a result, issues are framed in terms that are readily assimilated rather than informative*".[341]

Newspaper preoccupations and headlines are often a substitute, a proxy, for any proper assessment of public opinion; much less a deliberative engagement with citizens to identify their underlying deeply held concerns and beliefs. Rather than existing to serve citizenship, media headlines are too often a substitute for citizen engagement – both on the part of elected representatives and citizens.

Today, if natural resource pressures are accelerating precisely at the same time that the role and power of independent printed media is declining (due to the difficulty that mainstream printed media is currently facing in maintaining its financial resource base), the role of the media in delivering active citizenship will inevitably decline.

Social media and the internet may partly fill the gap; but there is no guarantee that even social media can remain free from influence by external commercial interests. For as a November 2010 article in *The Atlantic* would have it, "*the Web allows every side to invent its own facts"*.[342]

Social media and are not, of course, the same as 'e-democracy' – the application of advanced information and communications technologies to the formal business of political democracy. E-democracy (electronic democracy) can be broadly defined as the use of any form of information and communications technology in the processes of politics and governance. Aside from online activism which, due to its emphasis on high-profile campaigning, often receives the most media attention, e-democracy can also include *"anything from government administration (for example, completing a tax return online) to other online civil society groups (which don't necessarily campaign but work to increase participation, transparency, freedom of information)... to online consultative forums between MPs and constituents"*.[343]

We referred briefly in Paper Two to the phenomenon of online political activism - also termed *'Politics 2.0'* – and its implications for democracy and climate change. Here, our focus is on the use of information and communications technologies, particularly the Internet, to mediate the relationship between elected representatives and the citizens and voters they serve. This dimension of e-democracy is sometimes, slightly misleadingly, referred to as *'e-government'*. It encompasses, among other things, voting by electronic means, the publication of government legislation online, and online political campaigning rather than more traditional door-to-door methods.

Clem Bezold[344] defines a closely related notion: "*Cyber democracy involves the use of information and communications technologies to support governance... Cyber Democracy focuses on the information and communication mediated aspects of democracy"*. India has in some respects been a leader, carrying out the world's first national electronic vote.[345] Murata also suggests that India's '*e-courts'* are beginning to play an important role in making India more democratic. The idea is not a new one. Already in 1984 the Italian political scientist Norberto Bobbio was reflecting on the implications of what he called '*computer-ocracy'* for direct democracy.[346]

The emerging e-democracy phenomenon offers one potential route to remedying the public disaffection with traditional political processes that nags at many established democracies. By exploiting the increasing popularity of electronic communications technologies, e-democracy potentially reinvigorates public interest in democracy. It can also foster more inclusive and active civic engagement.

According to Norris,[347] civic engagement has three distinct dimensions. The first dimension (political knowledge) refers to what people *know* about public affairs; the second (political trust) reflects citizens' level of *support* for a political system; and the third (political participation) includes activities which *influence* government and the decision-making process. E-democracy has potential to strengthen each.

Advocates of e-democracy point to its potential to help build networks and drive innovations in accountability and transparency in politics. This can be seen for example in resources such as www.transparent.gov.com, which allows members of the public to quickly to identify the open government initiatives taking place in any particular community across the UK. Furthermore, the association of e-democracy with transparency and accountability, and its ability to minimise face to face interaction where rent-seeking behaviours are a problem, has led to it being viewed as an anti-corruption tool in countries including Kazakhstan, South Korea and Mexico.[348]

Another potential benefit of e-democracy is its inclusive nature, stemming from the fact that the online world presents the prospect of *"unmediated 'many-to-many' communication on a large scale*

and at relatively low cost".[349] This contrasts with traditional *'few-to-many'* broadcast media such as television, radio and newspapers, or *'few-to-few'* modes of communication such as letters and telephone. But the argument that e-democracy fosters inclusiveness is often disputed: many commentators have questioned the assumption that everyone has (or will have) access to online media. The so-called '*digital divide'* remains a real concern, as does Bobbio's warning that the idea of giving all citizens '*the possibility of transmitting their votes to an electronic brain is puerile'* because of the burden that it would place on citizens: *"nothing risks killing off democracy more effectively than an excess of democracy"*.[350]

There is another dark side to the interaction of information technology and democracy: Jerome Glenn highlights the potential for election security to be massively compromised through cyber or viral attacks on election files.[351] Equally, as David Ronfeldt and Danielle Varda point out, *"the existence of democracy does not assure that the new technology will strengthen democratic tendencies and be used as a force for good rather than evil. The new technology may be a double-edged sword even in a democracy".*[352] In countries that are not democracies, the potential for information technology to be used for ill as well as for good is magnified. In public protests from Iran and Azerbaijan to Egypt, authoritarian states have sought to exert control over the new technologies, mining them for information with which to quell dissent. In his book *The Net Delusion: The Dark Side of Internet Freedom*, Evgeny Morozov argues that canny use of the internet can even help to sustain authoritarianism rather than counter it, opening new channels for propaganda, censorship and social control.[353]

The sheer rate at which information and communications technologies have exploded over the past two decades in particular makes it difficult to imagine the future of e-democracy. Perhaps that is why so little literature ventures beyond the *current* applications advantages and disadvantages of e-democracy, and into the unchartered and highly uncertain realm of the future. In fact, as Steven Clift argues, even the current state of e-democracy is unclear: *"We are experiencing a dramatic "e-democracy evolution". In this evolution, the role, interests, and the current and future activities of all actors is not yet well understood"*.[354]

One way of imagining the future of e-democracy could be in the context of its impacts in terms of blurring current distinctions. One distinction, for example, is between the terms *'online'* and *'offline'*. Andy Williamson, for example, believes that this distinction will disappear in the near future, as our expressions of ourselves (notably our political views and alliances) shift towards the online realm.[355] And as elected representatives and members of the public increasingly interact in online forums – essentially exchanging ideas on neutral ground – e-democracy could also lead to the blurring of the terms *'governing '* and *'governed'*.

A distinct blurring of roles that is underscored by e-democracy relates to the term *'public'*. E-democracy obscures the distinction between the *conventional* voting public and the public with access to political expression and participation via e-democracy: the informal openness of e-democracy places no rules nor limits on who can, or cannot, be involved in it. Immigrants lacking voting rights in their country of residence are nonetheless free to engage in consultative web forums with Members of Parliament, for instance.

In the context of climate change, then, the possibility of climate-induced diasporas could impact significantly on the politics of nations experiencing high levels of immigration. In such countries e-democracy could lead to considerable pressure on elected representatives to reflect the interests and priorities of immigrants, despite their lack of voting rights. This in turn is linked to the wider theme of '*minoritisation*' which appears in futures literature about democracy more widely.

Conversely, however, one might argue that people displaced by climate and/or related natural disasters will be poorly positioned to access the technology required for participation in e-democracy. Far from e-democracy's tagline of inclusiveness, access and reach, it could end up amplifying global inequalities. As Sally Hill puts it, "*[t]echnological barriers to participation are more likely to affect those people around the world who are already excluded because of age, gender, race, disability, and economic and cultural capital"*.[356]

Could the Internet be used to mediate the relationship between the governing and the governed in the interests of tackling climate change? Uncertainty abounds. *"The great unknown",* says Clift, "..*is whether citizen and political institutional use of this new medium will lead to more responsive government or whether the noise generated by competing interests online will make governance more difficult"*.[357]

Beyond the information society, even more startling developments may lie ahead. Mannermaa considers the implications of *'biosociety'* for democracy, and Jim Dator argues that true democracy may only emerge *"when machines can do all the essential thinking for us"*.[358] Hybrid forms of democracy could emerge to include *"transhumans, posthumans, cyborgs, clones, chimeras, and a wide variety of artilects and forms of intelligent life..."* Whether the impacts of climate change will unfold to accelerate, or to extinguish, these almost unimaginable possible future developments is an open question.

Part IV: Global Change, Global Governance

Geopolitical perspectives on the future

So far in this paper, we have reviewed the futures of sustainable development and its governance, the future prospects for democracy, and a mix of 'futures' thinking and writing on some of the prospective faultlines in the relationship between democracy and climate change.

In this Part we take a global and wider-ranging perspective to introduce briefly some of the ideas in a broader body of geopolitically oriented 'futures' thinking, and to consider important features of discussion on global governance and its future.

There is a persistent line of thinking about the future which takes as its starting point the essence of Samuel P. Huntington's idea of a clash of civilisations – that an ongoing clash between the West and the Islamic world will be a central narrative of the twenty-first century. But Huntington's vision of the future is open to criticism on a number of counts. For example, George Friedman's book *The Next 100 Years*[359] argues that conflict between 'The West' and the Islamic world will not be the central narrative of the twenty-first century.

For a variety of reasons, Friedman argues, states in the Islamic world are too weak to emerge as real threats to US domination on the global stage. And in any event, the US does not to need to 'win' a 'jihadist' war; only to prevent 'the Islamists' from winning; a goal which Friedman suggests has arguably already been achieved. Many would find comfortable his core argument that in the twenty-first century, the European Age has ended and the American Age has begun, dominated by North America. He points to the continuing importance of military strength in determining the shape of geopolitical futures; to the flawed model of capitalism that is pursued by China and weakens her prospects; to potential conflicts over access to human resources and potential workforces in a world whose population, in many countries, is rapidly ageing and its growth stagnating.

Friedman points to the potential geopolitical power, over the coming century, of Poland, Japan, Mexico and Turkey. Curiously though, there is an almost complete absence of any narrative related to natural resource scarcity or to the impact of climate change in the analysis; a gap that surely undermines the force of the book's core arguments.

Professor Nicholas Boyle argues[360] that the character of a century becomes apparent by its second decade; a decade in which a 'Great Event' of great significance sets the stage for the remainder of the century. In *2014: how to survive the next world crisis*, he suggests that it is the global financi*a*l crisis of 2008-9 that is the harbinger of the course of the twenty-first century, in the same way as the outbreak of the First World War was for the last.[361] At the same time, his listing of the principal factors that are lines of stress in the current global system could equally be a listing of the key external drivers of change in the relationship between democracy and climate change over the coming decades: competition for oil and other natural resources, including water; the environmental impact of industrial development, especially climate change; and the changing economic and geopolitical balance between the USA and China.

Boyle characterises the profound shift that began with the collapse of communism as the integration into the global market for the world's resources of one third of the human race (China and India) who previously survived in the isolation of subsistence economies. He sees parallels between China and late nineteenth century Germany; economically powerful but only partially emerged from an autocratic past, and held together by an artificial idea of German nationhood, expressed in military

expansion, an arms race with Britain, and the symbolic acquisition of a number of colonies. Economic competition developed into military confrontation with the outbreak of the First World War.

How America responds to the decline in its economic power relative to China will be a key determinant of the character of the twenty-first century, argues Boyle. And given the mismatch between global regulation and economic globalisation there is great potential for tension over the division of economic spoils as the power of nations newly integrated into the global economy rises. The principal choice underlying the 'great event' is with America: whether to retreat from the world stage and put the process of globalisation into reverse, or work to find a collaborative and peaceful way out of current crisis and ensure that the twenty-first century represents a new era of global cooperation. In the 1930s war brought the end of economic crisis.

What is needed in the twenty-first century, says Boyle (for all that the metaphor is an unfortunate one) is a war on world poverty and climate change, financed through a global tax on international currency transactions.[362]

Global governance

The current reality of global governance is messy, disparate, diverse, and many-layered. Even describing what currently exists, without getting into questions of what 'ought' to be, is a vexing task. Walter Truett Anderson, for example, identifies three alternative visions of global governance: state-centric (with sovereign nations as the final players in global governance); world-centric (favouring the creation of a federal democratic central world government), and multicentric (which he describes as an 'apples and oranges' kind of world order in which many kinds of organizations overlap and interpenetrate).[363]

Regime theory provides alternative insights into global governance, describing the relationship between different governance systems or between policy instruments that address overlapping or similar fields. Regulatory theory, in contrast, focuses more on the changing relationship between different governance *actors*. Notably, in their seminal work, *Global Business Regulation*, Drahos and Braithwaite[364] argue that globalisation of business regulation has taken place through a messy process involving a web of actors – state and non-state - exerting influence at a variety of levels, and building 'global regulation' through a variety of tools and norms in a process of competing principles and models in which no single set of actors emerges as dominant.

The idea of multi-stakeholder, partnership-based decision-making to resolve the polycentric challenges facing humankind is now among the *leitmotifs* of much contemporary thinking about global governance.

In a 2000 book which exemplifies the thinking behind this idea, *Critical Choices: the United Nations, Networks, and the future of Global Governance*, authors Wolfgang Reinicke, Francis Deng and colleagues[365] set out to examine the role of what they call 'global public policy networks' as one among a possible suite of creative new arrangements that can help *"governments, other organizations, both public and private, and individuals around the world to work together to address pressing global problems"*. Global public policy networks are 'protean things', and have in common that *"they link together interested individuals and institutions not only from diverse countries but also from diverse sectors of activity: local, national, and regional governments; transnational corporations and other businesses and their associations; and what has come to be called civil society".*

Critical Choices highlights the pivotal role played by the twin forces of political and economic liberalisation and 'technological revolution'; two forces which have combined to create not only an operational gap for public policy-makers and institutions, but also a participatory gap manifested by exclusion of the general public or particular stakeholders from deliberations over issues characterised by increased complexity. Global Public Policy Networks, the report suggests, had emerged as a response. The six most important functions performed by these networks, the report argues, were:

- Placing new issues on the global agenda
- Negotiating and setting of global standards
- Gathering and disseminating knowledge
- Making new markets and deepening markets that are failing to fulfil their potential
- Creating innovative implementation mechanisms for traditional intergovernmental treaties (as with, for example, some of the approaches applied by the Global Environment Facility), and
- Helping to 'close the participatory gap'. In this final sense, global public policy networks touch on one of the core features of participatory and deliberative democracy. But that does not mean that they sit comfortably with political, as distinct from social, democracy.

Critical Choices argued that the United Nations could act as a facilitator and platform for Global Public Policy Networks and, more, that trisectoral networks provide the UN with a mechanism to rebuild its credibility and "*a unique opportunity for governments to regain the initiative in the debate over the future of global governance"*. With the book's emphasis on multistakeholder engagement and partnership and their potential to contribute positively to resolution of polycentric global challenges, *Critical Choices* represented a milestone in an overall trend for reflection on the role of non-governmental stakeholders and networks within the overall fabric of global governance. At around the same time, in 1998, the World Bank Group launched an initiative, centred on private sector activity and impacts, to put principles and thinking about tri-sector partnership into practice: 'Business Partners for Development'; an initiative which lasted until 2001.[366]

The trend towards greater multistakeholder engagement and cross-sectoral decision-making (exemplified by initiatives like the Mining Minerals and Sustainable Development project)[367] is countered by a variety of other arguments. Multistakeholder engagement, like deliberative democracy, can be costly and time-consuming; often more valuable for those who take part in it than for anyone who has not been directly involved. And decision-making by authoritative experts can be a short-cut around the difficult policy choices and balancing acts that would otherwise face elected representatives in contentious areas of policy.

None of these descriptive narratives are of any great assistance in resolving tensions between competing visions of the role of the state and civil society, or citizens respectively, in global governance. None provides an explanatory vision of the relationship between different 'democracies' (organisational; political; representative; direct; deliberative; participatory, for example). And yet the reality is that the state, citizens and economic actors continue to have quite different roles, responsibilities and accountabilities from the local to the global levels.

Multistakeholder decision-making sits uncomfortably with established systems of global governance in which governments (rather than individuals or non-governmental organisations and interest groups) hold the final decision-making authority. There is occasional tension between

multistakeholder, consensus-based decision-making and rules or systems that have emerged out of intergovernmental governance frameworks. After all, the state is not about to disappear.[368]

When government representatives participate in transnational multistakeholder consensus-building decision-making processes, they take with them all of the positions that they bring to other intergovernmental settings. Indeed, they cannot do otherwise, for the positions taken by government representatives in such fora are among the relevant factors to which international lawyers look when determining the current state of international law between nations. But the political positions of governments and consensus-building processes in which all participants are notionally equal do not always make easy bedfellows. This tension is among the contemporary governance dissonances that will likely need to be resolved over the coming two decades.[369]

A political economy perspective might lead to quite different takes on global governance and its future. Nicholas Boyle argues that it is not nations but *empires* that have consistently formed the building blocks of the international order. And the function of empire has been *"to provide political.. protection for the structures of the developing global market over as much as possible of the territory to which at any time the market extends"*. If empire matters more than the nation state, Boyle argues, the *Pax Americana* is the only way of securing the necessary global regulation – or protection – for the integration of the citizens of China, India, Brazil and Russia in the market. How America chooses to exercise its imperial might, or stewardship, in the face of increasingly fierce competition for global resources and a warming planet, will have a profound impact on the character of the twenty-first century.[370]

Others authors are less wedded to the inevitability of global governance rooted in the coercive power of American empire. For example, Inayatullah[371] muses on possible scenarios in the face of global security threats. One model or scenario, he suggests, might be a global empire state. But just as radical might be the idea of one person one vote at the global level, so that democracy is no longer contained within the nation state: giving global voting power to *"young, angry, unemployed Arab men and women may be a desirable future to enhance the possibility of global security"*, he suggests. A third option might see institutionalized democracy with a world governance system grounded in 'a house of nations'; a 'house of large organisations'; 'house of social movements and religions' and 'house of individuals'.[372] And a fourth option might lie with further evolution of present systems of regional democracy (such as those of the European Union).

A preoccupation with the potential global governance implications of a genuinely 'global' system of democracy brings together the concerns of another body of work. As Ann Florini points out "*[w]hen decision-making reaches the rarified level of intergovernmental organisations... the threads of democratic accountability can be stretched very thin.*"[373] One logical response is to seek to create a system of genuinely democratic global government.

A popular argument for a system of 'global government' in the late 1990s and early 2000s, when debate over the impacts and institutions of economic globalisation were at their height (before 'security' narratives took over in the Western world following the attacks on the New York World Trade Center and other targets on September 11th 2001), was that globalisation made policies less meaningful; that with a giant sucking sound it dragged the only impactful locus of decision-making to the global level.[374] A system of global government, according to this worldview, might be one inevitable imperative. Put another way, in the words of Nicholas Boyle, "*There has been a failure at all levels, most fatefully at the level of politicians themselves, to grasp the simple truth that a global economy requires a global polity.*"[375]

In practice, unsurprisingly, nation states have not proved happy to restrict their policy space in the way that this would imply (particularly given the counter-trend provided both by the so-called War

on Terror, and to some extent climate change, to unilateral or plurilateral decision-making based on small coalitions of the willing). But a movement for democratic global governance remains, and over the years there has been a large number of proposals for global government from a variety of sources. For example, the World Federalist Movement advocates global governance along federalist principles:

> *World federalists support the creation of democratic global structures accountable to the citizens of the world and call for the division of international authority among separate agencies.*
>
> *Created in 1947, [the World Federalist Movement] WFM has been dedicated to ensuring democratic global structures accountable to the citizens of the world, the division of international authority among separate agencies and a separation of powers among judicial, executive and parliamentary bodies. Only truly democratic and representative bodies can have legitimate authority over all levels of government. WFM is concerned with protecting the rights of every person on the planet and preserving the environment for the global community.*[376]

The UN Parliamentary Assembly calls for a Parliamentary Assembly within the United Nations, composed of a maximum of 7-900 representatives drawn from the entirety of the UN membership, initially as an advisory body but gradually with greater legislative functions.[377] Hamm highlights proposals for a democratic world government with the United Nations as its nucleus, with a first chamber formed of directly elected deputies – one per ten million people – and perhaps the present General Assembly as a second chamber.[378]

These initiatives and others broadly similar are designed to provide systems of (numerically limited) representation at global level through the election of representatives.

The perceived failure of the United Nations in delivering a global climate accord during the December 2009 Copenhagen Climate Summit has also triggered reflection over the future of global 'one nation one vote' decision-making involving all members of the United Nations. To date, however, the critique does not appear to have been translated into proposals for significantly reformed alternative structures or processes, aside from a *de facto* move towards a more fragmented approach, based on 'coalitions of the willing' or an effective diminution in direct participation of all UN members by controversial reforms designed to provide more space for mechanisms of regional representation.[379]

Ideas about global systems of direct democracy are also evolving. In 2009, US film -maker Joel Marsden released a documentary, 'World Vote Now',[380] designed to overcome the common argument that a system of global democracy would be technically unfeasible. Filmed in 26 countries, the documentary makes the case for the feasibility of a global voting system in which all citizens of the world are enfranchised to make decisions about the core issues facing humanity in a 'one adult one vote' system that side-steps the political boundaries of nation states. Marsden worked with software designers and technologists to design and trial a simple voting machine that could transcend barriers of language and literacy, and that could work effectively in any infrastructure setting. The film's depiction of a pilot 'simultaneous voting' process effectively overcomes objections that a global vote would necessarily be technically unfeasible.

In April 2010, Marsden took on co-Chairmanship of a committee to organise a global referendum on climate change. The committee arose out of a remarkable event in Cochabamba, Bolivia. The World People's Congress on Climate Change and the Rights of Mother Earth was convened by Bolivian

President (and Copenhagen Climate Summit dissenter) Evo Morales from 20th-22nd April 2010 and attended by some 35000 delegates from 140 countries.

Morales, Bolivia's first indigenous leader, is despised by many Western extractive industry interests for his country's resource nationalism and his predilection for ripping up established contractual agreements with foreign companies for the exploitation of Bolivia's rich mineral deposits. He refused to allow his country to sign the non legally-binding Copenhagen Accord which emerged from the December 2009 Climate Summit. But this was not mere gesture, for Morales went on to create an alternative space for debate; a World Social Forum of the climate movement. Speaking in March 2010 of the follow-up process to the Copenhagen Climate Summit, Bolivia's Ambassador to the United Nations, Pablo Solón, declared that: "*The only thing that can save mankind from a tragedy is the exercise of global democracy.*"[381]

A 'People´s Agreement'[382] synthesizes the conclusions of the 17 working groups at the World People´s Conference on Climate Change and the Rights of Mother Earth. The Agreement pledges support for ""a world plebiscite or referendum on climate change open to the global public." Committees have been formed to directly organize such the process. Marsden argues that "*The global referendum can be held using a mixture of national voting infrastructure, the web, mobile phones and civil society networks*". No date has yet been set, but it is clear that a current is in flow that will not dry up for the forseeable future.

It would be wrong to consider the notion of global governance without highlighting the role played by human rights in the formation of a concept of global 'belonging' (if not citizenship). Tiihonen argues, in a related sentiment, that it is essential to build a set of global ethics, in which people have a shared sense of common destiny.[383] Together, the Universal Declaration of Human Rights and the covenants on civil and political and on economic, social and cultural, rights, provide the basis for a changing idea of the *person*, not the *citizen*, as bearer of rights and responsibilities.[384] Human rights provide the basis for a multicultural democracy in counterpoint to – and yet capable of blending with - Toffler's 'minoritisation' and its associated tribalism.

Initiatives like those highlighted in this section provide models of possible alternative approaches, and a series of ideas that provide 'off-the-shelf' solutions to a series of perceived problems both in global governance generally and in the transference of principles of democratic decision-making to the global level.

For the future; forty and ninety years from now; it is entirely feasible that transformational change could occur. But the likelihood of step changes (rather than a series of smaller, incremental changes) in global governance being realized over the short to medium term is more likely in the event that some other kind of major shock event has the effect of amplifying the existing minority voices and making their cause more mainstream. Examples might include, for example, a collapse in Communist rule in China, or a cataclysmic shock to the global financial system that is beyond the capacity of current international institutional structures to address.

Part V: Systems Change for the Long-term

Introduction

In *Our Common Future*, the report of the World Commission on Environment and Development, the Commission argued that *"[w]e act as we do because we can get away with it: future generations do not vote; they have no political or financial power; they cannot challenge our decisions".*[385] More starkly, Richard Heinberg argues that "*this is a generation that has practiced [sic] diachronic competition (that is, competition with future generations) more ruthlessly than any other since the dawn of our species"*.[386]

We saw in Papers One and Two in this project how liberal democracy struggles to take account of future generations. And as we will see in Paper Four, the impacts of anthropogenic climate change may not only span millennia; mitigating or forestalling those impacts may well demand dramatic and far-reaching changes in the ways of life of billions of people round the world. And whilst some impacts of anthropogenic climate change are very likely to be felt within the lifetimes of adults currently alive, it is all to easy to stall dramatic changes – to put off to tomorrow what is difficult to do today.

Climate change then, demands that democracy – where it exists and if it is to remain – develop a capacity for long-term, intergenerationally-regarding decision-making.

The problem is that achieving a shift to 'intergenerational' decision-making, or even 'decision-making with a longer time horizon' may call for changes in human cultures and in the design of institutions to meet our goals and aspirations. Worse, there are some who consider that a whole-scale shift towards long-termism may even be inimical to human cognition and its evolution.

In this Part, we sketch out some of the issues in broader context, and consider three distinct dimensions of the kind of systems change that may be needed to achieve long-termism on the scale that is required: a cultural dimension; a human evolution and cognitive dimension; and an institutional dimension.

Long-termism, future generations and intergenerational conflict

Short-termism in political decision-making and in human behaviour can be powerful enemies of sustainable development. Clearly, if the principle of intergenerational equity that is inherent in sustainable development is to be realised, long-term thinking and action must be one of the core components of decision-making approaches to sustainable development. But what is needed may amount to a significant cultural shift as much as a political one.

Goux-Baudiment argues that with the disenchantment brought about by the twentieth century realisation that liberal democracy has failed to protect society against arbitrary power, humanism has been one loser. People themselves, *"even after three millennia of civilisation"*, she says, *"are not as civilised as the Enlightenment asserted"*.[387] And the idea of 'the future' as a place of progress to strive towards has mostly disappeared; a casualty, too, of wider disenchantment. Most importantly for our purposes, she argues that *"[t]his huge shift has led to a pre-eminence of 'short-termism', the search for immediate reward, hedonism, and a kind of laziness or lack of thought in sowing the seeds for the future".*[388]

It seems likely that over the coming decades, our sense of connection to time, and to future generations, will become stronger in the Western world. Natural resource scarcity and energy security challenges will drive enhanced awareness of the problems of over-consumption and fossil fuel dependency. If negative anthropogenically induced climate change impacts begin ineluctably to be detected by even the most hardened of 'sceptics', it is likely that we will increasingly recognise the long-term impacts of fossil fuel consumption. Linked to both of these considerations are issues of demographic change.

In the affluent UK, along with other countries hit with the problems both of an ageing population and recession, a major problem is not population growth *per se*, but the challenge of coping with a rapidly ageing population that lives longer, and is economically relatively inactive for longer. Coupled with smaller families and reduced affluence, the outcome may be good in terms of tackling the resource pressures of consumption; but it also creates major challenges.

A great public spending shakedown following the financial crisis of 2008 and 2009 is now under way across the world's rich countries. As it proceeds, there are already signs that the younger generation in affluent countries with rapidly ageing populations may come to blame a past generation of so-called 'baby boomers' for saddling them a massive public debt; with housing costs that are way beyond the reach of ordinary earnings; and the enormous costs of maintaining an economy large enough to provide resources to care for a rapidly ageing population. The *quid pro quo*; the basic demand from a younger generation to the older, is that the older generation must work for longer.

In *The Next Hundred Years*,[389] George Friedman argues that the uneven distribution of a shrinking and growing population of working age and age respectively will encourage countries such as the US (or equally the UK) actively to promote migration. Whilst restrictions on migration often look popularly sensible at times of recession and growing unemployment, they do not provide a comfortable foundation for coping with the pressures of an ageing population to come. Social cohesion and stability will need, as never before, to be generated by people for themselves, not through their representatives. And as we saw in *Part II* of this paper, futurologists argue that a growth in migrant long-term residents without full citizenship ('denizens') could lead to partial redefinition of ideas of the *demos*.

Over the period since the Second World War, as the roles played by the state in social welfare provision have expanded and deepened, the idea of a kind of 'intergenerational compact' across successive generations of governments has nurtured a degree of long-termism in decision-making, particularly in respect of a minimum state pensions guarantee. UK Prime Minister Cameron's call for a Big Society is essentially based around the core ideas that "*if you give people more responsibility, they behave more responsibly. So we will take power from the central state and give it to individuals where possible.*"[390] Here is an expression of a quest to create a new kind of social (and, implicitly, intergenerational) compact. It comes at a time when the role of the state in the provision of social services of all kinds is shrinking, most likely never to return to its former state.

Link this retreat of the state from social welfare provision to climate change and the problems of an ageing population and it seems likely that people in the currently-affluent countries of the North will have to undergo a massive adjustment in expectations about who is responsible for meeting which social welfare needs. The budgetary pressures generated by some possible climate change impacts may, for example, make public spending on all but the most primary healthcare needs inconceivable. Link that, in turn, to an ageing population and the overall squeeze is enormous.

In the ageing populations of Western Europe, there may for the future be a mismatch in the choice of democratic engagement tools between those older voters (increasingly dominant in numbers, potentially) who grew up using representative democracy actively and younger people who make more use of other forms of 'democratic' engagement.[391]

Mika Mannermaa asks whether "*this generational constellation will also create tension: how will the younger generation relate in the future to the baby boom generation who, after a moment of rebellion... left the young to the misery of short-term contracts?*"[392] Mannermaa suggests, at least in Finland, that one consequence may be *"a grey parliament dominated by baby boomers [making] decisions in its own interest"* and increasingly unconnected with the practices of democracy exercised by younger generations.[393] Park Harmsen and Seo highlight the impact of technological development on the value systems of Korean people. 'Generation C', they argue, (the cohort born after 1988) are in a sense the new digital generation, in which the 'C' standards for concepts including 'creativity, contents, control, celebrity, camera and change'.[394] The disciplined society – with limited individual freedom – of the previous Generation - is quite different. And it is difficult to imagine that the 'disciplined democracy' that the authors suggest is the preferred model for China and Singapore would be associated with the emergence of a 'Generation C'.

In his 'letter from the future', which provided a basis for the film *The Age of Stupid,* Richard Heinberg's narrator speaks back in time, from a future of 2107, of "*utter contempt for anyone over a certain age – maybe 30 or 40"* by the time he was an older teenager. *"In some places, the age wars remained just a matter of simmering resentment. In others, there were random attacks on older people. In still others, there were systematic purges..."*[395]

In the UK, since the time of the establishment of the welfare state after the Second World War, there was an implicit social contract (a compact, perhaps) that citizens would accept an obligation to pay sufficient National Insurance to secure a basic state pension for all – now and in the future. But with a rapidly ageing population that may break down. And a breakdown might be accompanied by a risk of conflict between generations alive today as younger people turn on the Baby Boomers who put home ownership and much else beyond their reach.[396]

If intergenerational conflict were to become a defining feature of ageing societies over the next hundred years, then innovations which push societies to think beyond present conflicts to project towards the concerns and interests of future generations could conceivably become an important feature of efforts to manage the democratic challenges of a rapidly ageing population, as much as climate change.

We have already seen a number of ways in which futurologists, Alivin Toffler foremost among them, have addressed this issue. Later in this Part, we consider how institutions have already begun to develop 'future'- or 'future generations'-regarding characteristics.

Culture and sustainable development

For some analysts, as we saw earlier, culture amounts to a fourth pillar of sustainable development. And culture is also one of the points of cross-over between the democracy and the sustainable development literature respectively. 'Culture' could be a significant axis against which to plot possible futures in the relationship between democracy and climate change.

Whereas it is reasonably clear that current highly individualistic cultures that are deeply embedded in many forms of liberal democracy can undermine sustainable development, there is no clear

blueprint for how to achieve the much-needed culture shift. Not everyone is optimistic about the potential for positive transformation. Ruben Nelson points out that democratic politics *"is played out within inherited and unconsciously held cultural frames."* But he sees little scope for changing this: *"In short, governments and their citizens are hemmed in by an unseen, but nevertheless effective, fence that marks the space for possible action. Thoughts of profound cultural evolution and transformation are simply a non-starter".*[397]

Mannermaa notes simply that "*when talking about deep cultural change a hundred years is a short time"*.[398] Mannermaa predicts that the principal scenario over the next few decades will be a worldwide struggle between cultural circles for economic and political power centred around a number of broad clusters. The first is the neoliberal cultural model exemplified by the United States, with its strong emphasis on market forces as the solution to all human problems; second an Asian set of models which emphasise collectivism, and combine western technology and the market with centralised control; the third is a European set of models and the fourth a Muslim cluster – which Mannermaa highlights with the note that 'the influence of Islam as a religion seems to be spreading around the world'. Russia, the rising economies of Latin America and Africa, receive separate though more cursory attention. This is a vision of the future in which the emergent cultural properties of the information society are curiously absent.

As to the 'culture' of consumerism: in 2010, the Worldwatch Institute's influential State of the World report focused on the need to transform and reorient cultures towards sustainability. A summary of the report argues that "*consumerism has engulfed human cultures and Earth's ecosystems. Left unaddressed, we risk global disaster. But if we channel this wave, intentionally transforming our cultures to centre on sustainability, we will not only prevent catastrophe, but may usher in an era of sustainability—one that allows all people to thrive while protecting, even restoring, Earth*".[399] The report focuses on how to harness institutions – including "*education, the media, business, governments, traditions, and social movements*" — to reorient cultures toward sustainability.

In a 2006 paper for the Commonwealth Secretariat, *Culture as the Fourth Pillar of Sustainable Development*,[400] academic Keith Nurse takes a wider view of culture, focusing on much more than the particular culture of 'consumerism'. Like Mannermaa, he argues that culture "*should be viewed ... as the 'whole social order'".* From this starting point, he proposes addressing both *"a) the culture of sustainable development' in terms of how it has evolved as a global agenda and b) how the cultural arena can be facilitated by the construct of sustainable development*".[401]

At highly aggregated level, there might be two possible major goals for efforts to integrate culture and sustainable development. The first might be to orient culture to sustainable development. The second would be to ensure that sustainable development is properly informed by cultural context. In either case, it is important to recognise that sustainable development – which whatever else has an economic, a social and an environmental dimension – is also a concept which, when applied, may bring certain cultural values or concerns to the fore. Not least among these is the common (false) perception that sustainable development is first and foremost an environmental construct. In contrast, the challenge is also sometimes levelled that sustainable development is associated with a tendency not fundamentally to challenge the neoliberal economic order.[402]

Most seriously, Nurse notes a critique that "*What [sustainable development] does is to legitimize so-called modern Western values and to delegitimize alternative value systems thereby constructing a global cultural asymmetry between the "West" and the "Rest"*.[403] Nurse's conclusion argues that *"mainstream versions of sustainable development maintain the core features of developmentalism and modernization which are considered to be the main cause of environmental and associated*

global maladies".[404] Yet if those features are themselves manifestations of certain cultural predispositions, simply placing culture at the centre of a set of reconstructed sustainable development pillars does not necessarily secure reorientation, merely enhancing competition between cultural values.

To the extent that sustainable development is seen as biased towards a geographically specific set of cultural preoccupations (those of 'the West' and its practices in and impacts on other parts of the world), sustainable development may be vulnerable to attack or deprioritisation, even in the West, as values or political priorities shift, or as alternative cultural systems gather weight. This possibility itself needs to be considered in possible futures for sustainable development.

At the same time, it is important not to be overly pessimistic. Writing from a 'democracy futures' perspective, for example, Clem Bezold argues that "*there are signs that evolution at the level of values and vision may be taking place that could give hope to a fulsome future for democracy*". He notes the shift in attitudes towards slavery and women's rights; the introduction of voting rights for women; and suggests that "*there is a parallel trend toward equity and fairness at its early stages'. Equity, he seems to suggest, might be the new 'anti-slavery'*".[405]

Taking the first goal first (orienting culture to sustainable development); in those countries or communities where 'consumerism' is a dominant form of cultural expression, efforts to address the cultural dimensions of sustainable development can aid the implementation of market-based sustainable development policies. This may also make the job of ensuring that democratic engagement delivers sustainable development much easier. And if the cultural environment and values were more aligned with sustainable development, we also might find voters more engaged in and better informed about sustainable development.

Drawing on the field of cognitive science, a 2010 report by Tom Crompton developed in a collaborative process involving a number of UK-based non-governmental organisations makes a case for sustainable development campaigners to make greater effort to engage with peoples' cultural values.[406] Cultural values have an important impact on people's motivation to change their own behaviour or demand change. Often, the report argues, facts play only a partial role in shaping people's judgment. Emotions, and in particular dominant cultural values that are tied to emotion, are often far more important. People are often *"predisposed to reject information when accepting it would challenge their identity and values"*.[407] Happily for communication across boundaries, however, there is a transcendent cross-cultural dimension to people's underlying values. Crompton argues that it is important to ask how *intrinsic* values could be encouraged – those that are not contingent on the perceptions of others. Intrinsic values include for example the value placed on a sense of community or affiliation to friends and family. These values exist already across human cultures. The challenge is to find ways to frame sustainable development, or climate change for that matter, in ways that resonate strongly with intrinsic values and common-interest frames, drowning out the competition from competing self-interest frames and their associated values.

Turning to the second goal; the idea of ensuring that sustainable development is properly informed by cultural context may be understood as a close relative of the notion of 'subsidiarity' in the political realm.[408] In essence, the political notion of subsidiarity proposes that decision-making authority should always be vested at the lowest level possible, or feasible, for the achievement of desired outcomes. A focus on the cultural context of sustainable development may have a similar effect, since it promotes a focus on the relevance and 'value' of traditional or localised knowledge and social systems which may not otherwise be prioritised. And it can serve to 'de-Westernise' sustainable development to those who consider it biased in this way.

A cultural focus on sustainable development therefore points to a) the role of cultural transformation as both an 'enabler' of democracy and sustainable development, and b) the importance of cultural context in determining the likely outcomes of efforts to harness democracy to sustainable development.

If culture (whether consumerism or wider cultures and cultural diversity), rather than governance, is increasingly seen as a fourth pillar of sustainable development, what could this mean for future trends in democracy as it relates to climate change and sustainable development?

Culture potentially offers a more holistic approach to tackling sustainable development than a preoccupation with 'democracy', 'institutions' or 'politics'. It offers a pathway to addressing and potentially transforming underlying human values. It also has the potential to bypass the limitations of politics (as distinct from institutional politics) as a principal driver of sustainable development policy *save* insofar as politics itself is associated with 'cultures'. This latter point is a significant rider however, for naturally values and politics are deeply connected. A monograph by Jon Hawkes makes the link in the following way: *"[a] society's values are the basis upon which all else is built. These values and the ways they are expressed are a society's culture. The way a society governs itself cannot be fully democratic without there being clear avenues for the expression of community values, and unless these expressions directly affect the directions society takes. These processes are culture at work."*[409]

Sustainable development might demand that some aspects of culture do no less than transform if democracy is to effectively rise to the challenge of climate change. It is to cognitive science and evolution that we turn next for insights into whether that might be possible.

Science and human behaviour

One of the starkest critiques of democracy from a sustainable development perspective in the recent past has come from Professor James Lovelock. In *Revenge of Gaia* he asks "*can the present-day democracies, with their noisy media and special-interest lobbies, act fast enough for an effective defence against Gaia?*" and suggests that "*we may need restrictions, rationing and the call to service that were familiar in wartime and in addition suffer for a while a loss of freedom*".[410] Later, in March 2010, Professor Lovelock argued, in an interview with The Guardian newspaper, that:

> "*We need a more authoritative world. We've become a sort of cheeky, egalitarian world where everyone can have their say. It's all very well, but there are certain circumstances – a war is a typical example – where you can't do that. You've got to have a few people with authority who you trust who are running it. And they should be very accountable too, of course...*
>
> *But it can't happen in a modern democracy. This is one of the problems. What's the alternative to democracy? There isn't one. But even the best democracies agree that when a major war approaches, democracy must be put on hold for the time being. I have a feeling that climate change may be an issue as severe as a war. It may be necessary to put democracy on hold for a while.*
>
> *I don't think we're yet evolved to the point where we're clever enough to handle as complex a situation as climate change...".*[411]

Professor Lovelock is a pioneer in the field of 'geophysiology'; an emerging field of scientific endeavour focusing on study of the interaction among living organisms on the Earth. Geophysiology

is the scientific expression of the 'Gaia hypothesis'; namely that the Earth itself acts as a single living organism. If, from this perspective, human beings are essentially but one player among others in an Earth that operates as a single living organism, could Professor Lovelock's pessimism amount to little more than a realistic assessment of geophysical fact? One thing is very likely: as the consequences of the current lack of scientific clarity over the potential for 'tipping points' at which even small changes can generate exponential changes in environmental impacts (for example, as a result of the disappearance of Arctic sea ice, or collapse of the Indian summer monsoon),[412] the potential for 'geophysiological' study to unlock answers that can help to guide behaviour will become greater and greater.

Psychiatrist and writer Iain McGilchrist, in his book *The Master and his Emissary*,[413] considers the role that the human brain – more specifically the two hemispheres of the brain – may play in determining how as humans we understand the world and give meaning to what we experience. He argues that:

> *"it is as if the left hemisphere, which creates a sort of self-reflexive virtual world, has blocked off the available exits, the ways out of the hall of mirrors, into a reality which the right hemisphere could enable us to understand. In the past, this tendency was counterbalanced by forces from outside the enclosed system of the self-conscious mind; apart from the history incarnated in our culture, and the natural world itself, from both of which we are increasingly alienated, these were principally the embodied nature of our existence, the arts and religion. In our time each of these has been subverted and the routes of escape from the virtual world have been closed off. An increasingly mechanistic, fragmented, decontextualised world, marked by unwarranted optimism mixed with paranoia and a feeling of emptiness, has come about, reflecting, I believe, the unopposed action of a dysfunctional left hemisphere."*

Dr McGilchrist does not explore the political ramifications of this thesis; but his argument, like that of Professor Lovelock, may lend itself to suggesting that whatever happens to democracy over the next forty and ninety years may be something that we are ill-equipped to shape. Indeed, our failure to date as a species to shape democracy or to take advantage of its malleability to beat it to an appropriate form to deliver sustainable development might be taken as a sign of a deeper biological malaise.

Professor Lovelock and Dr McGilchrist bring narrative force to an explanation of the immense difficulty that human beings appear to have in thinking and acting for the long-term good of humanity as a whole; let alone humanity and the living Earth in its entirety. Equally pessimistically, Richard Heinberg cites Robert Ornstein and Paul Ehrlich's *New World New Mind*, which argues that humans have an innate inability to respond to slowly developing problems that are hard to personalize.[415]

To arrive here from a different direction, the "*[l]imits to growth norm failed because it was outweighed by a much stronger one; growth.*"[416] The challenge of that decoupling of democracy and economic growth may speak to deeper underlying archetypes, even though it is precisely what will be needed to deliver sustainable development.

Happily, there are reasons to be optimistic too. Alone among animals, humans are blessed with foresight and a unique ability to override the tendency to prioritise short-term interests. Goux-Baudiment argues that human beings are "*the only species on Earth that is able to think, explore and shape the future: in some way, this is our unique feature*".[417] And from an evolutionary biology perspective, Richard Dawkins points to man's unique 'capacity for conscious foresight', in his book *The Selfish Gene*.[418] Dawkins argues that if man was driven solely by '*simple replicators*' (broadly understood as units of genetic or cultural evolution), humans would behave consistently with blind,

selfish optimisation: "*A simple replicator, whether gene or meme, cannot be expected to forego short-term selfish advantage even if it would really pay it, in the long term, to do so"*.[419]

Humans are *not* driven solely by simple replicators. Rather, we possess a unique *"capacity for genuine, disinterested, true altruism"*.[420] Dawkins claims that *'even if we look on the dark side and assume that individual man is fundamentally selfish, our conscious foresight – our capacity to simulate the future in imagination – could save us from the worst selfish excesses of the blind replicators. We have at least the mental equipment to foster our long-term selfish interests rather than merely our short-term selfish interests... We can even discuss ways of deliberately cultivating and nurturing pure, disinterested altruism – something that has no place in nature, something that has never existed before in the whole history of the world. We... alone on earth, can rebel against the tyranny of the selfish replicators."*[421]

The work of experimental economists confirms these insights. Not only do humans have a unique capacity to circumvent nature's rule of myopic optimisation, but they cooperate in ways that are anomalous in nature. Economists Fehr and Gächter, in a *Nature* article *'Altruistic punishment in humans'*, point out that cooperation among non-human animals often relies on repeated interactions between a small number of individuals (usually kin), where interactions can lead to reputation forming.[422] However, as they demonstrate experimentally, *'[u]nlike other creatures, people frequently cooperate with genetically unrelated strangers, often in large groups, with people they will never meet again, and when reputation gains are small or absent'*.[423] Empirical studies across many of Game Theory's most well-known games – Public Goods, Trust, Ultimatum, Prisoner's Dilemma – also consistently reveal both human cooperation and man's power of foresight (and hindsight) at play.

Political scientist Inayatullah is surely right when he suggests that "*if we wish to create alternative models of governance including new futures for democracy we .. need to articulate new futures for our inner life – map and transform the politics of our selves*".[424] And whilst this brief review indicates that there are reasons for both optimism and pessimism on the outcomes of such an exercise, it does at least provide a basis for envisioning the full range of options as we develop our scenarios for the future of democracy in the face of climate change.

Institutional innovations for long-term thinking and non-anthropocentric decision-making

In Part II of this paper, we considered how futurologists have addressed the issue of short-termism in democracy. But the present also offers a range of promising institutional developments on which we could draw.

Long-term, future generations-oriented approaches to decision-making are certainly not without precedent. Line 28 of the Gayanashakgowa, or the Great Law of Peace of the Six Nations Iroquois Confederacy contains the precept: *"Look and listen for the welfare of the whole people, and have always in view not only the present, but also the coming generations, even those whose faces are yet beneath the surface of the ground — the unborn of the future Nation."*[425] The modern-day motto of the Six Nations is that "*[i]n our every deliberation we must consider the impact of our decisions on the next seven generations*".[426]

Long-term thinking is not always equated with regard for future generations in those institutions that exist to promote the former. A range of bodies and processes exist with the aim of bringing a 'futures' orientation to policy and parliamentary processes without a focus on future generations.

The Finnish Parliamentary Committee for the Future[427] was established in 1993, acquiring permanent status in 2000. Its seventeen elected members are all parliamentarians. As we have seen, the Committee's reports include several commissioned collections on the future of democracy;[428] rare resources in their field.

The Committee is charged with carrying on an "*active and initiative-generating dialogue with the Government on major future problems and means of solving them*". The Committee's brochure acknowledges that "*since the problems of the future and above all its opportunities cannot be studied through traditional parliamentary procedures and work methods alone, the Committee has been given the specific task of also following and using the results of futures research. Indeed, the Committee can be said to be making policy on the future, because its goal is not research, but rather policy.*"[429] The Committee also carries out assessments of "*technological development and the effects on society of technology*", and prepares Parliament's response to the Government's *Report on the Future* during each electoral period. The theme of the futures report covering the parliamentary term 2007–2011 is climate and energy.

The Finnish Parliamentary Committee for the Future's role in addressing the impacts of technological and scientific change is in some respects matched by the focus of the UK's Foresight Programme within the Government Office for Science, itself housed within the Department for Business, Innovation and Skills.[430] The Foresight Programme has been running since 1994, with a strongly scientific focus. Unlike the Finnish Committee for the Future, the Foresight Centre is not a cross-party Parliamentary Committee, but rather a centre staffed by public servants, reporting to the Government Chief Scientific Adviser and the Cabinet Office.

Foresight's role is to 'help government think systematically about the future'. The Programme works through futures-based projects involving a mix of external experts and stakeholders and in-house project teams to create scenarios that can be used to identify 'the challenges and opportunities for policy making from the science and technology of the future'. Active or recently completed projects cover topics including the future of land use, global environmental migration, international dimensions of climate change, and obesity.

Other ideas designed to foster longer-term thinking have also been floated from time to time in the UK from within the existing institutional framework. For example, the UK Sustainable Development Commission (SDC)[431] has proposed a Congress for the Future, based both on deliberative citizen engagement and concern to tackle short-termism.

An SDC report introduces the proposal in the following way:

> "*Imagine… the UK with long-term thinking enshrined at the heart of our democratic processes, raising awareness, creating political space, and generating action on the biggest issues of our time. The Congress for the Future is a way of giving adequate attention to the long-term in what has become an overwhelmingly short-term political world. It will act as a counterweight to that short-termism and to the media-inspired 'something must be done' quick fixes. Without such a mechanism, is there any way that we can use sustainable development to tackle issues like prosperity, peak oil or climate change?*"[432]

The basic idea, says former Sustainable Development Commissioner Lindsey Colbourne, "*is to create a special Congress, convened by Parliament every year, to help build broad agreement and provide direction on long-term questions. One or more issues in need of public debate will be put before each Congress, either by the Government of the day or by MPs in response to public petition. Randomly-*

selected citizens and stakeholders will then engage with the issues in an informed, deliberative process, supported by a secretariat to monitor progress".[433]

The proposal envisages that the Congress would have a statutory basis, and that it would work by bringing together citizens and experts to debate, scrutinise and pronounce on one or more long term issues. Somewhere between 100 and 5000 citizens would work through deliberation alongside and with experts. The focus for the Congress's work would be set by public concern either via opinion poll or focus group, or through one or other Houses of Parliament. The SDC calls for the Congress to assess government legislation for its long term impact, evaluating progress against targets set and requiring production of action plans to address any lack of progress. The proposed Congress would also have powers to secure corrective action, for example through reallocation of funds.[434]

Of course, simply attaching a long time horizon to decisions need not result in adequate regard for the interests of future generations. For example, when investors choose to buy up large tracts of agricultural land in anticipation of future commodity price rises, or with an eye to other natural resource scarcity in the future (a phenomenon increasingly referred to as 'land grab'), they might be guided by a long-term view; but their regard for future generations could be far from empathic.

Aside from long-term thinking, a handful of existing institutions and ideas already point the way to more direct ways in which future generations (as distinct from longer-term horizons) have been brought into parliamentary processes and thereby to the heart of established systems of representative democracy. Related proposals have also been made for institutional development to take account of future generations at international level. [435]

In 2007 the Hungarian Parliament resolved to create a new independent watchdog function, informally known as the 'green ombudsman', to safeguard the constitutional right of Hungarian citizens to a healthy environment.[436] The idea stemmed from work carried by a Budapest-based non-governmental organisation, Védegylet ('Protect the Future'). In 2000 Protect the Future had proposed an institution that could act as a spokesperson for those who are the "most excluded of the excluded" from democratic representation: that is, future generations.

In May 2008 the Hungarian Parliament elected Hungary's first Parliamentary Commissioner for Future Generations for a six-year term. The green ombudsman is mandated to investigate complaints relating to a broad range of environmental issues (familiar 'ombudsman' territory). But his functions also reach deep into the policy process. The Green Ombudsman is also mandated to act as a policy advocate for 'sustainability' issues across all relevant fields of national and local legislation and public policy (including acting as a source of specialist advice to Parliament). And he has a wider mandate to widen the knowledge base: the third function is to undertake or promoting research projects targeting the long term sustainability of human societies.

In Israel, the Knesset passed legislation to enable the creation of a Commissioner for Future Generations, a non-political entity which operated from 2001 until 2006. The Commissioner's functions lay in four areas: providing opinions on bills, secondary legislation and regulation of concern to future generations; providing parliament with recommendations on any matter that the head of the commission (called a Commissioner) considers to be of importance to future generations, and providing parliament with advice on matters of special interest regarding the future generations.[437]

Former Deputy Commissioner Nira Lamay writes that *"Our motto was that while the political world was busy with issues of defence and war, we would prepare for the "day after" peace, when future generations would have clean water to drink and clean air to breathe"*.[438]

According to an opinion piece in Israeli newspaper Haaretz, the demise of the Commission may have stemmed from the nature of its challenge to 'business as usual' politics:

> *"[t]he institution ceased operating because the tenure of the first commissioner, retired judge Shlomo Shoham, ended, and influential people in the Knesset argued that the commission was unnecessary, ineffective and wasted public funds.*
>
> *Regardless of whether there was merit to these arguments, the Commission's demise suggests that the Knesset could not bear its existence: The [Members of the Knesset] are affected by day-to-day events and tangible interests, and a body that considers the broader horizon bothers them."*[439]

At international level, in 1997, UNESCO's general conference adopted a Declaration on the Responsibilities of the Present Generations Towards Future Generations.[440] That document begins with preambular recognition of concern triggered by *"the fate of future generations in the face of the vital challenges of the next millennium"*, and a consciousness that *"at this point in history, the very existence of humankind and its environment are threatened."* More directly, the document stresses that *"full respect for human rights and ideals of democracy constitute an essential basis for the protection of the needs and interests of future generations."*

In its Twelve Articles, the Declaration sets out an aspirational set of responsibilities towards future generations, beginning in Article 1 with the statement that: *"The present generations have the responsibility of ensuring that the needs and interests of present and future generations are fully safeguarded"*. The Declaration continues to highlight the significance of securing freedom of choice for future generations, the responsibility not to undermine the nature and form of human life, the responsibility "*to bequeath to future generations an Earth which will not one day be irreversibly damaged by human activity"*, and a responsibility to *"ensure the conditions of equitable, sustainable and universal socio-economic development of future generations... in particular through a fair and prudent use of available resources for the purpose of combating poverty"*. The Declaration ends, in Article 12, with a call on *"States, the United Nations system, other intergovernmental and non-governmental organizations, individuals, public and private bodies should assume their full responsibilities in promoting, in particular through education, training and information, respect for the ideals laid down in this Declaration, and encourage by all appropriate means their full recognition and effective application".*[441] UNESCO is charged with disseminating the (little-known) Declaration as widely as possible and with raising public awareness of its ideals.

The challenge of integrating concern for future generations within global and national policy processes has also generated proposals for reform at the level of global governance. For example, academics have proposed replacing the mandate of the United Nations Trusteeship Council with a new mandate to protect the environment or represent the interests of future generations.[442] Two other routes for incorporating concern for rights of future generations into global or international governance mechanisms are *"to establish a quasi-judicial ombudsperson or inspection panel for international initiatives and projects that might impact on the rights of future generations",* drawing on experience with the Compliance Advisor/Ombudsman of the International Finance Corporation and Multilateral Investment Guarantee Agency, and the World Bank Inspection Panel; or to create a Special Rapporteur on 'the Rights of Future Generations' or a 'Working Group on the Rights of Future Generations' within the Office of the High Commissioner for Human Rights under the Special Procedures of the UN Human Rights Council.[443]

A question confronting advocates and policy-makers is whether a legal, rights-based, framing is the most appropriate way to achieve progressive change in the integration of the interests and needs of future generations in democratic processes, or whether there might be other framings that can drive progress more effectively in different settings. Alternatives could be derived from philosophy and ethics (for example based on an extension of Peter Singer's 'one world' framing[444]) or from political science (based on an argument that future generations somehow be 'enfranchised' and thereafter somehow represented in policy-making). Each entry point is likely to generate different clusters of supporters and opposing advocates.

In a seminal essay and book of the same name, lawyer Christopher Stone asks *'should trees have standing'?*[445] Political conceptions of sustainable development so far largely been anthropocentric: they present the challenges facing humankind across environmental, social and economic realms; and they set out the importance of integration across those realms in terms of meeting human needs. But there is also a very important strand of thought and activism which challenges anthropocentrism; which argues that humans are but part of the wider environment, and nature itself, and that the proper ethical basis on which to make decisions about environmental issues is 'ecocentric', placing environment and nature itself at the centre.

One part of this body of thinking is in a sense anti-democratic, because it can lead to arguments that there are some considerations that trump 'democratic' decision-making by the enfranchised citizens of current generations. It seems very likely that there will be a debate over the coming years – at least among Western environmentalists - about whether 'ecocentric' perspectives can be democratic, and how best to 'democratise' them.

At national level, a number of written Constitutions explicitly refer to future generations generally, towards responsibilities towards future generations specifically, though none go so far as explicitly to state that future generations have certain rights, even when they recognise a duty on the part of the State to satisfy the needs of future generations.[446] And each stops short of explicitly creating enforceable rights for 'guardians' of future generations. Rather, it is the interest of present generations in respect of the relevant constitutional rights that superficially provides a potential basis for enforcement.

Practice to date is very far from crystallising into rights of standing on behalf of future generations at national level. And it would be difficult to argue that any of the institutional mechanisms thus far developed are specifically concerned with the rights and interests of 'future generations' independently of people already-born, even when they encourage a focus on long-term 'futures' or on 'future generations' in combination with present generations.

Even so, the institutional innovations that have been implemented to date, coupled with the insights that cultural transformation might not be impossible and that human cognition might be capable of altruistic regard for long term – and that effective response to climate change might indeed call for all three – provide a positive basis from which to work towards the necessary systems change.

A concluding note on leadership

If the environmental constraints of the future call for measures as drastic as food rationing[447] or compulsory labour,[448] there are significant implications for the qualities demanded of our political elites.

To the extent that words and language can help to make rapid societal change possible, we need in part to nurture wordsmiths with the power to appeal effectively to our sense of connection with other humans and to the environment around us.

This is not the 'uncivilisation' storytelling process of the Dark Mountain Project; but a grand appeal to ethics and to democracy to rise to the shared challenge that faces us. Whether such rhetorical and visionary force is more likely to emerge for the short term from the pulpit or the temple, from the politician's platform, or in the public spaces of open meetings within communities and Town Halls – or from all of these and others in what combinations – remain open questions. Neither the readily accessible literature on 'energy descent' and 'resource scarcity' nor 'the future of democracy' appear to address this dimension of change.

As an organisation, the Foundation for Democracy and Sustainable Development works with an innate hypothesis: that it is possible, through human endeavour, to shape the human construct of democracy so that it is capable of delivering sustainable development. Endeavouring to do so may represent a small organisational struggle against a physiological tide; but the endeavour is no less worthy for that.

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[400] Keith Nurse, *Culture as the Fourth Pillar of Sustainable Development,* 2006, Commonwealth Secretariat, London. Available online at http://www.fao.org/SARD/common/ecg/2785/en/Cultureas4thPillarSD.pdf. In practice, one might argue that Nurse's paper makes much more of culture than simply adding it, and integrating it, as a 'fourth pillar'. A schematic in his paper headed 'Pillars of sustainable development' places 'cultural identity' at the centre, with social justice, ecological balance and self-reliance as three satellites. There is no heading titled 'economic development' in this model. Nurse concludes that culture should be 'the central' pillar of sustainable development; surely a step too far if it is indeed a dominant culture of 'consumerism' that is a major driver of environmental or social maladies.
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[440] See UNESCO, *Declaration on the Responsibilities of the Present Generations Towards Future Generations*, adopted on 12 November 1997 by the General Conference of UNESCO at its 29th session. Available online at http://www.unesco.org/cpp/uk/declarations/generations.pdf
[441] Centre for International Sustainable Development Law, *National Policies & International Instruments to Protect the Rights of Future Generations*, Legal Working Paper, undated, World Future Council/CISDL. Available online at http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/RepresentationFuture_Generations.pdf
[442] *Ibid.* The Trusteeship Council was initially established as a UN organ under the 1945 UN Charter to promote the advancement of eleven Trust Territories and their development towards self-government or independence.[442] With the independence of the last remaining Trust Territory, Palau, in 1994, the Trusteeship Council resolved in future simply to meet as occasion required. See http://www.un.org/Depts/dpi/decolonization/trust4.htm.
[443] Centre for International Sustainable Development Law, *National Policies & International Instruments to Protect the Rights of Future Generations*, Legal Working Paper, undated, World Future Council/CISDL. Available online at http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/RepresentationFuture_Generations.pdf
[444] Thanks to Ian Christie for this insight
[445] Christopher Stone, *Should Trees Have Standing? And Other Essays on Law, Morals and the Environment,* 1996, Oceana Publications, New York
[446] This section draws on the analysis in Canadian CISDL's *National Policies & International Instruments to Protect the Rights of Future Generations: A Legal Research Paper*, Undated Legal Working Paper, World Future Council. Available online at http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/RepresentationFuture_Generations.pdf
[447] Richard Heinberg, *Peak Everything: Waking up to the century of decline in Earth's resources*, 2007, Clairview Books, UK, page 62
[448] *Ibid,* page 45